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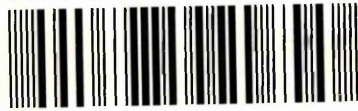
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# **ACCOUNTING INFORMATION IN MICRO MANUFACTURING ENTERPRISES IN LIBYA**

**Khaled A. El-Nakhat**

**A Thesis Submitted in Partial Fulfilment of the Requirement  
of Sheffield Hallam University  
For the Degree of Doctor of Philosophy**

**October 2006**



## *Dedication*

---

*This thesis is dedicated to my mother, my father, my brothers and sisters, to my wife, sons Abdelraouf, Abdelrahman and Abdelwahed.*

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## List of abbreviation

O/M	Owner/Manager
P/M	Production manager
S/M	Salesman
I/A	Internal Accountant
E	Employee

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## Acknowledgements

I am thankful to almighty ALLAH for his guidance and blessing that resulted in the completion of this thesis. I would like to acknowledge my indebtedness to many people for their contribution and support in undertaking this study. My particular thanks are due to my director of studies, **Professor John Cullen**, whose knowledge, suggestions, guidance and constructive advice have provided much insight. My special thanks are also due to **Dr. Mathew Tsamenyi**, my second supervisor, for his constant and valuable guidance, advices and comments throughout the duration of this study.

My supervisors' guidance and support have helped shaping and producing this study, and have taught me valuable things that will stay with me forever.

I am also grateful to participants of the School of Business and Finance Doctoral seminars for their comments and criticisms. I am grateful to my RF2 examiner Dr. **Jim Chandler** for his insightful comments.

Thanks to all members of the Business and Finance School for providing me with the databases and facilities I also needed to finish this thesis. Finally, I wish to thank all members of the Libyan Cultural Bureau in London for their support to all Libyan students in UK.

My gratitude is also due to many people in Libya, especially the micro manufacturing enterprise's owner managers for their patient, co-operation and participation in the study. Also my heartiest thanks go to my teachers who taught me.

My thanks are also due to my friends, in Libya and the UK, for their support, understanding and encouragement throughout the study period.

Last but not least, my deep thanks and gratitude are to my wife for her understanding, support and patience during the course of this thesis. I would also like to thank my children, Abdelraouf, Abdelrahman and Abdelwahed, for providing me with many joyful moments. I would like to thank my mother and father for their support and continuous prayer during the course of this thesis. Thanks go also to my mother and father in law who usually encouraged and cheered me up.

# Declaration

I declare that the contents of this thesis have been composed entirely by myself, that the work contained is my own, and that all contributions from others have been clearly indicated and have been given due reference.

Khaled A. El-Nakhat

# Abstract

In an attempt to understand the accounting information generated and used for planning and control, a programme of research was conducted in selected micro manufacturing enterprises (less than 10 employees) in Libya. This research is an exploratory study as it represents the first attempt to study accounting information in micro manufacturing enterprises in Libya.

The Strauss and Corbin (1990; 1998) grounded theory methodology approach was adopted and five case studies were conducted to obtain an in-depth understanding of accounting information. Data was gathered through fifty-seven interviews with owner managers, production managers, internal accountants, salesman, and employees.

The data from the five case studies was collected and analysed based on grounded theory approach employing a structured set of coding procedures to generate substantive hypotheses for each case. From the five case studies, 110 substantive hypotheses emerged. These substantive hypotheses from the five cases were then compared and contrasted in detail and resulted in fifteen formal hypotheses (the main findings). These formal hypotheses included the impact of the owner/manager, enterprise and environmental features as well as the formal and informal procedures on the generation and use of accounting information for planning and controlling the business aspects. Also, they included the links between formal and informal procedures and accounting information (written or oral) generation and use for planning and controlling the business activities.

The owner/manager, enterprise and environmental features include the owner manager's level of education in management and accounting skills, the number of business records and documents, the business size, use of internal accountant, competition and the government agencies. The procedures include product costing and pricing, financial, profit and manufacturing planning; productivity, inventory, quality, cash flow and capital expenditure control and make or buy decisions.

# Chapter 1: Introduction

## 1.1 Introduction

This chapter is divided into five sections. The first section provides background to the research problem while the second section presents the objectives of this research study. The third section clarifies the methodology and the method which will be following in this research study. The fourth section deals with the research methods and the final section describes the structure of this research study.

## 1.2 Background to the research problem

### 1.2.1 The importance of micro enterprises in developed countries

In developed countries, great attention has been given to creating an enabling environment for promoting micro and small enterprises<sup>1</sup> (Santos, 2003). In June 2000, the OECD<sup>2</sup> issued the “Bologna Charta on micro and small enterprise policies” (OECD, 2000), in which governments from OECD member countries and invited non-member states recognised the importance of the micro and small enterprises sector, and recommended policy orientations conducive to micro and small enterprises growth. Policy orientations have been backed by research work highlighting some appealing characteristics of micro and small enterprises such as being more labour-intensive than larger corporations and thus more capable of employment creation. Micro and small firms are currently recognised as major sources of employment and innovation generators (McCartan-Quinn and Carson, 2003). Within the U.K. there are 2.8 million SMEs, 93.1% of which employ ten or less employees (Parkin and Parkin, 1996). Even in the United States, some have argued that eight out of every 10 new jobs in recent years have come from micro and small businesses (Mead and Liedholm, 1998). Hodgetts and Kuratko (2001) pointed out that micro and small enterprises play a major role in the U.S. economy by providing both employment and goods. They also complement large business by doing what large firms either cannot or will not do.

---

<sup>1</sup> The micro enterprise is defined in this research study as a firm employing less than 10 workers and the small enterprise is a firm with less than 100 employees.

<sup>2</sup> Organisation for Economic Co-operation and Development, Development Centre’s project, [www.oecd.org/dev](http://www.oecd.org/dev)

Table 1-1 shows the importance of micro enterprises in European Community countries - particularly in Greece, Italy, Portugal, Spain and Ireland.

Table (1-1): EC enterprises by member states		
Country	Number of enterprises (1000)	Employment share 0-9 (%)
Belgium	530	28
Denmark	180	22
France	2040	28
Germany	2160	17
Greece	670	59
Ireland	130	34
Italy	3170	48
Luxembourg	20	23
Netherlands	420	28
Portugal	640	36
Spain	2020	36
United Kingdom	2630	26
Belgium	530	28
Total EC	14600	30
Source: ENSR (1993)		

## 1.2.2 The importance of micro enterprises in developing countries

Considerable attention has been paid in the last decade to the problem of poverty reduction in developing countries<sup>3</sup> (World Bank, 1989, 1997). It is generally agreed that the development of micro and small enterprises can be a key ingredient in poverty reduction (Sen, 1980). Osunbitan *et al* (2000) stated that micro enterprises play a key role in developing country economies as a basic source of goods, income and employment. Micro and small enterprises are a major feature of the economic landscape in all developing countries. The contribution of these enterprises to the creation of jobs and to the alleviation of poverty has been recognized by many third world countries (Osunbitan *et al*, 2000; Rogerson, 2001). The U.S Secretary of State Powell (2004, p. 1) stated that,

*"Successful micro and small businesses are the primary engines of economic development, income growth, and poverty reduction in much of the developing world. These businesses can also build*

<sup>3</sup> The term 'developing country' was well described by Wallace (1990, p. 3) who suggested that it "is... generic and refers to an amorphous and heterogeneous group of countries mostly found in Africa, Asia, Latin America, the Middle East and Oceania. Most of these countries gained independence during the late 1950's when decolonisation became a global phenomenon. A common characteristic of this group is the presence of poverty but there are wide disparities in the level and rate of development which each country has experienced and experiencing".

*foundations for stable communities, civil society, and gender equality".*

The micro and small enterprises have been given prominence in many development plans as well as in the strategies of many donors (Liedholm and Mead, 1999). In support of this view, Santos (2003) stated that several arguments have been given for placing micro and small enterprises at the centre of development strategies. The main reason lies on the simple observation that they constitute the largest portion of employment in developing countries (especially the micro-enterprise). McPherson (1996) argued that a growing list of donors, Non-Governmental Organisations (NGOs) and developing country governments are becoming involved with micro and small enterprise assistance programmes in some African countries. In some countries, such as Zimbabwe, attention to assisting the micro and small enterprise sector is an explicit part of the structural adjustment plans (Government of Zimbabwe, 1991, pp.19-20).

However, micro and small enterprise are normally considered to employ a significant part of the working population in developing countries. Liedholm's (2001) review of national surveys conducted in several African countries<sup>4</sup> estimates that between seventeen per cent to twenty-seven per cent of the working age population is employed in micro and small enterprises, being nearly twice the employment of large-scale enterprises and the public sector. Santos (2003) noted that USAID<sup>5</sup> considers that micro enterprises often employ a third or more of the labour force in low-income countries.

Kilby (1971) suggested that the micro and small enterprise sector might serve as an entrepreneurial 'seed bed', with entrepreneurs graduating to run the larger industries. Such a seedbed might be especially important given the role of entrepreneurship in economic development.

Small and micro enterprises are an important source of off-farm employment and self-employment for the poor. Growth and productivity increase in this sector thus make a significant contribution to poverty reduction. Moreover, some micro and small enterprises expand into medium and even large-scale enterprises through investment and skill acquisition, and thus contribute to the vigour of private sector development (ODA 1995).

---

<sup>4</sup> The countries surveyed are Botswana, Kenya, Lesotho, Malawi, Swaziland, Zimbabwe and South Africa.

<sup>5</sup> USAID's Office for Micro-enterprise development defines micro-enterprises as very small, informally organised, non-agricultural businesses

### 1.2.3 The importance of micro enterprises in Libya

In the last two decades, the Libyan economic system has seen some fundamental changes in its structure and policies. These changes have led to some important effects on the micro enterprises sector and its role in the economic growth of the country. This was mainly due to the crises the Libyan economy had faced in the late 1980s and 1990s as economic conditions and standards of living worsened as world oil prices slumped. In response to these crises, the Libyan government restructured its economy by issuing acts and regulations which allowed the private sector to play an important role in the national economy. These initiatives have led to substantial developments in the micro enterprises<sup>6</sup> sector in the Libyan economy. For example, the number of private sector enterprises, as shown in Table 1-2, was 104,276 in 1999 forming seventy-eight per cent of the total number (133,442) of operating enterprises in Libya. Also, this table shows the growth in the private sector in Libya between 1984 and 1999, indicating that the number of private units sharply increased from 18,649 to 104,276 units. This means that 85,628 private business units have been introduced in the Libyan market as a result of the new economic policies. Approximately ninety per cent of the private sector is considered micro enterprise (Elshereif, 2002). A total of 62.7 per cent of private sector enterprises operate as trade enterprises including hotels, restaurants, transportation, and a further 18.8 per cent include health, construction, social work and general services and 5.4 per cent operate in other activities. The remaining enterprises 13.4 per cent (14,398) operate in manufacturing (Elshereif, 2002). The number of small and micro manufacturing enterprises sharply increased from 14,398 to 26,646 manufacturing enterprises in 2001 (Libyan national centre for information and documentation, 2002).

In addition, in 2002 the Libyan government issued legislation which secured approximately 400,000,000 Libyan dinars to create job opportunities by supporting the micro enterprise sector through offering soft loans. The value of each loan was LD 30,000. This means that about 13,333 new micro enterprises could be created (Libyan national centre for information and documentation, 2002).

---

<sup>6</sup> The micro enterprises in Libya are defined as enterprises which employee less 10 persons and have a capital more than 15.000 Libyan dinars (Eshereif, 2002)



Table (1-2): Operating enterprises distributed according to their sector				
Sector	Number of enterprises			
	1984	%	1999	%
Private Sector	18,649	40.9	104,276	78.1
Governmental Sector	22,390	53.2	22,390	16.7
Foreign Sector	2246	4.9	2,124	1.6
Other Sectors	481	1.0	4,652	3.5
Total	45,630	100	133,442	100
<i>Source: (Elshereif, 2002).</i>				

### 1.2.4 The need for research on micro enterprises

The table below (1-3) lists a sample of selected studies conducted in regard to small and micro enterprises in developed and developing countries in the world and shows the sizes, subjects and sectors of the enterprises used in these studies. The purpose of this table is to determine those studies which have researched micro enterprises. Five main points can be seen from this table. First, most of the existing small business studies included micro enterprises in their samples. Very few of the studies have exclusively investigated micro enterprises with less than ten employees. Second, some of the studies have actually excluded micro enterprises from their samples. Third, very few of these studies have drawn their sample from the manufacturing sector only. Fourth, there was relatively little literature and a very few comparable studies on accounting in micro enterprise and in small enterprises, which included micro enterprises in their samples. The major focuses of these studies are: growth and failure, strategic planning, financial ratios, information systems, performance, characteristics of owner manager's (O/M's) and external accounting services. Fifth, most of the research on micro and small enterprises is concerned with the industrial countries. There is much less literature on developing countries.

Reid (1995, p.89) stated, "The reason why the micro-firm is neglected is quite simple: data are not readily available". Cook and Nixson (2000) pointed out there is much less literature on the micro and small enterprises in developing countries, in part because basic data availability is much sparser. Tasmenyi *et al* (2003) suggested that the accounting issues in small and family-run enterprises needed to be understood. Curran (1986) pointed out that there is need for in-depth qualitative research on the one-person micro enterprise. Nayak and Greenfield (1994) stated that a survey, which looked at a large number of micro enterprises, might reveal interesting insights on how their owner managers (O/Ms) gather, record and use the information, which they need to run their

businesses. McPherson (1996) supported this view calling for further research which separates micro enterprises from the small enterprise category. He believed that micro enterprises may behave quite differently from small enterprises and the lack of information on micro enterprises in the developing countries has become very evident.

Table (1-3): Selected studies conducted developed countries				
Author and year of study	Enterprise size	Sector(s)	Subject	Country
1. Raymond & Magnenat-Thalmann (1982)	Small	Commercial	Information	USA
2. Storey (1994)	Micro and Small	Manufacturing	General issues	UK
3. Kent (1994)	Micro	Commercial	Management and financial	Australia
4. Phillips & Kirchhoff (1989)	Micro and Small	Multiple sectors	Growth	USA
5. Holmes & Nicholls (1989)	Micro and Small	Multiple sectors	Accounting	Australia
6. Innes <i>et al</i> (1991)	Small	Manufacturing	Failure	UK
7. Solomon & Fernald (1993)	Small	Multiple sectors	Information	USA
8. Nakak & Greenfield (1994)	Micro	Multiple sectors	Management accounting information	UK
9. Hall (1994)	Micro and Small	Construction	Failure	UK
10. Cragg & Zinatelli (1995)	Micro and Small	Manufacturing	Information	New Zealand
11. Vaughan <i>et al</i> (1996)	Small	Manufacturing	Information	China
12. Lybaert (1998)	Small	Multiple sectors	Information	Belgium
13. Nayak and Greenfield (1996)	Micro	Multiple sectors	Computerised information	UK
14. Jarvis <i>et al</i> (1996)	Micro and Small	Multiple sectors	Financial management	UK
15. Perren <i>et al</i> (1999)	Micro	Multiple sectors	Decision making	UK
16. Perren and Grent (2000)	Small	Service	Management accounting	UK
17. Walker and Brown (2004)	Small	Multiple sectors	Success	Australia
18. Ghobadian (2002)	Small	Multiple sectors	Accounting	
19. Young (2002)	Micro and Small	Multiple sectors		UK
20. Collis & Jarvis (2002)	Small	Multiple sectors	Financial information	UK
21. Sian and Roberts (2003)	Small	Multiple sectors	Financial Reporting	UK
22. McCartan & Carson (2003)	Small	Commercial	Marketing	UK
23. Hamilton & Dana (2003)	Micro and Small	Commercial	General issues	New Zealand
24. Greenbank, P. (2000)	Micro	Multiple sectors	Information	UK
25. Greenbank, P. (1999)	Micro	Multiple sectors	Pricing decision	UK
26. O'Dwyer and Ryan (1999: 2000)	Micro	Multiple sectors	Management	UK
27. Marriott & Marriott (1999)	Micro	Multiple sectors	Financial information	UK
28. Marriott & Marriott (1999)	Micro and Small	Multiple sectors	Management accounting	UK
29. Heshmati (2001)	Micro and Small	Multiple sectors	Growth	Sweden
30. Kozan <i>et al</i> (2006)	Micro and Small	Multiple sectors	Growth	Turkey
31. Robets and Wood (2002)	Micro	Multiple sectors	Computerised information	UK
32. Gooderham <i>et al</i> (2004)	Micro and Small	Multiple sectors	Accountants	Norway
33. Jocusen (2004)	Small	Multiple sectors	Marketing	Australia
34. Peterson <i>et al</i> (1983)	Small	Multiple sectors	Failure	USA
35. Gadenne (2000)	Small	Multiple sectors	Failure	Australia
36. Deakins & Galloway (2002)	Small	Multiple sectors	Financial management	UK
Selected studies conducted developing countries				
37. Rogerson (2001)	Small	Multiple sectors	Success	Africa
38. Vandenberg <i>et al</i> (2003)	Micro and Small	Multiple sectors	Financial	Nairobi
39. Osunbitan <i>et al</i> (2000)	Micro	Multiple sectors	Information	Nigeria
40. Mead & Liedholm (1997)	Micro and Small	Multiple sectors	Growth	Africa
41. Mcpherson & Liedholm (1996)	Micro and Small	Multiple sectors		Niger
42. Liedholm (2002)	Micro and Small	Multiple sectors	General issues	Africa
43. Liedholm (2002)	Micro and Small	Multiple sectors	General issues	Africa
44. Mcpherson (1996)	Micro and Small	Multiple sectors	Growth	South Africa
45. Santos (2003 )	Micro and Small	Multiple sectors	Financial	Congo

Table: 1-3 (continued)				
46. Elattar(2001)	Micro	Manufacturing	Management accounting information	Palestine
47. Elshereif (2002),	Micro and Small	Multiple sectors	General issues	Libya
48. Almadhoun and Analoui (2003)	Micro	Multiple sectors	Management	Palestine
49. Seuwaegen & Coedhuys (2002)	Micro and Small	Multiple sectors	Growth	Ivory coast

### 1.2.5 The need for accounting information research on Libyan micro enterprises

Elshereif (2002) pointed out that the Libyan micro enterprises have been facing a variety of problems and most of these problems have led to the failure of a large number of micro enterprises. Elshereif (2002) suggested that the development and the success of the Libyan economy are essentially linked to the improvement and the success of the micro enterprises sector.

The large number of failures among the Libyan micro enterprises and its negative impact should stimulate Libyan economics' demand for more information on the problems of the micro enterprises. This demand for information could make micro enterprises problems clearer to understand, and hence optimal solutions could be found. In order to provide information and to promote understanding of the problems of micro enterprises, it is strongly suggested that studies on these problems should be encouraged.

Accounting and financial issues have often been cited as the core reason for business failure (Altman, 1971; Boyle and Desai, 1991). A study has shown that accounting and management capabilities were important attributes affecting small business success and failure (Wichmann, 1983), and that poor management accounting as a significant cause of small enterprise failure (Hall, 1992). Randall and Horsman (1998) noted that management accounting information in small businesses seems to have been neglected by researchers, despite its importance to business success.

Chittenden *et al* (1999, p.5) stated, "Studies of the reasons for small business failure inevitably show poor or careless financial management to be the most important cause". Hormzoi *et al* (2002, p.762) pointed out that "each year thousands of potentially successful small business fail because of poor financial management".

Vaughan *et al* (1996, p.262) stated, "As a major component of present day economies, small businesses need many different kinds of information if they are to be successful".

Drury and Tayles (1995) stated that there is a need for case study research which explores in much greater depth how managers use accounting information.

The above views provide clear evidence that accounting information has a role to play in increasing the productivity and management efficiency of micro enterprises. Productive and administrative efficiency are the result of effective management decisions, which in turn are dependent upon the use of relevant and sufficient accounting information. If properly utilised, accounting information may, along with other factors, contribute to the ability of the micro enterprises to grow.

Cook and Nixon (2000) observed that most existing literature research on micro and small enterprises is concerned with the industrialised countries. There is much less literature on the developing countries. The current literature reveals little research evidence in regard to accounting information in micro enterprises in developed and developing countries generally and in Libya specifically. Lybaert (1998, p.171) stated, "Actually, it is very astounding that in this information age – in which the importance of information for everyone is so accentuated – there are so few profound scientific studies on this process in the small enterprises". Based on these conclusions and in order to contribute to research activity on Libyan micro enterprises, this study will be directed at the exploration of accounting information in micro manufacturing enterprises in Libya.

#### 1.2.5.1 The selection of the manufacturing sector

Manufacturing as a single sector was chosen in this research study for the following reasons:

1. The manufacturing enterprise managers presumably face a larger range of decisions since the spread of control and level of managerial depth is low.
2. There was a gap in the use of accounting information in managerial decisions in small manufacturing enterprises (Holmes and Kelly, 1988).
3. The manufacturing enterprises are encountering the highest level of competition compared to the other groups (Shamia, 1994)
4. The failure rate in small manufacturing enterprises is very high (Lowe *et al* 1991). Studies conducted in the United Kingdom found that over 50 per cent of the manufacturing enterprises with 1 to 19 employees and 40 per cent of those with 20 to 49 employees had failed from 1971 to 1981 (Gallagher and Stewart, 1985). Phillips and Kirchhoff (1989) found the failure a rate of new small manufacturing enterprises in the United States during 1976 to 1986 was above 50 per cent.

5. Electronic decision-making aids are not extensively used and human decision-makers are not heavily involved in small manufacturing enterprises (Kagan *et al*, 1990).
6. Some of the literature is related to the use of management accounting information in manufacturing enterprises.

### 1.3 Objective and the research questions

The main objectives of this study are to explore and investigate the accounting information generated and used for planning and control in selected micro manufacturing enterprises (less than 10 employees) in Libya. In order to achieve these objectives the study asked the following questions:

1. What is the nature of decisions confronting micro enterprises in Libya?
2. How does accounting information inform day-to-day decision making in micro enterprises in Libya?
3. What are the sources (internal/external) and ways (formal/informal) in which accounting information is generated?
4. How is the use of accounting information by owner managers in the Libyan micro enterprises influenced by Libyan economic, social and political environment?

### 1.4 Research methodology

The researcher's ontological and epistemological views and his main objective was to understand and explore the phenomenon under investigation without any intention of creating changes in the phenomenon being studied and this placed him on the interpretive side of the Burrell and Morgan Paradigm (1979). This research is an exploratory study, which reflects the lack of prior research into accounting information in micro enterprises in Libya and the need for an in-depth investigation to provide an understanding of the subject under investigation (Creswell, 1994). In order to achieve this objective the methodology chosen should provide the researcher with as open an agenda as possible. The literature has revealed that accounting information practices in the micro enterprises still need an in depth investigation (Elattar, 2001; Nayak and Greenfield, 1994; Curran, 1986). There is little prior research on accounting in micro manufacturing enterprises and it is difficult to formulate hypotheses (Ferreira and Merchant, 1992). Within such limitations, it was not enough to suggest prior assumptions (hypotheses) for such exploratory study (Otley and Berry, 1994). The

existing literature related to the phenomenon under investigation (accounting information in micro enterprises) mainly related to cultures and environments which are completely different from Libyan culture and environment, where this study was conducted. Using the existing literature would produce hypotheses which may be irrelevant to Libya. Strauss and Corbin (1998) supported such issue, and suggested that those foreign students who plan to collect data in their own country, then most certainly should use qualitative methods in order to reflect their societies' or citizens' cultures and behaviours. Qualitative research means studying subjects in their natural settings, and attempting to make sense of or interpret phenomena (Denzin and Lincoln, 1994). Ghauri *et al*, (1995) stated that the qualitative research approach is most suitable when the objective of the study requires in-depth insight into particular phenomena. Tomkins and Groves (1983) stated that naturalistic research approaches (qualitative) enable researchers to gain more understanding of accounting practices in their natural setting. Among the many approaches being used to perform qualitative research, this research study adopted the grounded theory methodological approach. Grounded theory methodological approach was originally developed by Glaser and Strauss (1967) and is more commonly used in sociological and anthropological studies where hypotheses and theory are inductively derived from data (Jarvis *et al*, 1996). Grounded theory liberates the researcher from making prior assumptions and helps to discover what lies behind a specific phenomenon which is not well understood. This Grounded theory approach also allows the researcher to enter the research site without having any hypotheses in mind and offers the researcher more flexibility to understand the phenomenon under study and to explain why particular practices occur (Strauss and Corbin, 1998; Lye and Rahman, 1997; Parker and Roffey, 1997). Hines (1989) argued that the comprehensive nature of the grounded theory techniques and procedures makes these a valuable research approach available to accounting researchers in understanding the social construction of accounting. In particular, she added that grounded theory is a valuable research methodology available to accounting researchers where phenomena are multifaceted, and about which little is known. Parker and Roffey (1997) argued that rigorous grounded theory research, which has methodological discussion firmly embedded in its procedures, would improve the quality of management accounting field research. Accordingly, the researcher decided to adopt the grounded theory as the methodological approach for this exploratory research study to understand accounting information in micro manufacturing enterprises in Libya.

Recently there have been two methodological approaches to the grounded theory namely Glaser's (1992) approach and Strauss and Corbin's (1990) approach. It was decided for this research study to adopt the Strauss and Corbin (1990) grounded theory approach for several reasons. First, before commencing this study, the researcher identified the phenomenon to be investigated. In contrast, Glaser asks researchers to enter the site without a predetermined research subject and the phenomenon will emerge through interactions with the participants. Second, Strauss and Corbin's approach introduces structural sets of analytical steps, which provide the researcher with systematic analytical techniques for handling large quantities of raw data and also with analytical interpretive techniques in addition to developing concepts to build theory (Strauss and Corbin, 1998). This structural set of analytical procedures does not exist in Glaser's approach, which prefers more general analytical procedures (Lye and Rahman, 1997). Finally, the Strauss and Corbin approach saves time and resources as a result of its advantages over the Glaser approach. The researcher has a time limit in which to complete his research. However, Glaser's approach will take an unlimited period of time in the enterprises for the data collection. Moreover, the owner managers might be unwilling to host the researcher for an unlimited period.

However, Strauss and Corbin's approach encourages the researcher to enhance his theoretical sensitivity regarding the subject under study and then identify a specific research problem before going to the research site. They defined theoretical sensitivity as the researcher's ability to give meaning to the data, and to determine what are the important issues to be investigated. Therefore, researchers should have background information which sensitises them to explore and explain the phenomenon under study. By having the research questions identified in at least broad terms prior to selecting the research site, the researcher is able to focus on the main phenomenon and identify the type of data to be collected. Also, the researcher will be assisted by theoretical sensitivity to avoid being overwhelmed by the volume of data and can concentrate on the main phenomenon of interest.

There are several procedures and techniques which researchers can employ to enhance their theoretical sensitivities (Lye and Rahman, 1997). The literature review is one of the techniques of theoretical sensitivity and it can provide a rich source to stimulate thought concerning the properties and for asking conceptual questions. Literature provides researchers with the ability to be familiar with the phenomenon

under investigation. It also provides researchers with knowledge to enter the site with the ability to understand what the interviewees are saying and doing.

## 1.5 Research method

Five case studies were conducted to explore and investigate in-depth the accounting information in micro enterprises in Libya. The case study method was considered to be the best way of understanding the phenomenon in its natural contextual setting within particular technical and behavioral dimensions (Scapens, 1990). The case study based approach to research provides a solid empirical foundation for the collection of relevant and qualitative data in developing theory about the real work. Voss et al (2002) stated that case research has consistently been one of the most powerful research methods in the development of new theory. Parker and Roffey (1997) explore the important role which case studies can play in developing grounded theory and how grounded theory approach can deliver many aims of case study researchers. Van de Van (1992) and Yin (1989) cited by Swartz and Boaden (1997) argue that case studies are especially appropriate within grounded theory methodology where real-life contexts are being investigated over a period of time.

The use of case study method in accounting and management research has increased dramatically in recent years (Parker and Roffey, 1997). Johnson and Kaplan (1987) pointed out that field-based research could help to bridge the gap between management accounting theory and practice. Case studies provide exploration of accounting practices of real people in a work place and explanation of management accounting theories (Scapens, 1990). Drury and Tayles (1995, p.278) stated:

*“There is now a need for case study research that explores in much greater depth how accounting information is used and whether or not accountants and managers understand the weaknesses of conventional systems by making appropriate adjustments to the reported results”.*

The case study approach was chosen for these reasons. Firstly, the case study method allows the researcher to have a considerable degree of flexibility and motivates the researcher to acquire sufficient scope regarding the quantity of data to be collected, the collection procedures and the sources of information to be used (Yin, 1994). Secondly, exploratory studies need intensive study taking into account all their aspects and providing detailed case description and analysis. Thirdly, exploratory studies need direct contact with the organisation in order to provide more reliable knowledge. The opportunities of exploring and explanting offered by case study approach are unlikely to



be available if a quantitative approach is adopted. Finally, as was discussed in the qualitative methodology section, researchers should be as close as possible to the phenomena and the people who have experience with the research issues. This must assume a role to get close enough to social subjects to be able to discover, interpret and understand the owner manager's generation and use of accounting information, and build a picture based on their ideas. For this reason, data will be collected from participants in their own environments using multiple methods of data collection. This will facilitate a grounded understanding of accounting information in micro manufacturing enterprises in Libya. Case studies allow data to be collected from participants in the working environments, to capture data rich in detail concerning accounting information and offer the researcher the flexibility to explore issues raised by participants.

For the above reasons, it was decided to adopt the case study method as the most appropriate research method to achieve the objectives of this research study. Among the different types of accounting case studies (Spicer, 1992; Ryan *et al*, 1992), the exploratory type will be adopted because it will help the researcher in the process of hypotheses generation (Spicer, 1992). The multiple case study design will be adopted for this research study. This is because:

1. The multiple case studies are more suitable due to the inherent risk with single case study (Brownell, 1995)
2. Individual case study alone cannot allow theory (hypotheses) to emerge because its objective is to explain the particular circumstances of the case (Ryan *et al* 1992).

This research study will employ five case studies. Eisenhardt (1989) argues that a number between four and ten cases is the most suitable range of choice. The Strauss and Corbin (1990) grounded theory methodological framework will guide the conduct of the five cases, collection of relevant data and analysis of this data, thus avoiding prior theorising and other forms of researcher bias which can lead to valuable insights being overlooked. The aim of implementing grounded theory in this research study is to discover whether any theory or at least hypotheses can be developed directly from the patterns found in the data.

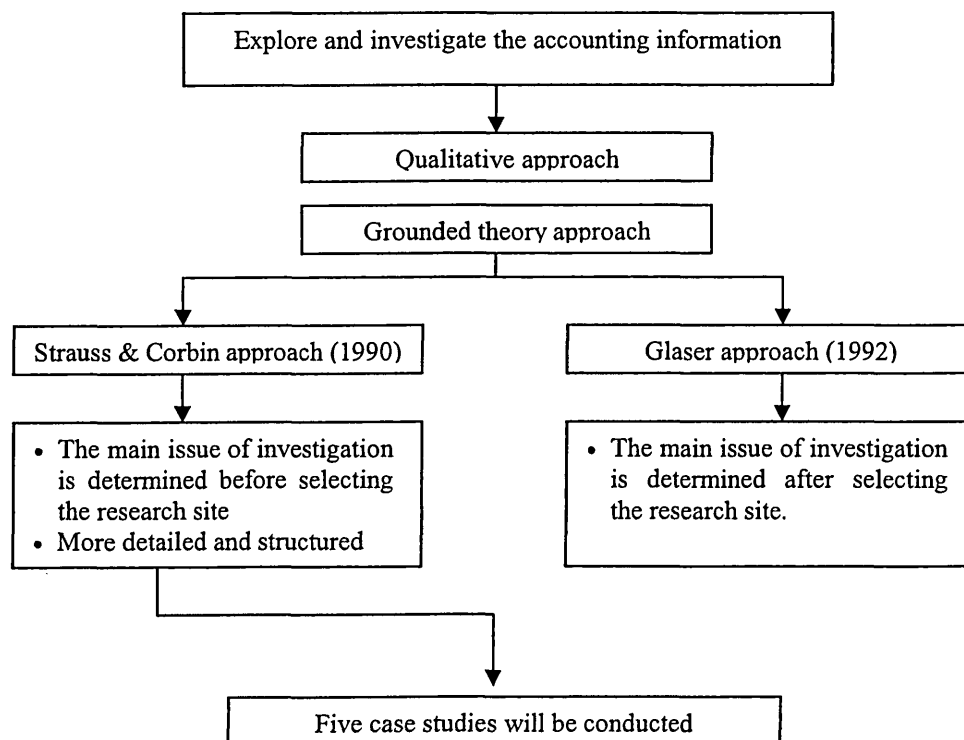
All five cases were conducted in micro enterprises drawn from the manufacturing sector in Libya, employing less than ten employees, having one owner manager (O/M) and tending to be relatively mature (at least three years in business).

The interviews were conducted over a period of four months during which fifty-seven interviews were completed. More than three weeks full time was spent on each of the five cases. Some interviews lasted at least thirty minutes and other lasted more than an hour. During the interviews broad questions were asked and then became more focused according to any points which were relevant and important to the main phenomenon (Accounting information). The broad questions, which were asked during each case study included:

1. How do you plan your business activities?
2. How do you control your business activities?
3. Could you describe the information you use in managing your business and how is such information generated?

Interviews were selected to include owner manager (O/M), production manager (P/M), internal accountant (IA), salesman (S/M) and employees (E). Each interview was analysed before moving to the next one. All the interviews were tape-recorded and later transcribed. In addition to these interviews, there was observation and examination of many documents and reports. Figure (1-1) presents an overview of the study methodology.

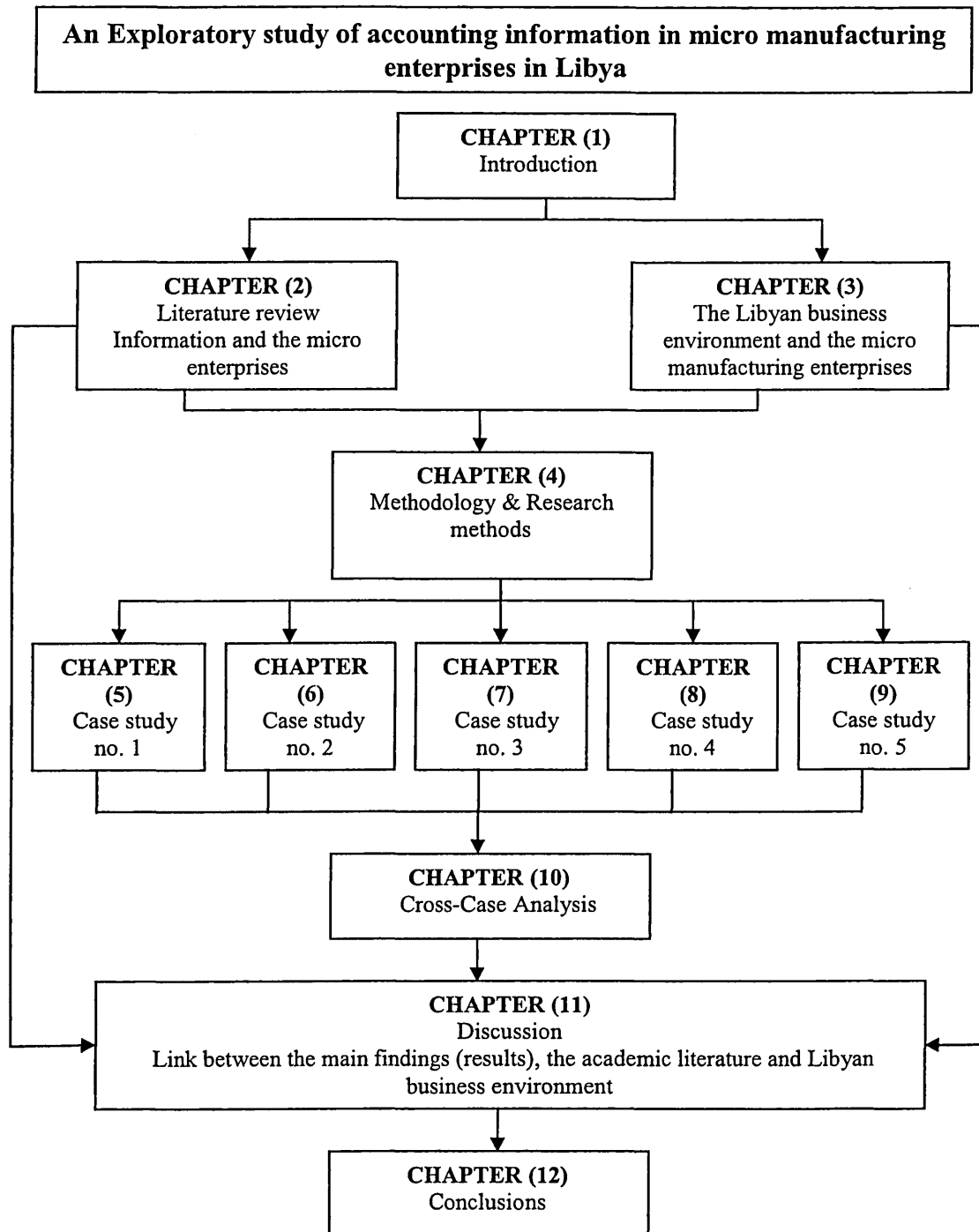
Figure (1-1): Overview of the study methodology



## 1.6 The structure of the study

The study comprises eleven chapters followed by a bibliography and appendices in addition to this introduction. Chapter two reviews the relevant literature on the phenomenon under investigation. The literature review in chapter two was a means of developing theoretical sensitivity before starting the case studies. This chapter discusses briefly the relationship between the literature review and the grounded theory, information and the micro and small enterprise, accounting information in the micro and small enterprise and accounting applications being practiced in micro enterprises. Chapter three highlights the nature and important role of micro manufacturing enterprises in the Libyan economy. Chapter four discusses the methodology that was adopted in the research study, and reviews the literature of the grounded theory approach. The research methods employed in the research are also included in this chapter. Chapters five, six, seven, eight and nine present the five case studies, which are the main source of data and theory in this research study. The cross-case analysis of the five case studies and the resulting hypotheses are discussed in chapter ten. The objective of this chapter is to formulate formal hypotheses from the substantive hypotheses of each case. The formal hypotheses are the main findings of these five cases. Chapter eleven is the discussion chapter. The purpose of the discussion chapter is to explore and investigate the link between the main findings (results) and the academic literature (previous accounting research in micro enterprises sector). This chapter is divided into two sections. Section one discusses the main findings (results) which related to the impact of the owner manager's, enterprises and environmental features on the generation and use of accounting information. Section two discusses the main findings (results) which related the applied procedures (formal and informal and their impact on the generation and use of accounting information and also the extent of written and oral accounting information generated and used for the business aspects). Chapter twelve is the conclusion which presents an overview of the research approach, the main limitations of this research study and recommendations for future research. Figure (1-2) presents an overview of the twelve chapters.

Figure (1-2): An overview to the chapters



# Chapter 2: Information and micro enterprises

## 2.1 Introduction

In this chapter an overview of the literature on accounting information in micro and small enterprises is undertaken. The purpose of this chapter is to achieve two main objectives:

1. Explore the current literature about accounting information in micro and small enterprises.
2. Give a general picture about accounting information in micro and small enterprises which can be used to develop the researcher's theoretical sensitivity which is one of the main requirements of the Struss and Corbin (1998; 1990) grounded theory methodological approach. This approach was adopted in this research study and will be discussed in detail in chapter four. Theoretical sensitivity is "the attribute of having insight, the ability to give meaning to data, the capacity to understand, and capability to separate the pertinent from that which isn't... it is theoretical sensitivity that allows one to develop a theory that is grounded, conceptually dense, and well integrated and to do this more quickly than if this sensitivity is lacking" (Struss and Corbin, 1998, p. 42).

The subjects of accounting and information in micro enterprises have received relatively little attention from researchers, with most of the existing accounting literature written mainly in the context of large companies. With this dearth of literature on micro enterprises, the literature reviewed in this chapter is the micro enterprise literature and the relevant literature and studies in small businesses. This is because in the small business literature reviewed the micro business sector is a sub-sector of the small business sector and most of the existing studies of small businesses include micro enterprises in their samples.

This chapter includes three main sections. The first section will discuss the theoretical basis for developing the literature review chapter. The second section will discuss the information and the micro and small enterprise which presents a definition of the micro and small enterprise, describe some of their key characteristics, discuss their contribution to the economy and highlight the importance and the need of information in micro and small enterprises. The third section introduces accounting

information in the micro and small enterprise and the final section discusses accounting applications being practiced in micro enterprises.

## 2.2 Grounded theory and the literature review

Theoretical sensitivity is an important aspect of the grounded theory methodology approach. It refers to the potentiality of a researcher to think about the data in a theoretical sense. Strauss and Corbin (1990, 1998) considered a literature review is one of the techniques of theoretical sensitivity. Strauss and Corbin (1990, p. 42) stated, “When a researcher had some familiarity with the existing literature, he would gain a rich background of information that sensitises him to what is going on with the phenomenon he is studying”. It can provide a rich source to stimulate thinking about the properties and for asking conceptual questions. Literature provides researchers with the ability to be familiar with the phenomenon under investigation. It also provides researchers with knowledge to enter the site with the ability to understand what the participants are saying and doing (Strauss and Corbin, 1990; 1998). The literature enhances the researcher’s sensitivity, develops knowledge and provides the necessary focus to commence the study. It is a means of providing the researcher with an open mind instead of entering the site with an empty mind, which would negatively affect the researcher’s focus.

It is very important to emphasise that the main role of the literature review chapter within grounded theory is to enhance the researcher’s sensitivity to the phenomenon being studied without any intention of allowing it to create assumptions, discover gaps or direct the research (Strauss and Corbin, 1990; 1998; Parker and Roffey, 1997; Lye *et al*, 1997). Therefore, this chapter was prepared in accordance with the researcher’s objectives and was led by the Strauss and Corbin (1990; 1998) grounded theory methodology approach. The literature review chapter was created in two different stages. The first stage started before beginning the field research and directly after determining the phenomenon to be studied and the related methodology. During this time the researcher explored literature which seemed to be relevant to the phenomenon under investigation without focusing on a specific area within the phenomenon. The researcher was looking from a broad perspective for the phenomenon. The researcher looked at the small and micro enterprise definitions and characteristics and the micro enterprise role in the economy, the importance and the sources of information,

accounting applications and the relationship between information, accounting and the micro and small enterprise. The purpose of the literature review chapter is:

- To obtain an adequate view of the phenomenon under investigation and of going to the site with an open-mind rather than with an empty-mind.
- To inform the reader of the context of the research rather than to develop any theoretical framework for empirical analysis.

The second stage was developing the literature review. This stage began after the completion of the cross case analysis and the researcher began to be very selective about the literature which was relevant to the emerging hypotheses (formal hypotheses). Then, the researcher attempted to explore the relationship between formal hypotheses and the developed literature in order to confirm findings “formal hypotheses” (Strauss and Corbin (1998).

Generally, the researchers who adopt the Strauss and Corbin (1990; 1998) grounded theory methodology approach should begin the literature review chapter with a broad overview of the general literature on the subject as a means of enhancing his/her sensitivity. After completing the cross-case analysis and within the conclusion, the literature will be specifically selected to include the relevant literature which is associated with the formal hypotheses (Strauss and Corbin, 1990; 1998).

## 2.3 Information and the micro and small enterprise

### 2.3.1 Introduction

The objective of this section is to highlight the importance of information for the small enterprise and the relationship between small enterprises and information is discussed. This section is divided into two sub sections. In the first sub-section a definition of small enterprises suitable for this research study is introduced, the general characteristics of the small enterprises which might influence the information generation and use in these enterprises are identified, and the role of the small enterprises in the economy is discussed. In the second subsection, the need of small enterprises for information, the role which information might play in the management function of small enterprises and the impact of information on the performance of small enterprises are discussed.

## 2.3.2 The micro and small enterprises

### 2.3.2.1 Definition

There is no single uniformly acceptable definition of a small enterprise. This is because there are many criteria used to define the enterprises (micro, small and medium enterprises). Osteryoung and Newman (1993) stated that the number of employees, annual sales, and amount of assets, management, organisation structure and dominance in the organisation's operating industry are the criteria most used to define enterprises of different sizes. Many studies pointed out that the number of employees is the most often used criteria to define enterprises (Weiss, 1998; Ibrahim and Goodwin, 1986; Keats and Bracker, 1989; Cromie, 1994; Karlsson and Ahlstrom, 1997; Eyre and Smallman, 1998). Reid (1996) argued that the micro enterprise was the smallest type of firm, having an employment size which does not exceed ten. The British Government (DTI, 1993) and the European Commission (Storey, 1994) defined a micro enterprise as a firm employing less than ten employees.

The European Commission adopts employee numbers to categorise enterprises of different sizes. The European Commission uses 0-9 employees as the micro enterprise size, 10-99 as the small enterprise size, 100-499 as the medium enterprise size, and 500+ as the large enterprise size (McCartan-Quinn and Carson, 2003). For the purpose of this study, this definition, which is consistent with that being officially used in Libya, was adopted using ninety-nine employees as the small enterprise limit and nine employees as the micro enterprise limit.

### 2.3.2.2 Characteristics of small enterprises

McCartan-Quinn et al (2003) characterised small enterprises as those close to their markets, have great flexibility which they value, and have limited financial, human, material and informational resources. Baumbach (1989, p. 1) characterised the small enterprise as *"the one that is (1) actively managed by its owner, (2) highly personalized, (3) largely local in its area of operations, and (4) largely dependent on internal sources of capital to finance its growth"*. The Bolton Report (1971) in the UK the small enterprises characterised as those having a relatively small share of the market, being managed by owners in a personalised way, and being independent from outside control. The Committee for Economic Development (1947) in the USA indicated that small enterprises are those having independent management, owners as managers, capital held



by owners, a local area of operation, and a relatively small size of business within its industry. The committee on Small Business (1971) in Australia characterised a small enterprise as one in which one or two individuals make the finance, accounting, personnel, purchasing, processing or servicing, marketing and selling decisions without the assistance of internal experts and with specific knowledge in only one or two operational areas.

Glen (1980) summarised the characteristics of the small enterprise by stating that the small enterprise has combined owner and manager roles, its management is personalised as the enterprise is limited in size and its O/M make all critical management decisions without the aid of internal specialists. Trowell (1975) identified two main characteristics of a small enterprise by noting that the small enterprise is owner-managed and independent. He explained that there exists a direct relationship between the owners of the enterprise and the management. The owners are responsible for the management and the decisions made in finance, purchasing, selling and other aspects of the business. Furthermore, the enterprise is not owned by a larger enterprise and its financial and management functions are controlled by its O/M. The small enterprises also have limited financial, human, material and informational resources (Shrader, Mulford and Blackburn, 1989; Rogers, 1990; Fletcher and Peters, 1997; Holmlund and Kock, 1998).

### 2.3.2.3 Characteristics of micro enterprises

Several characteristics of micro enterprises can be found in the existing small business literature. Freedman Godmin (1993) refer to micro enterprises as: very small independent companies with not more than two owner managers or shareholders, complete identity between managers and shareholders, a very low turnover (below £1m), and five or fewer employees. Levitzky (1989) stated that micro enterprises are very small business consisting of a single self-employed person, a family, or at the most a few employees. Philip (1998) also added that such very small firms are often a family business and many have a regular staff of only one to three persons. Boomgard *et al* (1989) characterised micro enterprises by noting that they were typically ten or fewer workers, a family-based workforce, an emphasis on cash transactions, limited management specialisation and technology based on existing skills were common features. Also, they provided goods and services directed at the basic needs of low-income consumers; they served localised markets through fairly short marketing

channels, and had low profit margins. Also micro enterprises can be characterised as very small business, employing up to ten persons on a full-time basis, head of unit included, and operating in temporary or permanent premises, or in a fixed recognisable location (Vale Souza, 1988). Devins *et al* (2005) stated that when talking about micro businesses the term may embrace start-up enterprises, self-employed managers with one or two employees, owner managed businesses, team managed businesses, family businesses, ethnic businesses, hi-tech businesses and businesses with differing legal status. Most micro enterprises used tools as well as limited computerisation, whereas more advanced management practices were limited by illiteracy. Also, most of them employed some full-time labour, supplemented by family members, kept little inventory, did not advertise and employed many power tools supplemented by several labour-intensive practices (Stallard and Miller, 1996).

#### 2.3.2.4 Micro and small enterprises branches

Micro and small enterprises can be divided into three branches of activity: manufacturing, trading and service (Siegmund, 2001).

##### 2.3.2.4.1 Manufacturing sector

Manufacturing enterprises must be provided with assets, as well as with a stable product line, for example, furniture, clothing, take away food, shoes or pans.

##### 2.3.2.4.2 Trading sector

In this category the enterprises must be equipped with an owned or rented store, stall or cart, and handle one or several fixed lines of products, for example, vegetables, clothes or fuel.

##### 2.3.2.4.3 Service sector

Firms must have some basic equipment, consisting of tools, fittings, carts, vans or other tangible assets. A few typical activities of this category are: car and bicycle repair, shoe repair hairdressing and transport.

#### 2.3.2.5 Contribution of micro enterprises to the economy

Recent decades have witnessed the rebirth of emphasis placed on the role of micro and small businesses and entrepreneurs in the world economy (Kozan *et al*, 2006; Stanworth and Gray, 1991). Politicians in many countries in the world have emphasised,

for at least a decade, the importance of micro and small enterprises as a mechanism for job creation, innovation and the long-term development of economies (Storey, 1994). Some studies suggest that micro and small enterprises create more value added per unit of capital and thus generate both more employment and output for a given investment (Haggblade, Liedholm and Mead 1990; Steel and Takagi 1983). Liedholm and Mead (1999) discuss the contribution of micro and small enterprises to the development process and they found that micro and small enterprises have the potential to contribute in a number of important ways to development process. Among the most significant of these are:

- Contribution to household income and welfare.
- Contribution to self-confidence and empowerment of the individual.
- Contribution to social change, political stability and democracy.
- Contribution to distributional or development objectives.
- Contribution in the area of demographic change.

During the last decades of the twentieth century, micro enterprises came to occupy an important part of the global economy (Al-madhoun and Analoui, 2003). Sandberg (2003) stated that micro enterprises play a critical part in economic health and growth. Micro enterprises represent a large proportion of the economic sector in every country of the world (Gobbi, 2003).

Micro and Small business present around 99.8 per cent of all businesses active in the European Union, and account for sixty-eight per cent of total employment and sixty-three per cent of business turnover (Matlay, 2000). In the UK the increase in the number of micro enterprises resulted in a significant increase in employment in the small business sector. Accordingly, Greenbank (1996) argued that this confirmed the significance of the micro enterprises, both numerically, and in terms of their contribution to employment. Bannock and Daly (1994) provided further evidence of the growing importance of the micro enterprise sector. They stated that the percentage increase in employment by size band in the UK during the period from 1979 to 1986 was ninety-eight per cent in enterprises employing less than ten employees. The Labour Market Quarterly Review Report in the UK (August 1993) indicated that the micro enterprise sector made the greatest contribution to job creation. Over ninety per cent of additional jobs created between 1989 and 1991 were in enterprises with fewer than ten employees (micro-business) even though they accounted for only eighteen per cent of total employment in 1989. A study conducted in the UK has shown that the number of micro enterprises increased by fifty-six per cent between 1979 and 1991 and the

proportion of the self-employed (micro enterprise) without employees increased from sixty-one per cent in 1981 to seventy-four per cent in 1993 (Storey, 1994). At the start of 2004 there were an estimated 4.3 million business enterprises in the UK. Almost all of these enterprises (93.3 per cent) were micro and small enterprises, which accounted for 46.8 per cent of total employment and thirty-seven per cent of business turnover (Small Business Service, 2005). The UK micro enterprises make an important contribution to the economy employing approximately 6.9 million people (more than thirty per cent of all private sector employment) (Devins *et al*, 2005). The micro enterprises operating in Scotland from 1985 to 1988, accounted for five per cent of gross output and seven per cent of total employment (Reid, 1996). In New Zealand the latest figures for 1999 confirm that eighty-six percent of its 259,000 businesses have five or fewer employees. The government officially has redefined these as micro businesses, and these firms account for approximately twenty-seven percent of the employment in this country (Hamilton, 2003). Gooderham *et al* (2004) stated that about ninety-five percent of Norwegian firms are small firms, and among these, about eighty percent are micro-firms in that they have fewer than five employees. Roberts *et al* (2002) pointed out that the micro and small enterprises produce twenty-five per cent of gross domestic product. The State of Small Business in the USA (1990) reported that about ninety-nine per cent of the US enterprises are micro and small. These enterprises provide two out of three new employees with their first job. In the Australian context, micro and small business accounts for ninety-six per cent of the Australian private sector (excluding agricultural businesses) and employs forty-seven per cent of the private sector, non-agricultural workforce (Australian Bureau of Statistics, 2002). In Brazil, micro and small enterprises account for ninety-eight per cent of all enterprises in the country. The proportion these enterprises contribute to total local production is given as about fifty per cent and the percentage of jobs as sixty per cent (Goncalves and Kampowski, 1995, cited in Siegmund, 2001).

Micro and small enterprises have been recognised as a major source of employment and income in many countries of the Third World (Mead and Liedholm, 1998). Micro enterprises in developing countries played a major role in the economic environment in terms of primary and secondary source income-generation (Miller (1994), and were a major source of employment and income (Mead and Liedholm, 1998). Micro enterprise accounts for sixty to eighty per cent of jobs in the developing world (Schreiner and Woller, 2003). An estimated 150,000 people enter the labour

force of developing countries daily, and most of them will be employed in micro enterprises as owners or employees (Burgger and Rajaptirana, 1995). A study conducted in Africa and Latin America has revealed that the number of people engaged in micro and small enterprises activities per 1,000 persons in the population - ranged from 70-90 in Botswana, Kenya, Lesotho and Malawi to well over 100 in the Dominican Republic, Zimbabwe and Swaziland (Liedholm, 2002). The same study added that in the five African countries<sup>7</sup> surveyed, the estimated total number of people engaged in micro and small enterprises is nearly twice the level of employment in registered, large-scale enterprises and in the public sector. A research study has shown that ninety-nine per cent of Japanese enterprises, eighty-five per cent of Egyptian enterprises, and sixty-five per cent of Saudi Arabian enterprises are micro and small enterprises (Makhool, 1999). Micro and small enterprises have come to play a critical role in building a strong and independent economy in Palestine (UNRWA, 1998). The International Labour Organisation says that ninety-seven per cent of the Palestinian businesses are micro and small, with fewer than ten workers.

In Taiwan ninety per cent of the enterprises are micro and small enterprises (Hsien, 2002). The International Labor Organisation in Kenya report in 1972 has revealed that the micro and small business sector had the potential for dynamic, evolutionary growth (Schmitz, 1982). In Ivory Coast it was estimated that seventy-four per cent of employment in manufacturing takes place in firms with less than ten employees (Sleuwaegen and Goedhuys, 2002). Anderson *et al* (2003) stated that by 1999 there were more than ten million micro to small enterprises registered in China representing some ninety per cent of all businesses and provide sixty per cent of the gross national product, forty per cent of profits and taxes, and some sixty-eight per cent of exports.

Firms of five or fewer employees generate a substantial share of GDP in many countries. In Mexico micro enterprises represent thirty-two per cent of its gross domestic product and sixty-four percent of its total employment. Approximately forty-nine percent of GDP in Peru and sevsepty percent in Nigeria and Egypt come from the micro-dominated informal economy. In Ukraine, 2.6 million businesses, which represent eighty-seven per cent of all businesses in that country, are self-employed individuals who produce, distribute, and/or sell goods in the local marketplace.

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<sup>7</sup> Botswana, Kenya, Malawi, Swaziland and Zimbabwe.

Micro enterprises may also be integral to the success of key economic sectors. In South Africa, for example, the construction sector generates a third of GDP and includes 90,000 firms, of which 87,000 are micro and small. Outsourcing by large construction firms to specialized, small subcontractors is a very common feature of the industry. In Bangladesh, more than ninety percent of the firms engaged in the \$350 million shrimp export business are micro businesses. In Honduras, micro firms account for 30,000 of 40,000 horticultural firms which emerged in the wake of Hurricane Mitch. They partner with larger firms to compete in export markets and improve quality control and processing (Simmons, 2004).

### 2.3.3 Information

#### 2.3.3.1 Definition

Information is defined as "data that has been put into a meaningful and useful context and communicated to a recipient who uses it to make decisions" (Burch and Grudnitski, 1989, p.3). Bentley (1986) defined information as anything which increases the recipient's knowledge. Drury (1996) defined information as a subset of data which adds to knowledge. The difference between data and information is that data is formatted, filtered and manipulated to create information. Jackson and Donovan (1999) stated that the information refers to data that has been analysed and interpreted. Data was defined as "collections of signs or characters generally arranged in some orderly way to make up facts and figures" (Feltham, 1972, p. 7). Data is facts, which may or may not be processed (edited, summarized, or refined) and has no direct effect on the user. Whereas information causes the user to take an action that he or she otherwise could not, or would not, have taken. Information is often defined simply as processed data. Information is determined by the effect it has on the user, not by its physical form (Hall, 2004).

#### 2.3.3.2 The need for information

Every economic-unit must be able to process a significant amount of information. Without information, no business can properly perform any of its required functions. Every business must collect and blend a wide variety of information, distribute and use it through its operations, and provide accurate and timely outputs. Information describes the trading environment of the economic unit. It is the basis of its management and operational systems (Thoburn *et al* 2000). Management needs information to perform its

planning, controlling, organising, communicating and motivating functions (Nayak and Greenfield 1994; Drury, 1996). Solomon and Youssef (2003) stated that in order to manage, managers need information which facilitates their decision-making and assists them to evaluate their enterprises performance, determine short and long range plans and control their enterprises activities. Wootton and Templeman (1985) pointed out that planning and control in small enterprises is more problematic than other management functions. Planning has been remarked as a significant small enterprises weakness (O'Neil and Duker, 1986). Wootton and Templeman (1985) argued that although planning (budgeting) was performed in a less formalised manner in small enterprises, it implied that sufficient information was gathered to obtain a view of a situation, to evaluate alternatives and select a course of action. They added that formalised control was less than that of planning either because O/Ms gained more from planning activities than from assessing their effectiveness or because control was a much more straightforward and less time-consuming activity because there was no separation of ownership from control.

### 2.3.3.3 The importance of information

It has been recognised that information is increasingly being regarded as a resource to be used by an organisation in attaining and retaining competitive advantage (Gustin *et al*, 1994). Porter and Millar (1985) reported that one of the most important elements in competitive advantage is information. Gustin *et al* (1994) supported this view and added computers and information are critical to achieving integration and are increasingly viewed as resources to be used by the firm in gaining competitive advantage in the marketplace. Solomon and Fernald (1993, p.104) stated that:

*"If small businesses are to compete successfully in global markets, they must acquire and use the most current and complete market and economic information".*

The lack of information was a major reason why many small enterprises failed in China (Cheng and Lin, 1993, cited in Vaughan and Tague-Sutcliffe, 1997). Ingram *et al* (2003) stated that accounting information is very important to the planning and control and that they are very important to the business success. Financial information such as financial ratios have been used in attempting to predict the failure of small companies. For example, Innes *et al* (1991) used a combination of financial and non-financial information to develop a model to predict the failure of small enterprises in one

particular industrial sector based on the statistical technique of logic analysis. Vaughan and Tague-Sutcliffe (1997) stated that the major factors affecting business success were, first, business environment, and, second, information use. Lybaert (1998) found that there was a positive relationship between the extent of information usage and the small enterprises success. Owner managers did not rate formal information highly (Randal and Horsman, 1998), whereas informal information was more important to the small enterprise's success than formal information (Vaughan and Tague-Sutcliffe, 1997). Mitchell *et al* (2000, p.34) stated that:

*"The existing research on the relationship between information provision and the small firm reinforce the notion that information, including management accounting, is potentially an extremely important resource for this type of firm, impacting on both managerial effectiveness and firm performance".*

### 2.3.3.4 Sources of information

External and internal sources of information are the two main sources of information available to the small enterprises. External information is obtained from sources outside the enterprise. These include trade publications, suppliers, customers (McGee and Sawyerr, 2003), printed materials (e.g. books, brochures, pamphlets, journals and newspapers), information centres and government agencies (Olm and Eddy, 1985; Fann and Smeltzer, 1989; Goldsmith, 1989; Siropolis, 1990; Solomon and Fernald, JR. 1993) and professional experts (accountants and bankers). Internal information is generated within the enterprise as a result of the business transactions. McGee and Sawyerr (2003) pointed out that several scholars argue that owner manager of small enterprises rely more heavily on internal sources. Small enterprise owner managers prefer internal sources of information because they have a high internal locus of control. Owner managers in small enterprises are less willing to seek and accept advice from others (Pineda *et al*, 1998 cited in McGee and Sawyerr, 2003). McGee and Sawyerr (2003) stated that small enterprise owner managers rely on internal information sources because they may have a limited number of external linkages or boundary spanning opportunities.

Holmes and Nicholls (1989) suggested that the existing literature indicated that practicing accountants were an important source of advice and information for small enterprises. Elattar (1999) supported this view and added the internal accountants were the most common helpers in generating information. In addition, Elattar (2001) found that the use of an internal accountant to be responsible for the accounting function in the



enterprise resulted in a provision of more information which was useful for maintaining better planning and control. A Study has indicated that in many countries smaller business accountants play an important role as business advisers in addition to providing accounting services (Gooderham *et al*, 2004), and that there are significant barriers to information use in micro enterprises with no internal accountant (Mitchell *et al*, 2000).

### 2.3.3.5 Users of information

Users fall into two general groups: external and internal. External users include interested parties outside the firm, such as creditors, suppliers, customers, governmental agencies and banks. Internal users include the managers and employees of the firm (Hall, 2004; Wilkinson, 1991).

## 2.4 Accounting information and the micro and small enterprise

### 2.4.1 The accounting information system

Accounting and information systems are closely related. Wilkinson (1991, p. 14) stated that:

*“Essentially, accounting is an information system. More precisely, it is an application of the general theory of information to the problem of efficient economic operations. It also makes up a large part of the general information expressed in quantities terms. In this context accounting is both a part of the general information system of an operating entity and a part of the basic field bounded by the concept of information”.*

This close relationship is also acknowledged by the widespread use of the term an accounting information system.

Bodnar and Hopwood (2001, p. 1) define an accounting information system as:

*“A collection of resources, such as people and equipment, designed to transform financial and other data into information. This information is communicated to a wide variety of decision makers. Accounting information systems perform this transformation whether they are essentially manual systems or thoroughly computerized”.*

The existing literature indicates that accounting information systems in micro and small enterprises are generally inadequate for management purposes (Bolton, 1971;

Committee on Small Business, 1971; Lang, 1973; Lewis and Toon, 1986; Storey *et al*, 1987; Peacock, 1988; Nayak and Greenfield, 1994; Poutziouris *et al*, 1998a). Even the cost accounting systems in small manufacturing enterprises are poor (Murphy, 1979; Lovett, 1980). Manual single entry accounting systems, of varying degrees of sophistication, seemed to be the norm for most small enterprises.

The majority of small businesses and their owner managers are using computers (Chen and Williams, 1993; Fitchew and Blackburn, 1998; Poutziouris *et al*, 1998; Nickell and Seado, 1986). A study by Collis and Jarvis (2002) found out that fifty-seven per cent of small enterprises had a computerised accounting system and twenty-five per cent had a partly computerised system.

Small enterprises using computerised information system are more likely to be the manufacturing and service enterprises (Nayak and Greenfield, 1996). However, the computerised information systems in terms of hardware and software in the small enterprises are generally inadequate, lacking internal technical expertise and receiving insufficient attention from the owner manager (Cragg and Zinatelli, 1995). In the majority of small enterprises the computers are used mainly by the owner manager to perform several tasks, occasionally in conjunction with a secretary or bookkeeper (Nayak and Greenfield, 1996). A study by Nickell and Seado (1986) indicated that the most frequent business computer applications in small enterprises were accounting, mailing lists, storing information, budgeting, inventory control and word processing. Accounting applications ranked well ahead of word processing and electronic spreadsheet applications (Farhoomand and Hrycyk, 1985). An empirical study by Farhoomand and Hrycyk (1985) indicated that the small business computer is regarded by the vast majority of small business managers as a cost reduction device, and not as a revenue producer. However, small enterprises tend to use a computerised information system to support accounting applications, for word processing activities, and for spreadsheet analysis (Malone, 1985).

Although computerised information systems are used for the preparation of accounts, they were not usually used to their full potential (Marriott and Marriott, 1999). Accounting and inventory control functions were regarded as the most important computerised information system applications in small enterprises, but the latter was the most problematic area of computer usage (Kagan *et al*, 1990). The computerised information system users were on the whole likely to have complete records of cashbook, debtors, creditors, nominal ledgers, stock records and production schedules.

They generated information from these records to prepare budgets and compare actual with budgeted figures and to have a sufficient knowledge of debtor and creditor payment periods (Nayak and Greenfield, 1996). However, smaller (micro) enterprises used computers to prepare management accounts, but these are often incomplete and inaccurate (Marriott and Marriott, 1999).

A study by Raymond and Magnenat-Thalmann (1982) indicated that a computerised information system had a noticeable impact on small enterprises at the operations level but did not have the same impact on management decision-making activities. These results are somewhat different from those of Malone (1985), who indicated that the use of computerised information systems improved the quality of decision-making and enhanced management effectiveness. However, Malone was looking at small enterprises from multiple sectors rather than a single sector such as manufacturing as examined by Raymond and his colleagues. A quantitative and qualitative study conducted on a sample of 158 small engineering designs, product design and architect enterprises by Dunleavy (1999) indicated that they used the internet mainly for e-mail; other uses included an enterprise website.

### 2.4.2 Accounting information classification

The accounting information in small enterprises has been classified into two groups, namely statutory and non-statutory (Holmes *et al* 1991). The information of a statutory nature included tax returns, statutory accounts, balance sheets and profit and loss statements. The non-statutory information included budgeted information, ratios, manufacturing statements, inter-firm comparisons, industry trends, break-even points, production reports and job costing reports.

Holmes *et al* (1991) found that an external accountant prepared the statutory and budgeted information, whilst the other information was generated and prepared by the enterprise. studies in various locations indicated that the most important external sources of advice and information to small enterprises were external accountants and bankers (Holmes *et al*, 1986, 1989). A study by Kent (1994) has shown that external accountants were important sources of advice and information to small enterprises. The predominant types of advice/services provided by external accountants to small enterprises related to taxation matters, statutory annual accounts and bookkeeping (Holmes *et al*, 1986; 1989). Marriott and Mariott (1999) stated that the owner manager of smaller enterprises often perceived their external accountants as an extension of the

tax system and were sometimes reluctant to request additional information or advice as they did not wish to incur what they considered to be high charges. A study by Dugdale *et al* (1997) concluded that the annual report and statutory accounts of small enterprises were of value to the owner manager and their bankers, and the proposals to reduce disclosure in small enterprise accounts could affect the value of this information to users.

## 2.4.3 Accounting information applications

### 2.4.3.1 Financial management

It has been recognised for many years that financial management in small enterprises plays a critical role in their success and survival and development in the modern economy (Collis and Jarvis, 2002; Deakins *et al*, 1998; Deakins *et al*, 2000; Deakins *et al*, 2002). A number of studies have indicated that financial management in small enterprises has been poor (Bolton Report, 1971; Lang, 1973; Lewis and Toon, 1986; Storey, Keasey, Nayak and Greenfield, 1994; Poutziouris, Chittenden and Michaelas, 1998a). The positive correlation between poor financial management (including basic accounting) and business failure has been documented in Western countries (Peacock, 1985).

Also, there has been an apparent continuing deficiency in the financial management skills of small enterprise's owner managers (Jarvis *et al*, 1996). Further evidence from a study by Chittenden *et al* (1999, p.24) concluded that, "Credit management in small firms falls behind best practice". Poor financial management was given as the major cause of failure in the Attorney-General report (Attorney-General, 1997). Quinn *et al* (2003, p.201) stated, "High failure rates of small firms are largely attributed to weaknesses in financial management and marketing". Chittenden *et al* (1999, p.5) stated, "Studies of the reasons for small business failure inevitably show poor or careless financial management to be the most important cause".

A qualitative study by Jarvis *et al* (1996) found that cash flow management was important to small enterprise owner managers and it was used primarily to achieve survival goals rather than growth. Also, owner managers operated a procedural rationality in reaching financial cash flow management decisions which was affected by social and cultural norms (Jarvis *et al*, 1996; Deakins *et al*, 2000). Collis and Jarvis (2002) point out that the most widely used and most useful sources of financial information are the monthly/quarterly management accounts and cash flow information

in various forms. Chittenden *et al* (1999, p.6) commented that, “There is a definite need for more information on the methods used by small firms to accumulate and allocate their scarce working capital resources”.

Owner manager in small enterprises moved from informal procedures of financial management and decision-making to more formal procedures as their businesses developed (Deakins *et al*, 2000). Terpstra and Olson (1993) noted that 5.7 per cent of the total problems identified by owner manager of small enterprises related to obtaining finance whilst 3.2 per cent related to financial management. A study by Hall and Young (1996) on 182 failed small enterprises indicated that the most significant reasons for the failure of these enterprises were shortages in working capital (51.4 per cent), poor management accounting systems (10.9 per cent) and debt management problems (9.5 per cent).

#### 2.4.3.2 Management accounting information

Islam and Kantor (2005, p. 708) stated that,

*“Management accounting provides an important competitive advantage for the enterprise that helps create better decision-making value and provides an integration perspective to the management’s strategic, operational and financial decisions. Management accounting provides information from its environment to management to facilitate decision-making”.*

Randal and Horsman (1998) indicated that management accounting or management accounting information has been neglected in small enterprise literature, despite its importance to business success. McChlery and Meechan (2000) pointed out that little was known of the form and effectiveness of management accounting within small enterprises. Lowry (1993) stated that undertaking intensive research in small enterprises might expose actions undertaken in response to the cost-benefit barriers facing formal control procedures including management accounting. In support of this view Jarvis *et al* (1996) pointed out that management accounting might be used in small enterprises but in forms which might not immediately be recognised as such. The relatively few studies on management accounting in small enterprises exemplified the great potential which exists for management accounting research in this somewhat neglected area (Mitchell and Reid, 2000).

A study by Hall and Young (1996) showed that management accounting was an important deficiency in thirty-eight per cent of the 241 failed small enterprises

surveyed. Randal and Horsman (1998) found that the lack of management accounting information contributed to small enterprise failure. They also found that there were barriers preventing external accountants from providing the management accounting information for owner manager' decisions. A number of studies have suggested that the quality of management accounting information utilised within small enterprises had a positive relationship with their performance (Raymond and Magnenat-Thalman, 1982; Holmes and Nicholls, 1989).

Randal and Horsman (1998) suggested that the existing literature did not specify clearly the kinds of management accounting which would most help owner managers of small enterprises. Specifically, owner managers were vague about some of the techniques of management accounting which might be useful in their business. Also, they argued that the attitudes of the owner manager and the range of services offered by actual and potential information providers limited the level and role of management accounting information available to the owner manager. Randal and Horsman (1998) stressed that even expert owner managers in management were personally unlikely to understand the power of some techniques which might be good indicators of a high level of risk of failure for businesses.

## 2.5 Micro enterprises and accounting applications practice

Accounting systems are often rather simple in small firms (Raymond and Magnenat-Thalman 1982). Sometimes it is not even possible to talk about systems as such. Often, simple calculation rules decide costs and prices. Much of the day-to-day planning is similar to that used in large firms (Nayak and Greenfield 1994). Planning methods used in large firms, however, may not be the best suited for small firms. Nevertheless, there is very little research interest in evaluating the need of simplified accounting methods for small firms in general.

However, small business problems and failures arise out of a lack of managerial skill and depth and personal lack and misuse of time (Carson, 1985). The O/Ms of micro enterprises could not afford to spend time away from their enterprises and had very little time to think about the longer-term and examine where the business was going (O'Dwyer and Ryan, 1999 and 2000). A study has revealed that the owner managers in smaller enterprises have less time to search for planning data (Edmunds,

2000), and that the O/Ms of micro enterprises were mentally monitoring their achievements on a daily basis (Nayak and Greenfield, 1994).

The owner managers with good financial skills made more use of computers to produce financial information. Those with limited financial skills placed little value on the financial statements produced by their external accountants (Marriott and Marriott, 1999). Collis *et al* (2001, 2002) stated that it might be expected that the sophistication of the information produced by the management accounting system would be correlated with the owner manager's financial skills. The owner managers in the UK do already maintain accounting records, with many using computerized packages or spreadsheets (Sian *et al*, 2003). Nayak and Greenfield (1996) found the computer users of micro enterprises more likely to have complete records of cashbook, debtors, creditors and nominal ledgers than enterprises with hand written records. Micro enterprise computer users were also more likely to have a greater knowledge of debtor and creditor payment periods. Sian *et al* (2003) found that many small enterprises have computerised (or partly computerised) systems of record keeping which allows the generation of regular internal financial information. The successful micro enterprises were more likely to have more formalised and extensive business records and understood more about their business. They did this in order to obtain more regular accounting information to help future decision making, as the O/Ms experienced how their decisions impacted on profits (Nayak and Greenfield, 1996). Elattar (2001) pointed out that the use of some business records and documents allowed the recording of the details about the financial transactions of the business. They also enabled the internal accountant and owner manager to generate a large amount of management accounting information regarding the inventories of raw materials and finished products and cash flow. The information pertaining to the cash flow included the balances of customers and suppliers, expenses, withdrawals, bank balance and cash available to the business. The also allowed generation and use of a small amount of management accounting information about other aspects of the business. Also, Elattar (1999) found that the majority of respondent enterprises used books to record their business transactions, whereas smaller numbers used temporary papers, invoices, computers, time sheets, or note pads. These books as specified by the majority of respondent enterprises were classified into cash, creditors and debtors, sales and purchases books. Eighty-one per cent of respondent enterprises recorded credit sales, eighty per cent recorded collection of debts, and seventy-two per cent recorded payment of credits and seventy-four recorded credit purchases. It was

discovered that thirty per cent of the enterprises operated on a cash basis and so did not have creditors or debtors. Fifty-eight per cent recorded cash purchases whereas, fifty-six per cent recorded cash sales. His analysis also indicated that seventy-three per cent of owner managers of the respondent enterprises did not record the amount of money they took out from the business for personal use, which means only twenty-seven per cent recorded them. Fifty-five per cent of the respondent enterprises did not record the quantity of raw materials used in production, whereas, sixty-two per cent recorded the payment of expenses (direct and indirect). Although twenty-three per cent of the respondent enterprises had no employees, forty-two per cent recorded the payment of wages and salaries, even though fifty-two per cent did not record the employees' daily working period.

Perren *et al* (1999) indicated that owner managers employed informal procedures of information acquisition and control in the early years of managing their businesses. However, the information and control are not poor, far from it, but rather appropriate for a business of that size. They also indicated that the cash flow management was important to the owner manager of micro enterprises. The nature and importance of controlling cash flow through the attentive receipt, recording and reviewing of information was liable to be fairly consistent as micro enterprises developed. Collis and Jarvis (2002) stated that small enterprises found the periodic management accounts, cash flow information generated internally and bank statements more useful than annual financial statements. John and Healeas (2000) stated that owner managers prefer to use management accounts and cash flows for decision-making purposes rather than the statutory accounts. Also, Nayak and Greenfield (1994) found that the older and larger micro enterprises were more likely to have formalised their withdrawals to take a regular amount each week. They suggested that advice was needed on keeping debtor records and cash. Nearly ninety-seven per cent of the owner manager of micro enterprises surveyed obtained information concerning their bank balance. Elattar (1999) stated that the formal records used to monitor cash flow were the records of cash and bank transactions, creditor records and debtor records. He found that eighty per cent of respondent owner managers who had accounts with banks considered the reconciliation of their bank balances important for them to control their cash flow. However, eighty-three per cent of respondent owner managers regarded the information about accurate creditor balances as important for them to control business cash flow. Eighty-two per cent of respondent owner managers had creditors and considered the credit payment



period important for them to control business cash flow. Elattar (1999) results also indicated that seventy-three per cent of respondent owner managers used their creditor records to know the credit period allowed by suppliers. Eighty-five per cent of respondent owner managers regarded the information concerning accurate debtor balances as important for them to control business cash flow. This percentage was greater than the average Eighty-one per cent of those owner managers who said they recorded details concerning their debtors. About Eighty-one per cent of the respondent owner managers know how long their debtors took to pay and were concerned to keep debtor records so they could use the information to remind their debtors to pay.

Elattar (1999) stated that most respondent owner managers had a good understanding of the need to build up product cost. The large majority, eighty-two per cent of respondent owner managers used accounting information to determine firstly, which products the market would buy, secondly, at what price, thirdly, how much was earned by each product and fourthly, whether some products were more profitable than others in terms of the amount of business capacity used to produce or provide from them compared with how much these products earned. Nayak and Greenfield (1994) found that owner managers were unsure whether the price they were charging was correct, as they were unsure of the effects on demand of a change in price. Greenbank (1999) stated that micro enterprise owner manager made their pricing decisions in an unpredictable way and they were influenced by a complex inter-related combination of factors which were related to individual, social and economic contexts. The individual context included the behaviour, abilities, perceptions and beliefs which were inherited and learned. The social context included the influence of the social experience of owner managers, both current and in the past. The economic context included the financial situation faced by the O/M, both in terms of their own needs, and the factors determining the cost and revenue implications of running their businesses

Nayak and Greenfield (1994) stated that all enterprises had at least one method of product costing and pricing. Elattar (1999) found that fifty-one per cent of respondent owner managers were much more likely to use full cost than any other pricing methods, whereas only four per cent used the hourly rate method. Twenty-two per cent used market price method, whereas, only two per cent used their experience to price products. Nearly fourteen per cent were most likely to use a market-based and a cost-based method.

Nayak and Greenfield (1994) found that thirty-three per cent of owner managers regularly used information about profits and forty-nine per cent used information about sales or orders to monitor their business performance. Manufacturing enterprises, which had the greatest lead-time between sales and profits, were most likely to use sales information to measure performance rather than profit information. Elattar (1999) found that the majority (more than sixty per cent) of the respondent enterprises generated information regarding the cost of sales, the cost elements of the products, cash in and outflow, and profits and losses of the business. The information concerning the cost of sales and the cost elements of the product were more likely to be generated orally than other information. Nayak and Greenfield suggested that advice to micro manufacturing enterprises on weekly profit calculations was needed to help with their business monitoring. The safety (reserve) level calculation was made by a larger percentage (twenty-nine per cent) of respondent owner managers than the other calculations. The calculations for reorder point as well as the inventory turnover ratio were made by nearly sixteen per cent of the respondent owner managers.

Elattar (1999) stated that the recommended method to plan business activities is through the use of budgets. He found that sixty-seven per cent of the respondents used budgeting for planning business activities. Monthly budgeting was more common than either yearly or quarterly. However, weekly budgeting was not reported at all.

A low majority, sixty per cent, of owner manager's considered budgeting important for planning their business activities. A small majority, fifty-two per cent had a comprehensive budget approach and they prepared eight types of budget (Sales, Production, Raw material used, Raw materials purchases, Direct labour, Indirect manufacturing costs (factory overhead), Cash, Capital). Fifty-four per cent of respondent owner manager's used capital budgets. Budgeting of raw materials to be used in production as well as raw materials to be purchased were more prevalent than the budgeting of direct labour costs or other cost elements. Sixty-three per cent of respondent owner manager's were more likely to use a cash budget than other budgets including operational budgets.

Nayak and Greenfield (1994) discovered that only thirty-four per cent of the enterprises used budgeting and compared budgets with actual performance and approximately about seventy-five per cent used a formalised weekly appraisal.

Younger and smaller enterprises used a necessity criterion for capital expenditure and were concerned about funding such expenditure from internal sources of the enterprise

or the O/M's personal savings. Older and larger enterprises were more likely to use an efficiency criterion for capital expenditure, but less likely to back it by formal calculations. Elattar (1999) stated that the most generally utilised analytical methods in the capital expenditure decision area have been the Net Present Value (NPV)<sup>8</sup>, Payback method<sup>9</sup>, and return on investment (ROI)<sup>10</sup> method. It was considered likely that owner managers of the surveyed micro manufacturing enterprises might not use these analytical methods and would not understand the academic expressions commonly used. Elattar (1999) found that only thirty-nine per cent of owner managers considered the importance of labour time recording for productivity control below average. This indicates that thirteen per cent of those owner managers, who did not record labour time, believe the recording was important for productivity control. He added that this might be because some owner managers committed this information to memory rather than use formal records. Elattar (1999) results indicated that only forty-eight per cent considered the recording of idle machine hours of above average importance for productivity control.

Elattar (1999) found that a small majority, sixty-one per cent, of owner managers indicated they used inventory control and used accounting information for this purpose. Thirty-nine per cent indicated they did not use inventory control. Also, Elattar (1999) stated that accounting information was not widely used in the quality control decision area. Eighty-two per cent and twelve per cent indicated the recording of customers' complaints was very important and important (respectively) to them for quality control practice. Sixty-six per cent of the respondent owner managers indicated the inspection process was important. Sixty per cent considered the recording of scrapped materials and products of above average importance, whereas thirty-eight per cent regarded it as very important.

## 2.6 Summary

In this chapter, some aspects were discussed which would help to develop the researcher's theoretical sensitivity regarding accounting information in micro

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8 The net present value is the present value of the net cash inflows less the project's initial investment outlay (Drury, 2000).

9 The payback method is defined as the length of time that is required for a stream of cash proceeds from an investment to recover the original cash outlay required by the investment (Drury, 2000).

10 The return on investment (ROI) is calculated by dividing the average annual profits from a project into the average investment cost (Drury, 2000).

enterprises. The literature on information (in general) and the micro and small enterprise and accounting information in the micro and small enterprises were reviewed. The small business literature was reviewed as the micro business sector is a sub-sector of the small business sector and most of the existing small business studies included micro enterprises in their samples.

It was concluded that there was a dearth of literature on micro enterprises and accounting information and even on accounting information in small enterprises in developing countries (Elattar, 1999, 2001). In addition very little literature existed on this subject in micro enterprises in developed countries (Nayak and Greenfield, 1994, 1996; Perren *et al* 1999; O'Dwyer and Ryan, 1999, 2000; Greenbank 1999; Marriott and Marriott 1999).

The next chapter discuss the characteristics of the Libyan business environment and the main changes which have taken place in this environment since the independence of the country. Also discuss micro manufacturing enterprises in Libya where this research was conducted and will highlight their importance and the problems they are facing.

## **Chapter 3: The Libyan Business Environment and the micro manufacturing enterprises**

### **3.1 Introduction**

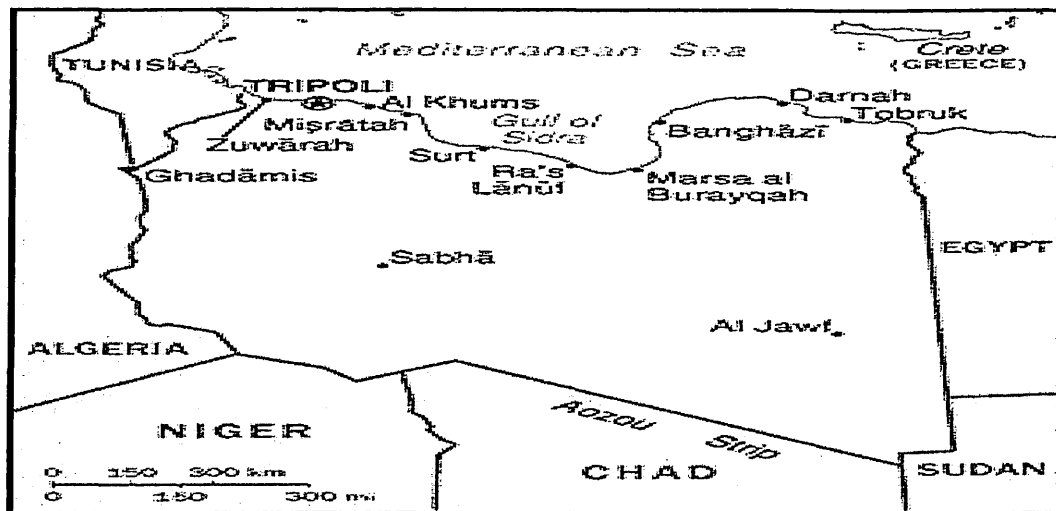
The previous chapter reviewed the literature on accounting information in micro and small enterprises that have mostly been derived from data from developed countries. The aim of this chapter is to familiarise the reader with the historical, political, social and economic aspects of Libyan society. Different issues will be highlighted in the following sections, including the geographical and historical background of country, the main changes in the political and economical systems since independence, foreign trade and the influence of international sanctions.

### **3.2 Location and population**

Libya, as one of the developing countries, occupies a strategic geopolitical location in North Africa with a Mediterranean coastline of close to 2,000 kilometres. Libya has frontiers with six Arabic and African countries: Algeria and Tunisia on the west, Egypt on the east, Sudan on the southeast, and Chad and Niger on the south (See figure 3-1). In terms of size it occupies nearly 1,760,000 square kilometres, the fourth-largest country in Africa. It is approximately one-half the size of Europe and seven times bigger than Great Britain. However, ninety per cent of the land is either desert or semi-desert (Bait-Elmal, 1999; Wallace and Wilknsn, 2004). The first official census of Libya in 1954 recorded a population of 1,041,099. Since 1954 regular censuses have been undertaken every ten years and the official census in 2004 recorded a population of about six million people (Central bank of Libya, Economic Bulletin, 2004).

In comparison to its land area, Libya's population is very small, and it has a high proportion of young people. This population is heavily concentrated in the northwest and northeast costal regions, which contain the two largest cities, Tripoli and Benghazi (Bait-Elmal, 1999). Islam is the state religion and about 97% of Libyans are Sunni Muslims (Wallace and Wilknsn, 2004).

Figure (3-1): Map of Libya



Source: Country Analysis Briefs (2005), Libya.

### 3.3 Libya-Historical Background

The words “Libya” and “Libyan” derive from the name of a tribe who lived in North Africa to the west of Egypt and who were known to the Egyptians in the 13<sup>th</sup> century as the “Libu” (Abuarrosh, 1996). Libya was subject to wave after wave of military invasions and colonisation by Phoenicians (in around 1000 BC), the Greeks (600 BC), the Romans (96 BC) and the Vandals (431 BC). From the mid 16<sup>th</sup> century until 1911 Libya was part of the Ottoman Empire (Wallace and Wilkenson, 2004).

In 1911 Italy attacked Libya and by 1914 when the First World War had started, the Italians held only the coast towns of Tripoli, Benghazi, Derna and Tobruk. The control over the whole country was established by Italy only in 1934. Following the defeat of the Axis countries (Germany and Italy) during the Second World War, the Italian colonisation of Libya came to an end. The country then remained under the British and France Military administration for almost a decade (1941-1951). On December 24<sup>th</sup> 1951, Libya was declared an independent united kingdom following the British model with a federal constitution under King Idris al-Sanussi. Abuarrosh (1996) stated that Libya was not only the first African state to achieve independence, but it was also the first state which gained independence through the United Nations (UN).

Because of the severe economic conditions existing in Libya at the time of independence, aid from international organisations and foreign countries was needed. The UN agreed to sponsor a technical aid programme which emphasised the development of the country's agriculture and education systems. Foreign powers,

notably Britain and the United States, provided development aid. The aid programmes were a result of allowing the UK and the US to maintain and use military bases in Libya over a period of 20 years starting in 1953. In the light of these agreements, the UK agreed to grant Libya an annual sum of £2.75 million to meet budgetary deficit and £1 million annually for economic development whereas the US agreed to grant \$42 million over 20 years (Wright, 1981). Libya also signed a friendship pact with France in 1955 and a trade and financial agreement with Italy in 1957 (Abuarrosh, 1996). Steady economic improvement occurred, but the pace of this development was slow, and Libya remained a poor and underdeveloped country heavily dependent on foreign aid. Higgins (1959, p. 26) stated,

*“Libya has great merit as a case study as a prototype of a poor country. We need not construct an abstract model of an economy when the bulk of the people live on a subsistence level, where per capita income is well below \$40 per year, where there are no sources of power and no mineral resources, where agricultural expansion is severely limited by climatic conditions, where capital formation is zero or less, where there is no skilled labour supply and no indigenous entrepreneurship”.*

Wallace and Wilknsn (2004) stated that when Libya was granted independence in 1951, it was one of the poorest and most backward nations of the world. It was relying on agriculture as the main hope for the economic future of the country. Agriculture then employed about seventy per cent of the labour force, contributed about thirty per cent of the Gross Domestic Product (GDP) and provided raw materials for the industrial sector, exports and trade. The average income per person of the Libyan population stood then at the slim figure of 13.90 Libyan Dinars a year, or less than 40 US dollars (Farley, 1971). This situation changed when the oil was discovered in large quantities in 1961 (Wallace and Wilknsn, 2004).

On September 1, 1969, the political system of the country was changed by the 1969 revolution. A twelve-member directorate that designated itself the Revolutionary Command Council (RCC) and led the revolution. The Revolutionary Command Council (RCC) declared the country to be a free and sovereign state called the Libyan Arab Republic. Muammar Al Gathafi who was then only 27 years old, became the head of the twelve-man revolutionary council. The first several years of the new government were consumed with efforts to rid the country of corruption and symbols of western imperialism. Consequently, the US and the UK military bases were evacuated in 1970 and the remaining descendants of Italian colonists were expelled (Anderson, 1987). In

1977, the official name of the country was changed to "The Socialist People's Libyan Arab Jamahiriya".

Since the Socialist People's Libyan Arab Jamahiriya had developed strong relationships with the former Soviet Union, tensions grew with the West, especially the US and the UK. These unpleasant relationships reached their worst point when the US, UK and the UN imposed different sanctions on Libya in the 1980s.

### 3.4 Libyan political system

The political system in Libya between independence in 1951 and the revolution in 1969 was a representative organisation of the population in the Parliament, composed of the Senate (upper House) and the House of Representatives (lower House). The Senate consisted of twenty-four members; eight of whom were appointed by the King, while the others (sixteen) were selected by the legislative councils of the provinces. The House of Representatives, unlike the Senate, represented Libya at large. Zuhri (1978) stated that one deputy would be elected for every 20,000 residents.

During the period of independence, which started from 1951 to 1969, tribalism grew rapidly. To exercise political rights in a country where illiteracy dominated, and where no political parties were well organised, the electors were required to turn to their original tribes. The Representative seats, Ministers and officials were available just to the rich members of tribes and to the powerful families (Zuhri, 1978).

After the revolution on 1st September 1969, the governing authority became the Revolutionary Command Council (RCC) under the leadership of Muammar Al Gathafi. In 1971 the Arab Socialist Union was established as a political organisation to encourage the people to participate in local politics. To eliminate class differences peacefully, to work for the recognition and acceptance of socialism and to achieve social justice under the socialist economic system were the major goals of the Arab Socialist Union. However, it failed to achieve its aims of providing mass participation and connections between the people and the new government (Abbas, 1987). Moreover, since the political structure was based on family and tribal links, the Arab Socialist Union was seen as inappropriate for the widely divergent traditions and culture existing in Libya (Zuhri, 1978). Therefore, this union ceased to operate after a few years.

The Libyan politics, society and economy were changed again when Al Gathafi launched a new popular revolution in a speech at Zuwara on 15th of April 1973. The revolution was aimed at combating bureaucratic inefficiency, addressing the lack of



public interest and participation in the sub-national governmental system, and tackling the problems of national political co-ordination (Bearman, 1986). Following the announcement of the Popular Revolution, people were encouraged to form their own Basic People's Congresses and Popular Committees throughout the country, in towns, villages, and even in schools, colleges and workplaces (Vandewalle, 1998).

During the 1970s, Gathafi's political economic theorising crystallised in the publication of the Third Universal Theory in the Green Book, in which he promoted the design of an egalitarian and socialist society Vandewalle (1998, p. 91) stated,

*"The Green Book clearly represented a turning point for the Libyan revolution: it was the guideline to a new political and economic system for the country".*

The Green Book was divided into three parts. The first part (1976) was, "The solution of the problem of democracy", the second part (1978) is "The solution of the economic problem" and finally, the third part (1979) was "The solution of the social problem". The first part provides a solution to the problem of democracy. The solution suggests that in a direct democracy, people must participate in the decision-making process through "The People's Authority"; the authority of the people, as outlined in the Green Book, is reflected in the Libyan people's ability to exercise their freedom through the Basic People's Congresses, Popular Committees and the General People's Congress. The second part of the Green Book relates to a solution to economic problems. The main concern in this part is that political freedom is meaningless without economic freedom, but the latter can only be achieved through socialism.

Many social and economic changes occurred in the country after the publication of the second part; in particular, investment in private sector housing and the private building industry was ended, while wage earners were now to be treated as partners through the institution of mandatory profit-sharing and workers' committees. The change in the way in which the reward for labour was characterised encouraged workers to become involved in the day-to-day management of the enterprise in which they worked (Abuarrosh, 1996). The final part of the Green Book attempted to offer a solution to social problems, and dealt primarily with questions relating to social equality. As a result of this philosophy, the Government undertook many initiatives such as the nationalisation of banks, insurance and petroleum marketing companies, as well as the placing of restrictions on the activities of foreigners in commerce, industry, and the creation of public enterprises (Abuarrosh, 1996).

Further changes were initiated in 1977 when both legislative and executive powers transferred to the people. Libya was divided into several small communities, each with its own legislative group (Basic People's Congress) and an executive team (people committee). The basic congress and the people municipal congress were expected to debate issues ranging from the maintenance of local roads to international issues. The various issues debated at both levels were later grouped together in the melting pot of the General People's Congress, where they became national policy (Wallace and Wilkenson, 2004). Vandewalle (1998, p. 83) summarises the process of change in the structure of Libyan political and economic systems during the 1970s as follows:

*"Economically and politically, the country had been thoroughly transformed by the end of the revolutionary decade (1973 - 1982): the state institutions had been put directly into the hands of the people through a system of political congress and committees, and all private economic activity had been outlawed..... The creation of this congress-and-committee system closely dovetailed with the ideological and political inclination of the regime".*

Relating to this experiment Al Shukry (1996) stated that non-participation and abstention were the main problems which faced this experiment.

### 3.5 Libyan economy history

In an attempt to shed more lights on the reformation on the Libyan economy, the following sections intend to give an idea of economic development and the background in which government economic policies developed.

#### 3.5.1 Prior to oil discovery

Prior to the discovery of oil in 1959, Libya was one of the poorest countries in the world (Higgins, 1968; Wright, 1981). The population at that time was 1.5 million. There were only two working hospitals in the whole country and a low number of small medical units. Electric power could be found only in major cities and water and sanitary facilities were limited (Wallace and Wilkenson, 2004).

The World Bank sent a team in 1950 to assess the Libyan socio-economic situation. The team's report was published in 1960, concluding that:

*"Libyan's people live a very simple life, their food is simple, their necessities are limited and their knowledge of twenty-century technology very limited. The majority are farmer who consume*

*most of their production. Their living quarters are very poor, and the majority live in shacks, hamlets or caves. They use donkeys, horses and camels for transportation”* (The International Bank for Reconstruction and Development, The Economic of Libya, 1960, p. 1).

During the Italian and then the British rule (1911-1951), the country's economy suffered from a deficit in the budget and was based on the limited productivity of a primitive agricultural sector and a few small industries (Aгнаia, 1996). These deficits were reduced and at times, as in the mid 1950's, were turned to surplus by grants, expenditures and investment of foreign countries. From 1911 to 1942, deficits were off site by the Italian government (Farley, 1971). From 1943 to 1952, deficits were paid by the American and the British money in return for the use of military bases in Libya and the aid from the UN and other organisations.

In 1959, a commercial quantity of oil was discovered by Esso, a US petroleum company, in the Zelten field and production began in August 1961 (Wright, 1981; Vandewalle, 1998). The discovery and exporting of oil was the turning point in the Libyan economy, and its economy gradually improved. Since this time, annual personal incomes have increased, the standard of living has improved and the Libyan economy has changed from being a primitive agricultural economy into one based largely on petroleum and its derivative products. Table 3-1 shows details relating to the Libyan domestic and foreign revenue during the period 1954-1959 and the levels of government expenditure over these years.

Table (3-1): Government Revenue and Expenditure 1954/55-1958/59 (Millions of Libyan Dinars)					
Year Subject	1954/55	1955/56	1956/57	1957/58	1958/59
<b>Expenditure</b>	7.897	12.978	15.433	17.031	19.179
<b>Domestic Revenue</b>	5.549	7.061	8.147	9.595	12.049
<b>Foreign Revenue</b>	5.641	6.270	4.234	12.069	11.045
<b>Total Revenue</b>	11.190	13.331	12.381	21.664	23.094
<b>Surplus or Deficit</b>	3.293	0.353	-3.052	4.633	3.915
Source: International Bank for Reconstruction and Development, 1960, p.347.					

### 3.5.2 Post-oil discovery

Following the discovery of oil in commercial quantities and after the production in the fields started in August 1961, the Libyan economy grew rapidly and moved the country to the forefront of world economies. The standard of living had risen as a result

of the increasing number of foreign oil companies and the establishment of new Libyan economic activities. Libya had become more independent from the influence of foreigners and the need for direct subsidies declined.

Sanger (1975, pp. 413-414) describes how oil revenues developed Libyan society and improved its economic development, stating that:

*"The cities had become construction camps with noisy bulldozers levelling buildings and cement trucks pushing through the traffic jams with loads for the ever-hungry building cranes which dominated the skyline. In and around the chief cities and towns rose block after block of new housing ... Hospitals of standard design were being built in half-dozen lots ... The giant campuses of the University of Tripoli and Benghazi were the most impressive in Africa ... Above many side streets and garden suburbs the tall chimneys of new factories rose behind the minarets, their dark smoke clouds proof of the boom in cement, reinforcing wire, plumbing fixtures, textiles, food processing and, most successful of all, the drive to expand electricity".*

The investment in the oil industry brought surplus to the country's economy in general. The oil revenues accounted for 24.4 per cent of the country's Gross Domestic Product (GDP) in 1962, 61.7 per cent in 1969 and 28.3 per cent in 1992. By 1968, Libya was the second largest oil producer in the Arab world. Table 3-2 shows that, during the years of the sixties and seventies, GDP had rapidly risen as the oil earnings began to flow: it had increased from LD 155.5 million in 1962 to LD 1,586.5 million in 1971 and to LD 10,553.8 million in 1980. This enormous increase during the seventies might be attributable to the increase in the oil prices in 1973. This can be observed through the increase in the amount of money gained from the oil and natural gas activity which had risen from LD 922.7 million in 1971 to LD 6,525.7 million in 1980. The GDP later decreased during the 1980s, to reach LD 6,960.7 million in 1986, due to the deterioration of oil prices in the early 1980s. After the start of the twenty first century, GDP increased sharply due to the sharp increase in the GDP from oil sector. It might be also attributable to the suspension of the UN sanctions against Libya on fourth of April 1999. (For more details about the GDP see Appendix 3.1).

Table (3-2): GDP and Per Capita income in Libya in the period 1967-2004									
Year Subject	1962	1971	1975	1980	1986	1990	1997	2001	2004
<b>GDP (MLD)*</b>	155.5	1,288.3	3,674.3	10,553.8	6,960.7	8,246.9	13,800.5	17,605	26,342
<b>Oil sector</b>	38	812.6	1,961.1	6,525.7	2,595.8	3,243.8	4,505.8	6,009	13605.1
<b>Non-oil sector</b>	117.5	475.7	1,713.2	4,028.1	4,364.9	5,003.1	9,294.7	11,596	39947.1
* Million Libyan Dinar, Sources: (I) Ministry of Planning, Department National Accounts, National Accounts, Libya (various issues); and (II) Central Bank of Libya, Economic Bulletin and Annual Report (various issues).									

During the period 1951-1969, the Libyan economic system was mainly capitalist. Private ownership existed with minimum governmental interference and public ownership was in sectors which required large-scale investment. Since the revolution in 1969, the Libyan economy became an economy based on the ideology of socialism as well as state involvement in the organisation and management of the economy. The State ownership structure of businesses started in the early 1970s, gained momentum in the mid-1970s and reached its peak in the 1980s when most of the businesses became owned or controlled by the State. Nasia (2003) stated that, in 1978, a large number of private companies were taken over by workers' committees. One year later, all direct importing businesses were transferred to public corporations and the issuing of importing licences was stopped. In 1981, the government cancelled all licences belonging to shops selling food products, clothes, electrical goods, household appliances and spare parts. As an alternative, retail activity came under the control of the state-administrated supermarkets and seven marketing companies. From 1990s to the date of this research some private companies have emerged and started to operate in Libya. This change was largely a result of the crises which the Libyan economy faced in the late 1980s and early 1990s when economic conditions and standards of living worsened as world oil prices slumped. In this regard, Fisher (1990) stated that during the 1980 the Libyan economy was deeply affected by the low price of oil. Furthermore, Mahmud and Russell (1999) argue that the trade ban and economic sanctions introduced by the USA government against Libya in 1981 and 1986 respectively have resulted in an end to American imports of Libyan oil and a withdrawal of US companies which were working in Libya. Mahmud and Russell (1999) state that the US embargo and sanctions resulted in a decline in the production capacity of crude oil due to the fact that

most Libyan oil fields consist of ageing American-made equipment and the operating companies were unable to obtain spare parts.

In response to these crises, the State introduced a series of liberalisation measures which gave a significant role for the private sector. Vandewalle (1998) stated that the overall goals of these measurements were:

1. To cut public spending.
2. To gradually withdraw subsidies which contributes to such spending.
3. To promote private sector initiatives in different sectors.

In 1987, the first set of reform measures was adopted. The creation of self-management or collective ownership businesses was allowed in 1988. Other developments included the issuing of regulations governing the privatisation of selected public enterprises and the lifting of restrictions on private wholesale trade (Saleh, 2001).

Since 1992, Libya has started the policy of privatisation for its state owned (public) companies as well as encouraging the establishment of private companies. The overall aim of this policy is:

1. To reduce public spending and gradually withdraw government subsidies.
2. To encourage private initiatives in different sectors (Saleh, 2001).

In order to enhance and regulate the private sector activities in the national economy, the government passed Act number 9 in 1992. The Act permits the establishment of private business activities owned and managed by families and individual entrepreneurs. The Act also allows the sale of publicly held companies to private investors, which has resulted in the emergence of some private companies. According to this Act, the state want to transfer its role from sole owner to that of a shareholder with limited liability and limited responsibility, or fully privatise the state owned companies. In this regard, in the industrial sector, the ownership of 147 productive units were transferred to employees as part of the quasi-privatisation process (Saleh, 2001).

In 1997, the State issued Act number 5, which aimed to encourage foreign investments in the Libyan market. Saleh (2001, p. 17) stated,

*“In particular, the Act encourages foreign investments in areas that would result in transferring modern technology, variation of income resources, and contributing to the development of the*

*national products so as to help in its entry into the international markets”.*

In 2004, the International Monetary Fund sent a team to assess the Libyan economic and political situation. The team published its report in January 2005 concluding that:

1. The Libyan economy remains largely state controlled and heavily dependent on the oil sector. Since the lifting of the UN and U.S. Libya-specific trade sanctions in September 2003 and September 2004, respectively, the pace of economic and structural reforms has picked up somewhat, with the implementation of measures aimed at enhancing the role of the private sector in the economy.
2. In 2003, real GDP grew by an estimated 9 percent, reflecting a 28 percent rise in oil production and a modest 2.2 percent increase in nonhydrocarbon activities. Deflation, as measured by the official Consumer Price Index, decelerated to 2.1 percent from 9.9 percent in 2002. The developments in the oil market contributed to a significant improvement in the external current account surplus, which reached 15.4 percent of GDP. Gross international reserves increased to about US\$19 billion, equivalent to 22 months of 2004 imports.
3. The fiscal stance continued to be expansionary, with a non-oil fiscal deficit widening to 36 percent of GDP. However, reflecting higher hydrocarbon revenues, the overall consolidated surplus remained stable at about 10.5 percent of GDP. Non-oil revenue declined by three percentage points of GDP as a result of widespread tax evasion and low efficiency in tax collection.
4. In 2004, economic and financial conditions continued to be favorable. Real GDP growth is estimated at about 4.5 percent, reflecting a deceleration in growth of oil production to 7.5 percent, and real non-oil GDP growth rate of about three per cent. For the year as a whole, the authorities expected a deflation rate of about 1 percent.
5. The overall fiscal surplus is estimated to have reached about 19 percent of GDP, with oil revenue estimated at 52.4 percent of GDP. However, non-oil revenue is estimated to have declined by about one percentage point to seven percent of GDP, partly owing to reduced tax revenue in connection with the new tax law provisions.
6. Some progress was made on the reform front. Measures taken include the adoption of laws to encourage domestic and foreign private investment, the adoption of a new tax law, the removal of customs duty exemptions enjoyed by public enterprises, the reduction in tariff rates, and the preparation of a new banking law which gives the Central Bank of Libya greater independence in the conduct of monetary policy. In addition, a privatization plan (not including the utilities, the oil and gas sector, and the air and maritime transportation sectors) was initiated in January 2004, which involves the sale of 360 economic units. Thus far, 42 small units have been privatized (International Monetary Fund, 2005).

### 3.5.3 Development plans

Since the 1960s, a number of development plans have been introduced in order to strengthen the national economy. The first five-year plan was prepared for the years 1963-1968, followed by a three-year plan (1973-1975), another five-year plan (1976-1980), another five-year plan (1981-1985) and another three-year plan (1994-1996).

The general aim of the 1963-1968 plan was to strengthen the Libyan economy and to remedy the deficit. The plan concentrated on agriculture, forestry, education, health and communication development (Abusneina, 1992). The plan called for new expenditure of 169.1 million LYD, but the increase in oil revenues over the period facilitated an increase in total investment to 551 million LYD, or 325.8 per cent of planned expenditures (For more details see Appendix 3.2 – Five-year Plan 1963-1968).

In 1973, a three-year, 1973-1975, development plan was launched. It was the first plan prepared by the revolutionary government. The general aim of the 1973-1975 plan was to decrease the country's dependence on the oil industry and to achieve a growth in GDP at an annual rate of 11 per cent (Vandewalle, 1998) (For more details see Appendix 3.3 - Socio-Economic Development Plan 1973-1975).

A five-year, 1976-1980, development plan was launched in 1975. This plan aimed to encourage the non-oil sectors, to make the country self-sufficient in food and to encourage agriculture by keeping the rural population on the land through the provision of funds, loans and facilities (Wright, 1981). The 1976-1980 plan was later revised with more investment going to industry rather than agriculture. (For more details see Appendix 3.4 and 3-5 Development Plan 1976-1980).

The main aim of the 1981-1985 plan was to improve and expand the existing industrial sites and establish new ones and to increase non-oil economic activities' growth by about 10.3 per cent annually. The plan focused on the manufacturing industry which received 23.1 per cent of the total investment (Saleh, 2001) (For more details see Appendix 3.5 Development Plan 1981-1985).

Finally, the 1994-1996, development plan focused on the energy sector (26.5%) and administration centres (18.7 %), with a proposed investment of LD 2.4 billion of which only about LD1.5 billion, or 60 per cent of the total allocation, was actually invested (Saleh, 2001) (For more details see Appendix 3.6 -Three-Year Programme 1994-1996). This could be attributable to the UN sanctions imposed on the country in 1992.



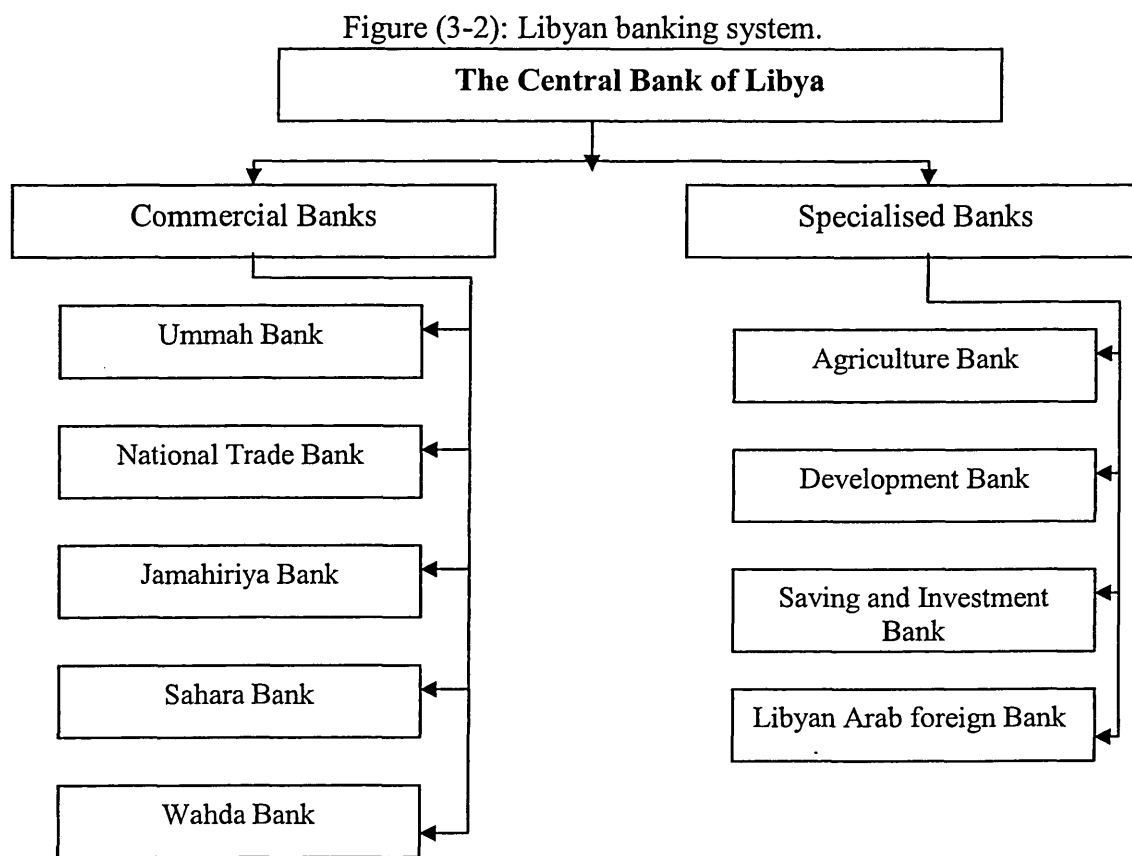
During the first and second development plans period (1963-1968 and 1973-1975 plans) the Libyan economy had achieved high growth rates, but in 1981-1985 period the plan economy suffered negative growth rates but achieved slight positive growth between the 1985 and 2002 period (Tulba and Fhaima, 2004). In general, most of the objectives of the development plans have not been achieved due to the shortage of skilled and semi-skilled man-power in the Libyan public sector (Saleh, 2001).

### 3.6 Libyan banking sector

In 1970, after the 1969 revolution, all banks operating in Libya including foreign banks has been under state control. All the commercial banks were reduced to five banks; three of these banks, which are National Trade Bank, Jamahiriya Bank and Ummah Bank were completely state-owned and at least 70 per cent of the shares in the other two; Sahara Bank and Wahda Bank were state-owned. In addition, there were four specialised banks; The Libyan Arab Foreign Bank, Agricultural Bank, Saving and Investment Bank and Development Bank, which are owned fully by the state. The Libyan Arab Foreign Bank deals with all international banking operations while the Agriculture Bank aims to provide financial facilities to people engaged in agriculture and animal related activities particularly in the drought seasons. The Development Bank aims to provide loans to productive projects in the industrial, agriculture, and tourist sectors, whereas, the Savings and Real Estate Investment Bank aims to provide loans for building and buying houses for the citizens. The Central Bank of Libya is at the top of the Libyan banking system which sets the monetary policy and acts as a bank for the banks.

Fayad (2003) stated that the dominance of the state-owned banks over the Libyan banking system and the absence of competition in the sector led to poor financial services. In the 1990's the Libyan banking sector had witnessed some important developments by issuing Act No 1 in 1993. This Act has allowed for the establishment of private commercial banks and for foreign banks to open branches, agencies or have representatives in Libya. In June 1996, the Bank of Commerce and Development was the first private commercial bank opened for business in Benghazi. Currently this bank comprises five branches and four agencies in different regions in Libya and is considered to be the fastest growing bank in Libya, with advanced technology and

services crowned by the issuing of Visa Cards for the first time in the country in 2005 (Alkizza, 2006). Figure 3-2: The shows the Libyan banking system.



\* Source: Fayad (2003)

### 3.7 Foreign trade

Foreign trade plays an important role in the process of economic development because it expands the production capacity, marketing potential of domestic products and provides opportunities to domestic economies through opening channels of exchange (Saleh, 2001). Libya is commonly perceived to be a single-resource economy, depending heavily on oil products which make up most of its exports. Table 3.3 shows the dominance of the oil industry; for instance, in the period 1970-1984, the percentage of oil exports to total exports ranged between 91.5 and 99.9 per cent. Oil represented 99.9 per cent of Libyan exports in 1970 and decreased during the following years to reach its lowest level in 1994 - 72.9 per cent

The Non-oil Libyan exports accounted for only 0.1 per cent of total exports in 1970, but the percentage increased in subsequent years to reach its highest level of 27.1

per cent in 1994. This increase in non-oil exports can be attributed to many factors as stated by Abusneina, (1992):

1. The government's policy of diversifying production activities.
2. The decline in oil prices in the late 1980s and 1990s.
3. OPEC decisions to reduce oil supply.

In the second half of the 1990s the non-oil exports fell back to representing only 2.2 per cent of exports in 2002.

<b>Table (3-3): Libyan exports in the period 1970-2002 (%)</b>					
<b>Year</b>	<b>Oil exports</b>	<b>Other exports*</b>	<b>Year</b>	<b>Oil exports</b>	<b>Other exports*</b>
1970	99.9	0.1	1987	83.1	16.9
1971	99.6	0.4	1988	80.3	19.7
1972	98.2	1.8	1989	82.3	17.7
1973	97.2	2.8	1990	82.3	17.7
1974	97.7	2.3	1991	84.6	15.4
1975	95.2	4.8	1992	77.6	22.4
1976	95.9	4.1	1993	76.1	23.9
1977	94.4	5.6	1994	72.9	27.1
1978	92.8	7.2	1995	76.7	23.3
1979	92.9	7.1	1996	81.3	18.7
1980	96.9	3.1	1997	92.1	7.9
1981	95.1	4.9	1998	92.9	7.1
1982	95.1	4.9	1999	93.5	6.5
1983	93.2	6.8	2000	96.3	3.7
1984	91.5	8.5	2001	95.3	4.7
1985	87.3	12.7	2002	97.8	2.2
1986	88.7	11.3			
Source: Central Bank of Libya, Economic Bulletin, (various issues).					
* Other exports include Gas and petrochemical products					

On the other hand, the Libyan imports witnessed a significant increase during the 1970s, from 263 million in 1970 to 4311 million in 1981; the main reason behind this was the increase in Libyan oil exports during the period. The value of imports during the 1980s and 1990s decreased from 4311 million in 1981 to 1928.6 million in 1999, due to the decrease in the oil exports which represent the main source of foreign exchange, and as a result of U.S. and U.N. sanctions. The value of imports increased dramatically from LD 1911.4 million in 2000 to LD 2660.4 million in 2001 (See Table 3-4).

<b>Table (3-4): The value of imports during period 1970-2001 Million LD</b>	
<b>Year</b>	<b>Imports</b>
<b>1970</b>	263
<b>1981</b>	4311
<b>1999</b>	1928.6
<b>2000</b>	1911.4
<b>2001</b>	2660.4
Source: Central Bank of Libya, Economic Bulletin, (various issues).	

During 2001, the value of exports and imports produced a trade surplus of LD 2733.1 million against a corresponding surplus of LD 3310.1 million in 2000. The value of exports during 2001 increased by LD 172.5 million as compared to 2000, whereas the value of imports during the same period decreased by LD 749 million as compared to 2001 (Nasia, 2003).

Libya's main trading partners are Italy (forty per cent of the exports and eighteen per cent of the imports), Germany (twenty per cent of the exports and twelve per cent of the imports), Spain, France (seven per cent of the exports and four per cent of the imports) and the UK (6.5 per cent of the exports and three per cent of the imports). Other sources of imports are Tunisia (five per cent), Belgium (four per cent), while Sudan accounts for four per cent of exports (Wallace and Wilkenson, 2004).

### 3.8 The influence of international sanctions

Libya has been subject to a wide range of US and UN sanctions since 1986. The Libyan economy has suffered from these sanctions, especially those imposed by the UN which were imposed following the Lockerbie bombing in 1988. These sanctions included:

1. A flight ban and restrictions on assistance to the Libyan aircraft industry.
2. A ban on the sale on weapons and military assistance.
3. A reduction of Libyan diplomatic missions and restrictions on their freedom of movement.
4. An asset freeze.
5. A prohibition on the financing of Libyan interests.

6. A prohibition on the supply of certain pipeline and refinery equipment.

The US sanctions have been in force since 1985 in response to Libya's deemed involvement in terrorism against the United States, other countries and innocent people. The US prohibited almost any kind of transaction. These sanctions remain most relevant for US companies and make the return of them to Libya almost impossible. The prohibitions are very wide and cover:

1. Imports and exports.
2. Travel restrictions.
3. Financing by US banks, including foreign branches of US banks.
4. Any contracts, loans or transactions with Libyan entities, or which benefit Libyan entities directly or indirectly.

On August 5th 1996, the US imposed additional sanctions on Libya as part of the Iran-Libya Sanctions programme, extending the measures to cover foreign companies making new investments of \$40 million or more over a 12-month period in Libya's oil and gas sector.

The wide range of US and UN sanctions influenced the health and other aspects of the Libyan people's lives. The growth of the Libyan economy had deteriorated, the number of foreign investments had dramatically decreased and the ability to obtain new manufacturing technologies had been restricted. Abuzeid Dourda<sup>11</sup> on March 8<sup>th</sup>, 2000 reported that the Libyan companies suffered considerable losses as a direct consequence of the UN sanctions. For instance, Libyan companies operating in the transportation sector have suffered total losses of about US\$ 3,713 million, which has forced the closure of a large number of branches and a reduction in their labour forces. The manufacturing sector has also made losses estimated at about US\$ 5,851 million, while the losses of the trade and commercial sector have been estimated at about US\$ 8,628 million (cited in Alkizza, 2006). Furthermore, Agnaia (1996) argues that the economic embargo imposed on Libya has influenced the management training and development policies by reducing opportunities for training abroad, importing modern facilities and inviting foreign experts for consultation.

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<sup>11</sup> Abuzeid Dourda is the permanent representative of Libya in the United Nations

The UN established certain conditions for the suspension of the sanctions, which was envisaged as a three-stage process. First, the sanctions would be immediately suspended if the Lockerbie suspects were delivered for trial, and if the French judicial authorities were satisfied with regard to Libya's cooperation in their inquiries relating to the bombing of UTA 772 in 1989 over Niger. Second, full cooperation with the trial and the payment compensation in the event that the suspects were found guilty, and more generally, confirm the country's lack of support for terrorist actions. Finally, stage three would depend on the Secretary General's finding- either a full lifting or, in the event of non-compliance, the UN reserved the right to take further measures against Libya.

In April 1999, the two Lockerbie suspects arrived in the Netherlands and the sanctions were then suspended. On the 30th of June the Secretary General rendered his report, and on the 9th of July 1999, the Secretary Council welcomed Libya's satisfying progress in complying with the UN Resolution, but did not formally lift the sanctions (Wallace and Wilkenson, 2004). In 2003, Libya agreed to pay compensation for the crash victims. Consequently, the UN sanctions have been completely lifted. On April 23rd 2004, most of the US sanctions against Libya were lifted and on September 21st 2004, (as a response to significant steps by Libya to eliminate its chemical, biological and nuclear weapons programs), President Bush lifted the US sanctions, removed a ban on commercial air services to Libya and released \$1.3 billion in frozen Libyan assets.

### 3.9 Micro enterprises in Libya

The number of private sector enterprises in 1999 was 104,276 forming 78 per cent of the total number (133,442) of operating enterprises in Libya. Approximately 90 per cent of the private sector is considered micro enterprise (Elshereif, 2002).

Elshereif (2002) pointed out that the unemployment phenomenon has been the main problem facing the Libyan government in recent years. The micro enterprises could play an important role in resolving and controlling this problem. Table 3-5 shows the number of private sector enterprises operating in Libya by sectors and employees. Within the enterprises, the wholesale, retail trade, hotels and restaurants had the largest number of enterprises accounting for 62.7 per cent of the total. The community, social and personal services occupied the second place by accounting for 18.8 per cent of the total number of enterprises and the manufacturing enterprises came third accounting for

13.4 per cent of the total. With regard to the contribution to employment, the wholesale, retail trade, hotels and restaurants enterprises were in first place accounting for twenty-nine per cent of all employees in the small and micro enterprises sector. The agriculture enterprises (twenty-seven per cent) were in second place followed by manufacturing enterprises (17.3 per cent).

Table (3-5): Total number of private sector enterprises by sectors and employees				
Type of economic activity	Private sector enterprises		Employees	
	Number	%	Number	%
Agriculture	2,294	2.2	93,678	27
Mining, oil and gas	104	0.1	520	0.01
Manufacturing	13,973	13.4	60,373	17.3
Electricity and water supply	74	-----	450	0.01
Construction	313	0.3	19,417	0.5
Wholesale, retail trade, hotels and restaurants	65,381	62.7	100,666	29
Transport, storage & communications	521	0.5	28,822	0.8
Financial and management services	1,877	1.8	3,274	0.09
Community, social & personal services	19,604	18.8	40,064	11.5
Other activities	208	0.2	426	0.01
Total	104,276	100	347,264	
Source: (Elshereif, 2002).				

### 3.9.1 Micro manufacturing enterprises in Libya

The numbers of enterprises comprising the manufacturing sector amounted to 32,492, and of these, 29,646 enterprises were small and micro manufacturing enterprises (91.9 per cent are considered micro enterprise) (Libyan national centre for information and documentation, 2002). Table 3-6 shows the number of manufacturing enterprises operating in Libya and their contribution to the Libyan industrial production.

Table (3-6): Number of manufacturing enterprises operating in Libya and their contribution to the Libyan industrial production			
Size of manufacturing enterprises	Number	Contribution to the industrial production	
		L.M.D*	%
Large and medium	2,846	919	69.5
Small and micro	29,646	404	30.5
Total	32,492	1,323	100
* Libyan Million Dinar			
Source: (Libyan national centre for information and documentation, 2002)			

### 3.9.1.1 The number of manufacturing enterprises by industries

The statistics reported by the Libyan national centre for information and documentation in 2002 show that 29,646 manufacturing enterprises were operating in Libya of which twenty-three per cent were located in Tripoli and thirteen per cent in Benghazi. Within the manufacturing enterprises, the manufacture of repair activities had the largest number of enterprises accounting for 55.3 per cent of the total. Metallic and tools manufacturing enterprises occupied the second place by accounting for 14.7 per cent of the total number of manufacturing enterprises and the food, drinks and tobacco products manufacturing enterprises came third accounting for 10.3 per cent of the total. The garment and textile products manufacturing enterprises were in fourth place accounting for 6.9 per cent. Lastly, furniture manufacturers were in fifth place accounting for 3.9 per cent of the total number of manufacturing enterprises. Table 3-7 shows the number of enterprises by their manufacturing activities.

Table (3-7): Number of enterprises by the manufacturing activity						
Manufacturing activity	Number of enterprises	%		Manufacturing activity	Number of enterprises	%
Food, drinks and tobacco products	2,745	10.3		Basic Metallic products	61	.22
Garment and textile products	1,865	7		Metallic and tools products	3,923	14.72
Furniture products	1,057	4		Other products	384	1.44
Paper products	244	.91		Repair activities	14,750	55.3
Chemical products	939	3.52		Total	26,646	100
Non-metal products	678	2.54				

Source: (Libyan national centre for information and documentation, 2002)

Source: (Libyan national centre for information and documentation, 2002)

### 3.9.1.2 Contribution to employment

From the data reported by the Libyan national centre for information and documentation in 2002 regarding the employment in the manufacturing sector in Libya, several points can be highlighted. Repair activities enterprises were in first place accounting for 51.6 per cent of all employees in the manufacturing sector. The metallic and tools manufacturing enterprises (15.4 per cent) were in second place followed by food, drinks and tobacco enterprises (twelve per cent), garment and textile products manufacturing enterprises (six per cent), furniture manufacturing enterprises (4.8 per cent) and Chemical enterprises (3.6 per cent). Those six types of manufacturing



enterprise comprised 94.8 per cent of the manufacturing enterprises, and accounted for about 93 per cent of the total employment in Libyan small and micro enterprises. Table 3-8 illustrates the number of employees of each manufacturing activity and their wages.

Table (3-8): Number of the employees and their wages by the manufacturing activity								
Manufacturing activity	Number of employees	%	Wages LD*		Manufacturing activity	Number of employees	%	Wages LD*
Food, drinks and tobacco products	7,261	12	12,478,652		Basic Metallic products	180	.29	252,000
Garment and textile products	3,989	6	4,651,760		Metallic and tools products	9,279	15.4	13,223,125
Furniture products	2,894	4.8	5,334,624		Other products	651	1	830,640
Paper products	737	1.2	1,276,660		Repair activities	30,993	51.6	41,958,328
Chemical products	2,176	3.6	2,463,280					
Non-metal products	1,882	3.1	2,611,630		Total	60,042	100	85,080,699

\* Libyan Dinar

Source: (Libyan national centre for information and documentation, 2002)

### 3.9.1.3 The micro manufacturing enterprises problems

Libyan micro enterprises, especially the manufacturing enterprises, have been facing a variety of problems including the instability of economic policies, existing regulations and the tax office and customhouse procedures and laws, and lack of raw materials, skilled and technical employees, local and national spare parts suppliers, marketing and distribution strategies, sufficient repair and maintenance centres and training programmes and frequent and unexpected interruption to the electrical power and water supply (Elshereif, 2002). The external competition, marketing, lack of qualified employees in the technical and management aspects, lack of financial sources, and the absence of the government agencies role in developing the micro manufacturing enterprises are the main problems facing these enterprises (Shamia, 1994). A study by Elfaresy (2002) showed that the lack of technical and economic research and studies has compounded the problems facing the Libyan micro enterprises. A study by Bait-Elmal (2002) indicated that the high cost of the products in micro manufacturing enterprises is one of the main problems which faced this sector of enterprises. He added the main reasons which caused this phenomenon are:

- A high cost of raw materials, spare parts and labourers.
- Most of the manufacturing enterprises:
  1. Did not use cost and management accounting systems.
  2. Were established without preparing feasibility studies.

Elfaresy (2002) stated that the main problem facing the micro enterprises sector was the ignorance of the government to the role which this sector of enterprises could play in developing the Libyan economy and this ignorance is highlighted in the following points:

- No existence of a specific agency or centre to support, supervise and control micro enterprises activities and to provide information, management and financial advice and help.
- No research and training centres which could contribute to develop the owner managers and the employee's technical and productive skills.
- No existence of customhouses and taxes privileges and exemptions to the micro enterprises which could contribute to micro enterprises development.
- The application of the tax estimated method<sup>12</sup> which did not consider the rise of the raw material prices and labourers wages.
- No availability of long term loans with free or low interest to the existing micro enterprise's owner managers or to the new graduates of universities and higher education institutes to own micro enterprises in order to develop this sector.

### 3.10 Summary

The purpose of this chapter was to highlight the characteristics of the Libyan business environment in which this study is conducted. Different historical, political and economic factors have been discussed, emphasising the major changes in the Libyan economy since the independence of the country. Also, this chapter outlined the importance of the micro manufacturing enterprises to the Libyan economy and discusses the problems facing these enterprises.

The next chapter will discuss in more detail the factors influencing the selection of the qualitative paradigm, grounded theory methodology and case study research method for this research study.

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<sup>12</sup> In this method the amount of V.T.A will determined based on the tax office staff experience without viewing balance sheets and profit and loss accounts.

# Chapter 4: Methodology and research methods

## 4.1 Introduction

The design of any study begins with a choice of a topic and a research methodology. In the previous chapter, the researcher introduced the topic of this research. The researcher's next responsibility is observing, exploring, describing, explaining and interpreting the topic through an appropriate methodology (Marshall and Rossman, 1995). So, the main purpose of this chapter is to address the methodology and research methods that have been adopted in conducting this research study. In order to achieve this purpose the researcher has discussed in detail the factors influencing the selection of the appropriate paradigm, methodology and research methods for this research study. The chapter is divided into three main sections. The first section provides a theoretical basis for selecting the qualitative approach. The second section discusses reasons for using grounded theory methodology and its fundamental procedures. Finally, the researcher discusses the research method, namely the case study method that is employed in this study.

## 4.2 Research Methodology

### 4.2.1 Paradigmatic construct

In attempting to develop theories about human society, sociologists face a wide range of choices. In making sense of society, sociologists are guided by one or more theoretical 'road maps' or paradigms (Kuhn, 1970). For them, a theoretical paradigm is a basic image of society that guides thinking and research. Guba and Lincoln (1994, p.107) stated, "A paradigm represents a worldview that defines, for its holder, the nature of the 'world', the individual's place in it, and the range of possible relationships to that world and its parts". According to Kuhn (1970, p.103) paradigms "are the source of the methods, problem-field, and standards of solution accepted by any mature scientific field at any given time". A simple definition of paradigm by Gioia and Pitre (1990) is "a way of understanding organisational phenomena". A paradigm encompasses the following elements: Ontology (nominalism vs realism), epistemology (anti-positivism vs positivism), human nature (voluntarism vs determinism) and methodology (ideographic vs nomothetic). Researcher's ontology, epistemology, human nature and

methodology assumptions direct and guide their methodology (Hopper and Powell, 1985). Different assumptions regarding research ontology, epistemology, human nature and methodology have been proposed (Burrell and Morgan, 1979). These assumptions have direct implications on the research methodology adopted, the way in which investigations are conducted and how knowledge about the social world is obtained. Ontological assumptions decide the form and the nature of reality and come before the epistemological assumptions. Different ontological assumptions will lead to different epistemological assumptions. Thus, researcher's ontological beliefs about the organisational phenomenon affect both their epistemological assumptions and overall methodological assumptions (Chua, 1986). A description of the ontological, epistemological and human nature assumptions is provided below.

#### 4.2.1.1 Ontological, epistemological, human nature and methodological assumptions

##### 4.2.1.1.1 Ontological assumption

Ontology is the nature of reality and 'being'. The ontological debate is related to the structure of reality and questions whether reality exists in hard, tangible and relatively immutable structures (realism) or whether it is the product of individual consciousness (nominalism) (Crotty, 1998; Burrell and Morgan, 1979). Ontology is concerned with the nature of reality (Hopper and Powell, 1985). Ontological assumptions are at the core of the phenomena (Burrell and Morgan, 1979).

The core debate in ontology relate to 'nominalism' and 'realism'. Realism sees reality as concrete structure whereas nominalists perceive reality as a projection of human imagination (Morgan and Smircich, 1980). Nominalism assumes that situations and objects are not independent of prior knowledge and the perceiving mind. Researchers from different schools can arrive at different conclusions about the same thing. Realism Assumes that the researcher's view of the world is unaffected by His/ Her beliefs and prior knowledge. Researchers therefore arrive at the same conclusions about the same problem. Furthermore, Gill and Johnson (2002) classified realism into ontological and epistemological realism. They argued that ontological realism considers that reality exists independently of the cognitive structures of researchers, while epistemological realism considers that reality is cognitively accessible to researchers.

#### **4.2.1.1.2 Epistemological assumption**

Epistemology is the nature and forms of knowledge. It defines the relationship between our ideas about what is going on in this world and the nature of the world itself. Epistemology is concerned with assumptions about the nature and grounds of knowledge (Burrell and Morgan, 1979) and is related to the meanings attached to reality (Crotty, 1998). Different epistemological stances were identified in the social science literature which include positivism and anti-positivism (Burrell and Morgan, 1979), functionalism and insight (Otley and Berry, 1994), and objectivism, subjectivism and constructionism (Crotty, 1998). Objectivist epistemology is based on the notion that knowledge exists independently of any consciousness. Subjectivism, in contrast, is based on the notion that knowledge is imposed on the object by the subject (Crotty, 1998). Constructionist epistemology rejects the view that knowledge objectively exists or is subjectively imposed and argues that knowledge is constructed (Crotty, 1998). The positivistic epistemology seeks to explain and predict what happens in the social world by searching for regularities and causal relationships between its elements. Gill and Johnson (2002) identified positivism as an approach that emphasises the use of the methods presumed to be used in the natural sciences in the social sciences. The anti-positivistic epistemology, social world is essentially relative and can only be understood from the point of view of individuals (researchers) who are directly involved in the activities.

#### **4.2.1.1.3 Human nature**

The human nature assumption is concerned with the relationship between human beings and their environment (Burrell and Morgan, 1979), i.e. how people reflect in social environment they are in whether they are deterministic or voluntaristic. Determinism and voluntarism are identified as the main two dimensions of this assumption. The determinist view is based on seeing human beings and their experience as the products of their environment. The voluntarism view, on the other hand, is based on the notion that human beings are autonomous and free-willed. This view sees man as the creator and the controller of his environment (Burrell and Morgan, 1979).

#### 4.2.1.1.4 Methodology and method

In this section a distinction was made between the meaning of methodology and method (Silverman, 1993; Hussey and Hussey, 1997; Crotty, 1998). Shipman (1998, p10) stated that in the method, the concentration is on the techniques for collecting evidence. Questionnaires, observations, textual analysis, interviews and case studies are all possible sources of evidence. On the other hand, in the Methodology concentration is on the 'logy', the logic of using the methods selected. This determined by reference to the assumptions in the theoretical models guiding the work (Shipman, 1998). Crotty (1998, p 3) described methodology as "the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes." Methodology also means the fundamental assumptions and underlying philosophy that a researcher brings into a research setting (Gioia and Pitre, 1990). Strauss and Corbin (1998, p. 3) defined methodology as "a way of thinking about and studying social reality".

Methodology, therefore, is a research design that guides researchers in choosing the techniques or procedures to gather and analyse data related to their research (Crotty, 1998). Based on the chosen methodology there are two kinds of methods that can be used to collect the data. The first is nomothetic method. The data can be collected through the use of protocols and procedures that derive from the natural science. A nomothetic approach seeks to establish general law-like findings that can be deemed to hold irrespective of time and place (Bryman, 1993). The second one is ideographic method. In this method the data can be collected through emphasising the penetration of meaning systems (Burrell and Morgan, 1979; Hopper and Powell, 1985). An ideographic approach locates its findings in specific time-periods and locales (Bryman, 1993).

As mentioned above there are different methods by which data can be collected and/or analysed (Questionnaires, observations, textual analysis, interviews and case studies). Adopting one or more of these techniques depends on the research ontological, epistemological and methodological assumptions. A researcher's methodologies do not stand in separation of the researcher's beliefs. They are closely related to each other. Researcher's ontology, epistemology and human nature assumptions direct and guide their methodology (Hopper and Powell, 1985). These assumptions have led to the emergence of different schools of social science in the last few decades (e.g. positivism,

Criticism, postmodernism, functionalism, interpretivism, phenomenology, etc.). The next sections explore the underlying assumptions of some of these schools and highlight the main routes to knowledge.

#### 4.2.1.2 Some schools of social science

##### 4.2.1.2.1 Positivism school

Positivism arrived with the Enlightenment era of the eighteenth century. The Comte De Saint-Simon first introduced it into the philosophical vocabulary. As developed by Augustus Comte, Ernst Mach, and others, the movement had great influence in philosophy well into the 20th century. Positivism is a philosophy by which we believe that we can know exactly what is out there; the process is one of reflection where reality is reflected like a mirror back to the objective observer. Positivist stressed that human activity should be understood as observable. Positivism sees the world as material that exists distinct from the observer. Positivists seek the facts or causes of social phenomena and emphasise the objective reality and the use of quantitative methods with little regard to the subjective state of an individual. Positivism seeks the facts or causes of social phenomena and to test correlation between variables (Silverman, 1993; Hussey and Hussey, 1997). The main idea of positivism is the social world exists independently and its properties should be measured through objective method, rather than being inferred subjectively through sensation, reflection or intuition (Easterby-Smith *et al* 1997). Positivism is founded on the belief that the study of human behaviour should be conducted in the same way as studies of natural science. It is an attempt to place social research in the same realm as scientific research. Augustus Comte is considered to be one of the founding fathers of positivism (Laughlin, 1995; Johnson and Duberley, 2000). For Comte, the need “was not abandonment to subjectivism but a balanced amalgamation of rationalism and empiricism into a new method ... called positivism” (Laughlin, 1995, p. 73). The key concept at the centre of positivism is the proposition of the existence of 'social facts.' These are argued to be consistent and provable events that can be repeatedly measured and empirically tested to find the causal 'truth' of social behaviour. The belief in empirical testability has been expressed into two main ways. First, there are positivists who believe that observations can be used to confirm or verify the truth of a theory. Second, Popperians (Popper advocates), who believe that observation statements are theory-dependent and fallible,

argue that theories cannot be proved but may be falsified (Chua, 1986; Johnson and Duberley, 2000).

Conducting purely positivist research has been criticised for many reasons. It has been argued that establishing a correlation between variables depends upon how these variables are defined. Moreover, positivists neglect the common-sense reasoning used by participants and researchers. Hessler (1992) argued that even when a researcher is using a scientific/factual/empirical-based methodology, the research process is still influenced, mostly subconsciously, by the researcher's view.

*"The positivists argue that science is strictly objective; Popper and Hume countered that science is partly subjective. The researcher cannot be confident that science has an objective foundation, and yet theory must be verified or falsified by testing it empirically. The researcher brings a particular set of personal experiences that is completely subjective to the scientific enterprise." (Hessler, 1992, p. 14)*

In addition, positivists view knowledge as the product of sensory experience by means of experimental or comparative analysis and concepts, and that is the result of observation (Blaikie, 1993).

#### **4.2.1.2.2 Criticism school**

Critical theory, as expressed by Frankfurt School philosopher, Jürgen Habermas, includes a formal pragmatic analysis of speech acts between hearer/speaker pairs. This theory situates his overall critique of communication in society, which is considerably more sophisticated than the parts expressed here would suggest. Secondly it offers a framework to examine questions of relationships, 'truth, rationality, action, and meaning' (Habermas, 1984).

Critical theory is a stand against positivism - a quest for a better future and against the status quo. More powerful groups and individuals reap the benefits of participating in processes through which less-powerful people and the natural environment are mistreated (Jermier, 1998). Jermier (1998) pointed out that critical theory stresses not what is but what could be or should be. Utopian thinking can provide the necessary blueprints, though some critical theorists place more trust in improving human communication than they do in envisioning utopias (e.g. Habermas, 1984). The inescapable question for a critical theorist is whose side are you on?



Critical theorists come from the perspective that reality is out there, independent of us, 'noumena' as Kant called it: reality 'as it is'. However, we can never know that reality, for we all see the world subjectively - from our own perspective - all we can do is interpret the world by giving it meaning through our own 'tinted spectacles'. In other words, through our own experiences, prejudices and culture within, which we live. Johnson (1995) states that all observation is imbued with the theories and values of the observer. All learning depends on the reflexive interpretation of one's experience together with the experience of others (Lafitte 1957).

To arrive at our own perspective we use the process of 'self-reflection'...when accomplished this self-reflection...leads to insight due to the fact that what was previously unconscious is made conscious in a manner rich in consequences: analytic insights intervene in life (Habermas, 1974, p. 23).

One of the critical theorists' strengths and weaknesses is that they constantly undermine the theories of others, for example, they undermine management decisions, techniques and fads. This is a strength in as much as nothing becomes 'set in concrete', for 'change is normal'. This is also a weakness because there is never a feeling of stability, of permanence, they constantly ask the questions: how have the decisions been made and why, and spend time gaining agreement from stakeholders of what the most useful reality is for all those included in the discourse.

Alvesson et al (2000) sum this up beautifully in their introduction: All too often ideas presented as radical and revolutionary (e.g. Peters, 1992; Hammer and Champy, 1993) are actually preoccupied with preserving established priorities and privileges (e.g. profitable growth; managerial rule). They are dressed up in the language of innovation and liberation, yet they are more firmly wedded to refurbishing the status quo, with all its attendant social and ecological problems, than they are to processes of Emancipatory change.

Alvesson and Willmott (2000) stated that Critical Theory is interdisciplinary and not doctrinaire; and because it has been wrestling for decades with issues concerning management that are now increasingly acknowledged to be problematical for human well-being – such as the mindless equation of scientific development with social progress, the destructive effects of consumerism and commercialisation, and the tendency of modern states to equate policies (e.g. deregulation) intended to enhance and/or legitimise capitalist accumulation with the development of a more civilised, caring and just society.

#### 4.2.1.2.3 Quantitative and Qualitative methodologies

One of the most common classifications in research methodology is qualitative and quantitative research (Bailey, 1978; Smith, 1983; Hessler, 1992.). Quantitative research methodology was first developed for studying natural phenomena in the natural science (Myers, 1997. Lock, *et al*, 1998), as the name implies, quantitative research deals with things that can be counted, and it often uses statistical manipulations of numbers to process data and summarized results. In contrast, qualitative research methodology was developed for studying social sciences to enable the researchers to study social and cultural phenomena.

Qualitative research is usually contrasted to quantitative research strategy. In qualitative research, quantitative techniques may have an important but only partial role to play in the analysis and understanding of the process of social change (Morgan and Smircich, 1980). This implicates that a researcher should carefully consider what and why an approach is chosen. The choice between the two approaches should be based on some guideline proposed by some authors. Qualitative research stands for an approach rather than a particular set of techniques and its appropriateness just like that of quantitative research is contingent on the nature of the phenomena to be studied. The appropriateness of the approach drives from the nature of social phenomena to be explored (Morgan and Smircich, 1980). Simply put, the choice between qualitative and quantitative should be based on the nature of phenomena of researcher's interest. Similarly, Mariamposlki (2001) argued that the choice between the two approaches depends on the kinds of question addressed, the nature of the population being studied and the overall objective of the research. Questions in qualitative research are different from those of quantitative research. Qualitative research is "an approach to the study of the social world which seeks to describe and analyse the culture and behaviour of humans and their groups from the point of view of those being studied" (Bryman, 1993, p. 46). This is contrast to quantitative research, which is comfortable with aggregating large number of people sometimes without communicating with them face to face (Janesick, 1994). Qualitative research is often assumed as the opponent of quantitative research and the tasks within qualitative researches are identified as everything that quantitative research does not (Van Maanen, 1998; Bryman, 2001). A quantitative research emphasises the measurement and analysis of causal relationships between variables, not processes in which qualitative research may focus on. Qualitative implies

an emphasis on process and meanings that are not rigorously examined or measured in term of quantity, amount, intensity or frequency (Denzin and Lincoln, 1994). Regarding the appropriate research questions, Cassell and Symon (1994) view that qualitative research is sensitive enough to allow the detailed analysis of change to answer 'why', 'how' or 'what' questions.

Qualitative research seeks the meanings and motivations behind behaviour as well as a through account of behavioural facts and implications via a researcher's encounter with people own action, words and ideas (Mariampolski, 2001). Employing this strategy means try to understand and interpret the complexity of human interaction as seen in day-to-day individual life. In qualitative research, objects are not reduced to single variables but are studied in their complexity and entirety in their everyday context (Flick, 1998). This leads the researchers into natural settings rather than controlled settings of laboratories. Thus, variables may not be controlled during the research process. Indeed, the laboratory of a qualitative research is everyday life that cannot be contained in a test tube, started even stopped, controlled or manipulated and the outcomes are theory development, description and operationalisation (Morse, 1994; Flick, 1998).

However, the differences between the quantitative and qualitative research can be summarized as following (Bailey, 1978; Bryman and Burgess, 1999; Bryman, 1993; Hessler, 1992; Stake, 1995). The first is related to the distinction between explanation and understanding as the purpose of the inquiry. Qualitative research is concerned mainly with understanding the complex interrelationships between different variables while quantitative researchers are interested in explanation and control (Stake, 1995). The second area of divergence is related to the relationship between researcher and subject, in quantitative research, the researchers does not have a lot of contacts with people within the study. In contrast, qualitative research requires far more sustained contacts between researchers and people under study (Bryman and Burgess, 1999). The third major difference between qualitative and quantitative methodologies is the researcher's stance in relation to the subject. Quantitative researchers adopt the role of an outsider looking into the social world and try to get involved as little as possible with the particular social circle, in other words, quantitative researchers try to be as objective as possible. However, qualitative researchers need to get as closed as possible to the subject being investigated. Qualitative researchers can better view the world by getting close to their subjects and becoming an insider within the research setting. This is

particular important in observation study (Hessler, 1992; Bryman, 1993). Therefore, most qualitative researchers regard as subjective. The fourth difference is related to the distinction between knowledge discovered and knowledge constructed. Qualitative researchers believe that knowledge is constructed rather than discovered (Stake, 1995). Proponents of qualitative research see this methodology as a useful tool to expose actor's meanings and interpretations. The fifth is related to the relationship between theory, concepts and research. Theories are the starting point for investigations within the quantitative approach whereas developing a theory is the concern of qualitative research (Bryman, 1993). Quantitative research is more a verification of theory rather than a discovery of theory as what most qualitative research do (Lock, *et al*, 1998). The sixth is related to the distinction between the personal and impersonal role for the researcher is the third major difference between qualitative and quantitative methodologies. The role of the researcher is different in both quantitative and qualitative research. The influence of researchers on the research setting is limited in quantitative research while it is more recognised in qualitative research (Stake, 1995). The seventh major difference between qualitative and quantitative methodologies is related to the scope of findings, it is common to conceive that quantitative research tends to establish general law like findings, which are deemed to hold irrespective of time and place, i.e. can be generalised (Bryman, 1993). However, the findings of qualitative researchers are far more limited and unlikely to generalise. The Final difference is related to the nature of data, most data gathered in quantitative studies are described as hard, rigorous and reliable. Therefore, such data are considered as précised and can be checked by other investigator (Bryman, 1993). In qualitative research, most researchers tend to focus on gathering more specific and detailed data, in other words, 'rich' and 'deep' data. Therefore, most researchers are usually conducted within a limited sample size (Marshall and Rossman, 1989).

Although the previous schools have been of importance in the development of philosophy of science and social science, other approaches to social research exist. The literature methodology has different and complicated issues and views. Social science has a large number of theories about the nature of science and the way in which it might be investigated. Also, society has sizable philosophical and theoretical disciplines that are trying to comprehend its elements and its existence. Burrell and Morgan (1979) introduced their theoretical framework. They built their paradigm based on the idea that “all theories of organisation are based upon a philosophy of science and theory of

society” Burrell and Morgan (1979, p. 1). Burrell and Morgan categorised and grouped the different theories related to social science and society within one basic framework. They classified social science and society into four paradigms each of which has its specific characteristic. This classification has been used by many researchers (e.g. Hopper and Powell, 1985; Laughlin and Lowe, 1990) and criticised by others (Chua, 1986). The next section will provide the Burrell and Morgan framework.

#### 4.2.1.3 Burrell and Morgan framework

Burrell and Morgan (1979) provided one of the most influential paradigms in social and organisational theory. They developed a framework for understanding broad streams of social science approaches to empirical research. Their framework shows two dimensions, namely the subjective-objective social world dimension on the one side and the regulation-radical society dimension on the other side. Hopper and Powell (1985) identified some advantages of this Burrell and Morgan framework.

First, the paradigm forms guidance for researchers to follow within very confusing and ambiguous theories. Second, the paradigm would enhance the reduction of myths and facts taken for granted. Thirdly, the explicit theoretical assumptions derived from this paradigm would enhance the researcher’s awareness of the underlying theory from alternative disciplines and perspectives. Hopper and Powell (1985, p. 430) suggested that "without such an awareness there is a danger that people become entrenched within well-defined and righteously guarded positions, unproductive claims and counter-claims may proliferate and constructive academic debate may be stifled". Finally, the Burrell and Morgan paradigm (1979) encourages consistency between the individual beliefs, philosophical assumptions, theoretical backing and research methods.

Burrell and Morgan’s (1979) classification of the social world is very well known. They dealt with a world-view that defines the nature of the world, social components, and the possible relationships between the world and its social components. Accordingly, they examined some of the philosophical assumptions, which underlie different approaches to social science. These assumptions consist of four distinct but related elements, namely ontology, epistemology, human nature and methodology.

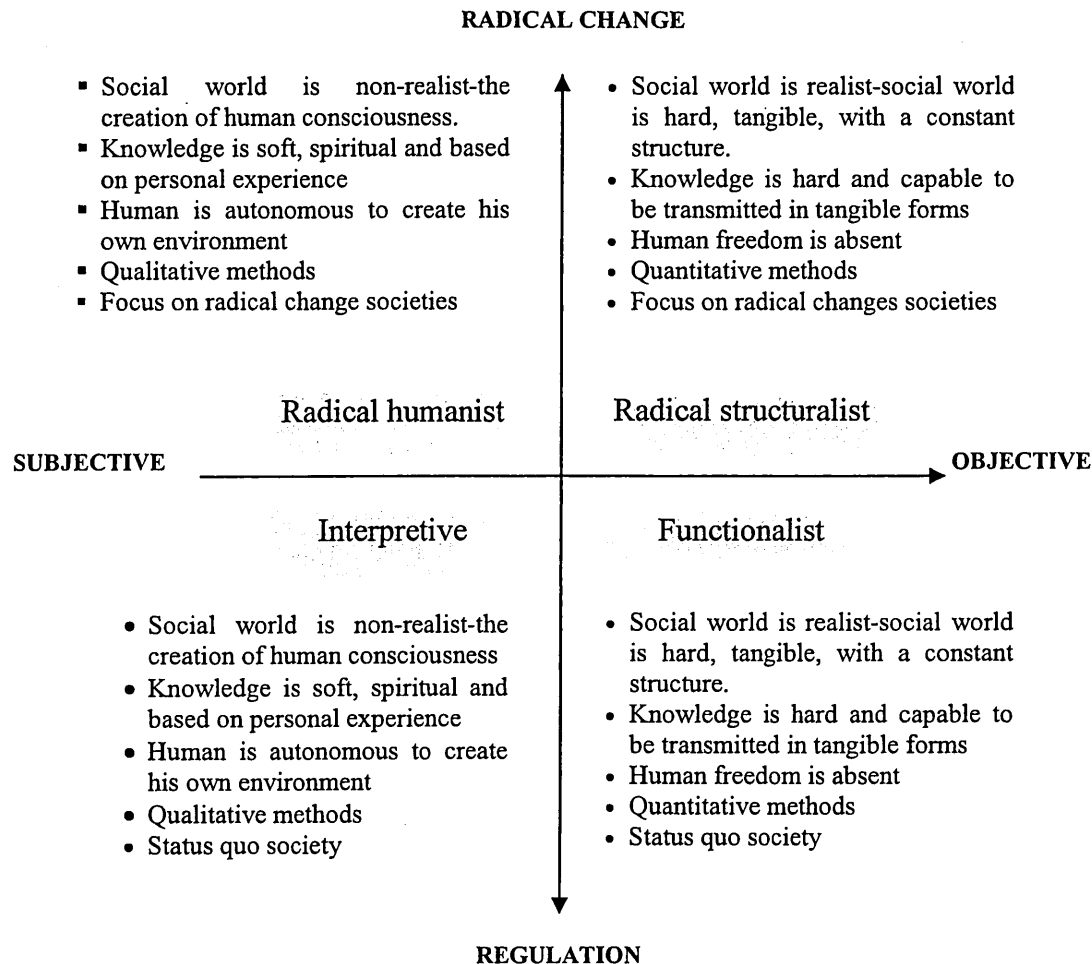
The ontology, epistemology and human nature assumptions have important consequences for the methodological nature of a given research project. This is because of their implications for addressing the question of methodology, namely “how can the

enquirer go about finding out whatever he/she believes can be known?" (Guba & Lincoln, 1994, p. 108). Whatever worldview researchers take, they should attain a sufficient degree of consistency and give credibility to the quantitative or qualitative paradigm they chose. Researcher's ontological assumptions help them decide on certain criteria for judging consistency. Similarly, analysis and interpretation should be guided by criteria derived from their epistemological position. Also, their views on the degree of freedom and autonomous nature of human beings should be consistent with their beliefs about human nature. Therefore, the question of meaning attribution should be presented in such a relative context that admits the conditionality of their work. Also, the selection of data collection and analysis method for any research is dependent on whether the methodology adopted is quantitative or qualitative or both.

Burrell and Morgan (1979) founded that there are clear connections between each of the four continuums (subjective-objective and radical-regulation). Therefore, they classified these distinct social world positions in two dimensions. The dimension on the horizontal axis provides alternative views about the nature of the reality (subjective-objective). On the far right, the position of objectivism assumes "a concrete reality, independent of any observer of that reality, where the conventional methods of science are applicable in identifying variables and testing causal relationships" (Cooper, 1983, p.272). In other words objective continuum emphasises the first extreme, which is a realist, positivist and quantitative approach. On the far left, the position of subjectivism emphasises "the human construction of reality, the experiential nature of knowledge and the freedom of man to construct, make sense of, and act in an essentially cognitive reality" (Cooper, 1983, p. 272). In other words subjective continuum emphasises the other extremist side, which is a non-realist, non-positivist and qualitative approach. The other dimension on the vertical axis represents alternative views or beliefs about the nature of society (radical-regulation). The radical change dimension is concerned with "explanations for radical change, deep-seated structural conflict, modes of domination, and structural contradiction which its theorists see as characterising modern society" (Burrell & Morgan, 1979, p.17). On one extreme, is the sociology of regulation with the emphasis on underlying unity, while on the other extreme, which emphasises on the sociology of radical change. In other words researcher's beliefs about the need to make changes to a society by adopting new perceptions or views reflect the radical society approach. On the contrary, if researchers do want to maintain the current situations, they adopt the regulation approach.

These two independent dimensions (nature of the reality and nature of society) were combined in one framework to create a 2 X 2 matrix to define four interactive and mutually exclusive paradigms (Burrell and Morgan, 1979). These four paradigms consist of the interpretive, functionalist, radical humanist and radical structuralist. They form the basis for researching the social world. Figure 4-1 illustrates the Burrell and Morgan paradigm.

Figure (4-1): Burrell and Morgan paradigm



\*Adapted from Burrell and Morgan (1979, p. 22)

Burrell and Morgan's (1979, p. 23) explanation of paradigms is:

*" Each of the paradigms shares a common set of features with its neighbours on the horizontal and vertical axis in terms of one of the two dimensions but is differentiated on the other dimension. For this reason they should be viewed as contiguous but separate - contiguous because of the shared characteristics, but separate because the differentiation is of sufficient importance to warrant treatment of the paradigms as four distinct entities. The four paradigms define fundamentally different perspectives for the analysis of social phenomena. They approach this endeavor from*

*contrasting standpoints and generate quite different concepts and analytical tools”.*

Pittaway (2005, p. 203) stated:

*“Each paradigm had shared characteristics but there was sufficient differentiation for them to be considered as four distinct entities”.*

The following subsections discuss the paradigms in more details.

#### **4.2.1.3.1 The functionalist paradigm**

The functionalist paradigm is interested in exploring the social order from a realist, positivist, determinist and nomothetic standpoint. This paradigm tries to explain societies' regulation, integration, consensus and solidity between their constituent elements from the objective viewpoint. Therefore, this paradigm is committed to the use of natural science methods, which based on beliefs that organisation possess the same characteristics as the physical world.

Burrell and Morgan (1979, p. 26) stated:

*“The functionalist approach to social science tends to assume that the social world is composed of relatively concrete empirical artefacts and relationships which can be identified, studied and measured through approaches derived from the natural sciences”.*

Accordingly, the approach uses causal relationships that emerge from reality as an effort to explain social phenomenon in society without any intention of changing. This paradigm is rooted in positivism, realist and quantitative approaches. It assumes that the social world is composed of concrete, hard and real relationships. These specifications can be identified and measured by adopting the natural science approach such as physics or chemistry. Knowledge about social issues can be acquired and transmitted in tangible forms. There is no need either for experience or being on the site to acquire this knowledge. Since this paradigm is affected by the scientific approach methods, it uses quantitative methods such as statistics to explain the phenomenon under investigation.

#### **4.2.1.3.2 The interpretive paradigm**

The interpretive paradigm attempts to understand the meanings of social interaction and show how people construct social reality in social contexts; such understanding is not concerned with controlling people, but rather with understanding and respecting different ways of life. The objective is to describe and explain the phenomenon in order to diagnose and understand and develop theory. The interpretive paradigm sees the individual as an active participant in the construction of that world



and emphasises the need to “understand the social world by obtaining first-hand knowledge of the subject under investigation” (Burrell and Morgan, 1979, p. 6). In their view, these frameworks ‘present a perspective in which individual actors negotiate, regulate, and live their lives within the context of the status quo. In the status quo point the interpretive paradigm is the same theory of sociology as the functionalist paradigm because these two paradigms do not want to create any changes to the society.

The interpretive paradigm adopts the subjective approach where it perceives the social world as the creation of one’s consciousness. The interpretive paradigm believes that knowledge acquired and transmitted should be understood from the point of view of the actors involved in daily activities. This involvement in the site and being a participant will enrich the researcher’s cognition to understand and perceive the social world. So, it discards the idea that the social world could be studied in the same manner as in natural science. As a result, this paradigm looks to human nature as being completely autonomous; hence the environment and circumstances could be modified. Consequently, research methods are qualitative when they can be applied within the site of the phenomenon investigated. Therefore, participant observation, interviews, documentation, inspection and other methods of close contact are encouraged (Strauss and Corbin, 1994; Chua, 1986).

The interpretive paradigm permits the research question (hypotheses) to emerge through the research process rather than predetermined them. The researchers understands to the whole phenomenon being investigated will be expanded through their interaction on the operational site. Moreover, researcher’s involvement within the site as actors will expand their understanding of the relationship and the interactions of the components of the social world and the related society which will in turn increase the effectiveness of the research (Hopper and Powell, 1985).

#### **4.2.1.3.3 The radical change humanist paradigm**

The radical change humanist paradigm concern is to develop the sociology of radical change from a subjectivist standpoint. This approach shares the interpretive paradigm’s view of the subjective nature of the social world where the reality is merely a reflection of human cognition. The humanist paradigm emphasises how reality is socially created and sustained but ties this to how people become imprisoned within the bounds of realities. This paradigm pays a lot of attention to the mode of domination, liberation and deprivation but not to the structure of conflict. The main goal of this

paradigm is to free society's members from sources of domination, alienation, exploitation, and repression by critiquing (describe and critique) the existing social structure with the intent of changing (in order to change)" (Gioia and Pitre, 1990, p. 588). Critical theory as one of the humanist schools of thought emphasises interpretation rather than explanation or prediction.

#### 4.2.1.3.4 The structuralist paradigm

This paradigm is driven by radical change and objectivism. It is similar to the radical change humanist paradigm because it mainly focuses on changing or transforming the social order. On the other hand, it is like the functionalist paradigm when it assumes that social reality is objective. The main goal of structuralist paradigm is "to understand, explain, criticise, and act on the structural mechanisms that exist in the organisational world, with the ultimate goal of transforming them through collective resistance and radical change, to identify and persuade in order to guide revolutionary practices (achieve freedom through revision of structures)" (Gioia and Pitre, 1990, p. 589). Table 4-1 summarises many fundamental elements of the four paradigms. The Table included many dimensions namely the goals, theoretical concern, and theory building approach.

Table (4-1): The fundamental elements of the paradigms			
Dimensions Paradigms	Goals	Theoretical Concern	Theory building approach
<b>Functionalist paradigm</b>	To search for regularities and test in order to predict and control.	<ul style="list-style-type: none"> <li>• Relationships</li> <li>• Causation</li> <li>• Generalisation</li> </ul>	Refinement through causal analysis
<b>Interpretive paradigm</b>	To describe and explain in order to diagnose and understand.	<ul style="list-style-type: none"> <li>• Social construction of reality.</li> <li>• Reification process.</li> <li>• Interpretation.</li> </ul>	Discovery through code analysis.
<b>The radical change humanist paradigm</b>	To describe and critique in order to change	<ul style="list-style-type: none"> <li>• Social construction of reality.</li> <li>• Distortion.</li> <li>• Interest served</li> </ul>	Disclosure through critical analysis
<b>Structuralist paradigm</b>	To identify sources of domination and persuade in order to guide revolutionary practices	<ul style="list-style-type: none"> <li>• Domination.</li> <li>• Alienation.</li> <li>• Macro forces</li> <li>• Emancipation</li> </ul>	Liberation through structural analysis

\*Adapted from Gioia and Pitre (1990, p. 590)

#### 4.2.1.3.5 Summery

Researchers who believe in subjective social reality are likely to work within the interpretive or radical humanist paradigm. On the other side, researchers who believe in objective social reality are likely to work within the functionalist or the radical structuralist paradigm (Burrell and Morgan, 1979).

The researcher's objective is an important factor that can guide the research process. These objectives are derived from the researcher's goals. Some researchers may have the intention of challenging, changing and converting the dominant social norms. This kind of researchers is likely to work in the radical paradigms (radical humanist and radical structuralist) because the investigation is intentionally geared to achieve change in the phenomenon being investigated. However, other researchers would seek to create an understanding of what is happening and occurring merely to explore and investigate the situation. This kind of researchers is likely to work in the regulation paradigms (interpretive, functionalist).

### 4.2.2 Factors influencing the choice of Paradigm and Methodology

The choice of methodology for this study is based on several influential factors, which related to either the researcher's beliefs or the nature of the research topic. Homans (1949) argued that the choice of methodology for any research is influenced necessarily by a number of factors that entitled as circumstances. Many researchers (Strauss and Corbin, 1998; Marshall and Rossman, 1989; Creswell, 1994; Yin, 1987; Pettigrew, 1990) suggested a number of factors be influential in researcher's selection methodology. These factors may include:

1. The applicability of adopted strategy.
2. The nature and the purposes of the research problem.
3. The degree of maturity of the relevant body of knowledge.
4. The budget and time constraints.

The following section discusses the choice of paradigm and methodology for this particular research project.

#### 4.2.2.1 Choice of Paradigm and Methodology

Researchers choose their paradigm essentially on their beliefs and the nature of the research topic. So, in order to choose a specific paradigm for this study, agreement

should be achieved between the researcher's beliefs and the nature of the research topic. Therefore, the following section discusses the researcher's beliefs and the nature of the research topic

#### **4.2.2.1.1 Researcher's beliefs**

This researcher brings into the research setting the beliefs that human beings construct social reality; therefore it is subjective and the knowledge of the social world (epistemology) is also subjective and mainly acquired by personal experience. Therefore, this places this research project at the subjective end of the Burrell and Morgan paradigm (1979). Accordingly, this research study can only be located either in the radical humanist paradigm or in the interpretive paradigm. Further, the researcher's main objective is to understand and explore the phenomenon under investigation without any intention of creating changes in the phenomenon being studied. The nature of the study is an exploratory one. The phenomenon being studied within this research focuses on exploring and understanding the current use of accounting information in the micro enterprises sector. The researcher's work is centralised on how the status quo is constructed and maintained rather than how to change it. This simply disregards the radical humanist paradigm and, accordingly leaves us with the interpretive paradigm. Therefore, based on the researcher's beliefs (ontological, epistemological position and the objectives of the researcher), this research study is conducted within the interpretive paradigm (Chua, 1986).

#### **4.2.2.1.2 The nature of the research topic**

Strauss and Corbin (1998) considered the nature of the research topic as the more valid reason for choosing a paradigm and a methodology. Strauss and Corbin (1998, p. 11) stated that:

*“Qualitative methods can be used to explore substantive areas about which little is known or about which much is known to gain novel understanding. In addition, qualitative methods can be used to obtain the intricate details about phenomena such as feeling, thought processes, and emotions that are difficult to extract or learn about through more conventional research methods”.*

The current literature reveals little empirical studies about accounting in micro enterprises generally and in micro manufacturing enterprises in particular. Curran (1986) argued that one of the reasons for the lack of knowledge about micro enterprises

is that research has tended to concentrate on large enterprises and neglect very small (micro) enterprises run by one person with few employees. Furthermore, there has been no previous study conducted in Libya concerning this subject. Therefore, the accounting information in micro manufacturing enterprises in Libya needs an in depth study to provide sufficient and effective understanding of this area of study. In order to achieve this objective, the methodology chosen should be capable of achieving the following objectives (Smith, 1983; Quantz, 1992):

1. Is to begin the research topic investigation with open programme as possible.
2. Is to enable the researcher to conduct investigation in a daily reality, which reflects the natural and actual behaviour patterns.
3. Is to extract as much data about the organisations under investigation as possible and for a reasonably long period in order to establish an overall view of the phenomenon under investigation.
4. Is to study organisation overall in terms of their culture, environment, regulatory, formal and informal structure, social relationships and many other aspects that may affect the phenomenon under investigation.

All the above requirements are in the interpretive paradigm. Hopper and Powell, (1985, p. 446) suggested that:

*“Understanding the conduct of others is obtained through a process of interpretation or typification , rather than direct observation- such typification being continuously learnt, modified or reaffirmed throughout people’s lives....people constantly create their social reality in interaction with others. It is the aim of an interpretive approach to analyse such social realities and the ways in which they are socially constructed and negotiated”.*

The need for in depth knowledge about the actual practices and interactions between organisational processes is essential in order to produce an effective and informative study. The interpretive paradigm could provide such important specifications by giving a better understanding of the phenomenon under investigation. Parker and Roffey (1997, p.216) suggest that with interpretive research in accounting and management research, “the aim of the interpretive researchers is to enrich our understanding of the underlying meanings of our actions”. Similarly, Gioia and Pitre’s (1990) theory building within the interpretive paradigm is claimed to be grounded and substantive,

*"The goal of theory building in the interpretive paradigm is to generate descriptions, insights and explanations of events so that the system of interpretations and meanings, and the structuring and organising processes, are revealed"* (Gioia and Pitre's, 1990, p. 588).

Furthermore, Hopper and Powell (1985) stated that the interpretive paradigm has the ability to allow research questions (hypotheses) to emerge from the research process, rather than being predetermined at its outset. It is hoped that they will be more pertinent to the problems of the subjects. Aldrich *et al* (1989) suggested that if a deeper understanding of a social issue involved in micro enterprises is to be generated, a research approach, which guides the use of qualitative methods of data collection, and analysis needs be adopted. Curran (1986) stressed the need in particular for in-depth qualitative research on the one-person micro enterprise.

This research study is guided by the aim of exploring the current practice of accounting information in micro manufacturing enterprises in Libya and factors affecting this practice. A number of researchers concerned lately about the descriptions and analysis of the environments in which accounting and management operates (Ryan *et al*, 1992; Modell, 1996; Brignall, 1997; Atkinson and Shaffir 1998). Before formulating accounting theories, this environmental analysis is required. This kind of environmental analysis of social and economic aspects as an exploratory study, which need to examine interrelationships with their environment, culture and other influential factors that could be achieved through the adoption of the interpretive paradigm.

This study fits the interpretive paradigm for the following reasons. Firstly, the use of accounting information in micro and small enterprises in Libya is not researched to date. The literature has revealed that accounting information practices in the micro enterprises still need an in depth investigation (Elattar, 2001; Nayak and Greenfield, 1994; Curran, 1986). Therefore, this knowledge is not enough to suggest prior assumptions (hypotheses) about accounting information in micro manufacturing enterprises. Churchill and Lewis (1986) cautioned that without existing theories grounded in empirical observations, the use of hypothesis testing approaches to understand small enterprises will restrict the generation of knowledge about small enterprises and ultimately, will limit the development of the subject as an area of scientific inquiry. There is little prior research on management accounting in micro manufacturing enterprises and it is difficult to formulate hypotheses (Ferreira and Merchant, 1992). Churchill and Lewis (1986, p.335) argued that as small enterprise

research 'is a field in which the underlying concepts have not been adequately defined, the primary concern of researchers should be theory development, not theory testing. Similarly, Bygrave (1989, p.23) contended that the emerging nature of small enterprise research demands that a qualitative approach that encourages the development of practical and theoretical understanding and the generation of new and alternative theories and concepts is appropriate. A number of researchers now recognise that small enterprise research is not yet well developed to benefit from a positive research approach that encourages the use of quantitative methods of scientific inquiry (Aldrich, 1992; Bygrave, 1989; Churchill and Lewis, 1986; Sexton, 1986).

Since, the theory of the accounting information in micro enterprises is relatively immature and not well developed, the researcher of this study has selected the interpretive paradigm and its related qualitative approach.

Secondly, the existing literature related to the phenomenon under investigation (accounting information in micro enterprises) mainly related to cultures and environments, which are completely different from the Libyan culture and environment, where the study will be conducted. These culture and environment differences give each society its own characteristics. Therefore, it is important to develop theories that reflect cultural beliefs and consider a society's circumstances which are certainly different from one society to another. Chandler and Daems (1979, p. 18) stated that:

*"Europe tended to rely more on traditional social control; family, class codes, gentlemen's agreements and in Germany military-type bureaucracy, to manage the fundamental functions of economic activities. This view does not imply that European business enterprises lagged behind their American counterparts in every aspect... it only suggests that European businessmen normally choose other solution to managerial needs than American because they were faced with a different culture, social, economic and legal environment".*

Theories derived from British research, for example, may be irrelevant to the phenomenon being studied (Accounting Information in Micro Manufacturing Enterprises) in Libya. Strauss and Corbin (1998, p.287) stated,

*"If a foreign student is studying here but wishes to collect data in his or her own country, then most certainly he or she can use this method or other qualitative methods. It is important that other countries not borrow theories but instead develop their own, ones that reflect their societies' or citizens' cultures and behaviours".*

Aldrich (1992), Borch and Arthur (1995), and Brown and Butler (1995) believed that a positivist approach removes small enterprise problems from the context within which they naturally occur. Thus, the findings generated are generalisable only to the extent that the conditions under which the data were collected occur naturally in the social world in which the human actions and behaviour take place.

Therefore, the quantitative approach may contribute very little when applied to different cultures and environments. The interpretive paradigm and its qualitative approach, which accepts Libyan culture and environment as part of the reality, are essential for producing findings that may be difficult or impossible to achieve statistically through a quantitative approach. Thus, the interpretive paradigm and its qualitative approach are more appropriate to understand the phenomenon under investigation in Libya micro enterprises.

Thirdly, researching accounting information in micro manufacturing enterprises involves a study of the shared relationships between overlapping social factors. The positivist approach seeks to identify, isolate, measure and test discrete relationships and social interactions. As a result, the complexities inherent in social relationships suggested that the positivist approach was inappropriate. Instead, it was decided that a qualitative research paradigm that would consider the substantive problem in its entirety was appropriate. The qualitative paradigm enables researchers to get close to subjects by observing human behaviour and action as it occurs in normal everyday life (Schutz, 1967). Therefore, the qualitative paradigm was identified as an appropriate approach with which to explore and develop an understanding of the substantive research problem, representative of the 'natural' environment from which data were acquired.

Finally, the researcher's aim is to construct a theoretical framework of the phenomenon under investigation with such a theory emerging from the data rather than being imposed on it by prior hypotheses. This study uses the interpretive paradigm for its flexibility and also to avoid the use of quantitative approach and perceived certainties implied by statistical techniques. Silverman (1993, p. 21) pointed out that research conducted from the interpretive approach perspective is concerned with observation and description and, at best, generating hypotheses. Also, he stated that the method for the interpretive paradigm is qualitative hypotheses generation. Munhall (1998) points out that qualitative research uses an inductive approach, which lends itself to going out and finding out what's going on and leads to theory development. In using qualitative methods the researcher is seeking to discover knowledge and to uncover new insights,



meaning, and understandings from the authentic source and is looking at the whole within context. Qualitative research implies an emphasis on process and meanings that are not rigorously examined or measured in term of quantity, amount, intensity or frequency. A qualitative research means study things in their natural settings, attempting to make sense of or interpret phenomena (Denzin and Lincoln, 1994). Bryman (1993) suggested that qualitative researchers could better view the world by getting close to their subjects and becoming an insider within the research setting. In addition, qualitative research approach is most suitable when the objective of the study requires in-depth insight into particular phenomena (Ghauri, P, 1995). On other words, qualitative methodology is of particular value in situations when little is known about a domain, when the researcher suspects that the present knowledge or theories may be unclear, or when their research question pertains to understanding or describing a particular phenomenon or event about which little is known or understood (Field & Morse, 1985). Tomkins and Groves (1983) stated that naturalistic research approaches (qualitative) enable researchers to gain more understanding of accounting practices in their natural setting. The emphasis of qualitative research is on determining 'how things are' from individuals' perspectives so as to gain an understanding of the complex world of lived experience from the point of view of those who live it (Melia, 1982; Schwandt, 2000). The researcher seeks to understand behavior as the participants understand it, learns about their world, and shares their interpretations their definitions (Chenitz & Swanson 1986). This approach requires researchers to have an intimate relationship with what is being studied to capture and interpret the nature of the reality. These will emphasis the use of specific research design to enable researchers to be much closer to the phenomena. Capturing the nature of the organisation means researchers should be as close as possible to the phenomena and the people who have experience with the research issues. That would allow the researcher to explore in-depth accounting information in the Libyan micro manufacturing enterprises by getting as close as possible to the person (owner manager), listen to them, better understand their generation and use of accounting information and build a picture based on their ideas.

However, a qualitative approach allows researchers to get close to participants, penetrate their realities and interpret their perceptions. This may suggest that the qualitative approach is a suitable method from which to design this research study. Therefore, the nature of the research topic is a second reason for choosing the interpretive paradigm and its qualitative approach.

### 4.3 Grounded theory methodology

As the researcher has shown in the previous section the interpretive paradigm and its qualitative approach will be adopted in this study. This would offer numerous traditions in the selection of methods and approaches. These traditions range from case studies (Yin, 1994; Stake, 1994; Gummesson, 1991), action research (Gummesson, 1991), grounded theory (Strauss and Corbin, 1990; Glaser and Strauss, 1967). Creswell (1994) offers ethnography, grounded theory, case study and phenomenological studies. In other words, the array of methods available within the qualitative approach is extensive. Grounded theory has been identified as one of the different methodologies within the interpretive research paradigm (Covaleski and Dirsmith, 1990). Grounded theory's methodological emphasis is on actor's own emergent interpretation and meanings, with minimal researcher intervention (Douglas, 2003). Strauss and Corbin (1990) stated that among the many approaches being used to perform qualitative research in large and small enterprises is grounded theory. Parker and Roffey (1997, p. 218) reported that:

*"Grounded theory differs from ethnomethodology and ethnography in a number of respects. It admits a greater range of data sources, including naturally occurring verbal exchanges, interviews, reports, minutes of meetings, correspondence and so on. It also allows for investigation of one case through to a large number of cases. Rather than focusing exclusively on describing field members sense-making activities and interaction, grounded theory aims to incorporate the researcher's understandings, and attempts to develop explanatory theoretical frameworks representing structures and processes observed".*

Grounded theory has become the most widely used qualitative method in social science research, and it is a particularly popular one among management and organization researchers (Locke, 2001). Grounded theory is recommended as a powerful way to collect and analysis data and draw meaningful conclusions (Allan, 2003). Strauss and Corbin (1994) stated that the grounded theory and other qualitative research methods are similar in terms of the sources of collecting data namely, interviews, field observations and documents of all kinds, but grounded theory emphasises theory development. Yin (2003) stated that grounded theory interested in theory building and not theory testing. In the grounded theory methodological approach hypotheses and theory are inductively derived from data (Jarvis *et al*, 1996). Hines (1989) argued that

learning about how accounting is socially constructed would increase our understanding of accounting in particular contexts. She added that the comprehensive nature of the grounded theory techniques and procedures makes these a valuable research approach available to accounting researchers in understanding the social construction of accounting. In particular, Hines (1989) stated that grounded theory is a valuable research methodology available to accounting researchers where phenomena are multifaceted, and about which little is known. Turner (1983) pointed out that qualitative researchers in accounting often find themselves overwhelmed by the large volume of non-standard data generated from participant observation, from observation of face-to-face interaction, from semi-structured or unstructured interviews, from case study material or from certain kinds of documentary sources. Turner suggested that grounded theory might be an appropriate approach for tackling some of the data handling and data analysis problems created in such situations. Further, grounded theory offers a way of attending in detail to qualitative material in order to develop systematically theories about the phenomena, which have been observed. Strauss and Corbin (1990, 1994) viewed grounded theory as one of the research methodologies, which encourages researchers to adopt an open mind. This open-minded approach is highly recommended by researchers such as Ferreira and Merchant (1992). Grounded theory methodology was recommended by Colville (1981) to be used in accounting studies that research behavioural issues. Also, Parker and Roffey (1997) support the use of grounded theory in accounting research and claim that it has gained increasing attention in qualitative field research. They also suggest that grounded theory is a distinctive methodology for generating theories that reflect the complexity and richness of the environments within which accounting is practised. According to Parker and Roffey (1997) grounded theory allows development of in-depth understanding of the phenomena under study. Further, a grounded theory approach allows the researcher to go into the research site without having any hypothesis in mind and offers the researcher more flexibility for understanding the phenomenon under study and for explaining why particular practices occur. Parker and Roffey (1997) argued that grounded theory enables the researcher to find out answers to what, how, why, when and where questions about a particular phenomenon. Its coding system and other procedures and techniques, which are designed to help with the interpretation process, are important aspects, which encouraged researchers to choose grounded theory (Strauss and Corbin, 1990; 1994; 1998).

Taking in to account the above arguments and theoretical justification, the grounded theory was chosen as the methodological approach for this exploratory research study to understand accounting information in micro manufacturing enterprises in Libya where very little is yet known.

### 4.3.1 Grounded theory definition

Grounded theory is a qualitative research approach developed by two sociologists, Glaser and Strauss (1967) as a result of their research into American health institutions. These sociologists came from different backgrounds. Glaser was trained in quantitative research (Smith and Biley, 1997) whereas Strauss was strongly influenced by the Chicago School of Sociology and the symbolic interactionist perspective (Kendall, 1999). Despite their differences in background, their goals were to produce research method that would be of value to practitioners and to develop theory that fitted with reality. They sought to resolve this problem by developing a specific methodology that encompassed systematically collected data leading to multivariate conceptual theory that captured a fuller explanation of the reality (Glaser, 1999). They claimed that to generate a theory starting from data meant that many hypotheses and concepts were not only based on data, but that they were also systematically extrapolated from the data during the process of research (Glaser and Strauss, 1967). The resulting theory was therefore a substantive theory that was grounded in the reality of the social world and close to the world of the practitioners. Glaser and Strauss asked social scientists to adopt grounded theory because it would be more successful than theory deducted from prior assumptions. They criticised the deductive approach as a framework for static and artificial variables, which are inappropriate for social sciences (Glaser and Strauss, 1967). Strauss and Corbin, (1990, p. 24) defined grounded theory as:

*“A qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon”.*

A recent definition by Glaser (1992, p. 16) is that,

*“The grounded theory approach is a general methodology of analysis linked with data collection that uses a systematically applied set of methods to generate an inductive theory about a substantive area”.*

Strauss and Corbin, (1990, p. 12) explained grounded theory as:

*“Theory that was derived from data systematically gathered and analysed through the research process. In this method, data*

*collection, analysis and eventual theory stand in close relationship to another. A researcher does not begins a project with a preconceived theory in mind (unless his/her purpose is to elaborate and extend existing theory). Rather, the researcher begins with an area of study and allows the theory to emerge from the data. Theory derived from the data is more likely to resemble the "reality" than is theory derived by putting together a series of concepts based on experience or solely through speculation"*

Geiger and Turley (2003, p. 581) described grounded theory as:

*"A research method in social science that is aimed at the development of theory grounded in empirical data. It puts forward a detailed strategy for collection and analysing material with the aim of developing systematic theories about the phenomenon under study".*

The grounded theory methodology attempts to detect processes that occur as individuals interact with others within a particular social context. In other words it aims to produce a well-constructed theory that is representative of the reality under investigation and to formulate hypotheses that can be tested in future research (Strauss, 1987, pp.22-23). Grounded theory research is directed towards making sense of the data collected and to give a structural view that can be understood by actors, researchers and readers. Researchers who adopt this theory need to understand the world of the actors in all its real components and circumstances in order to provide a foundation for developing a theory that will serve as a future basis for explanation (Parker and Roffey, 1997).

In grounded theory, concepts are derived from empirical data, linked, and, if necessary, modified through constant comparison with other data. In this sense the method incorporates induction, deduction and verification in the same process (Strauss, 1987). The inductive aspect appears when researchers develop insights, intuitional anticipation and generative questions, which lead to formulating the basis for hypothesis development and subsequent deductive verification of theories generated. It emphasises language, interpretation and understanding the social sciences and identifies what participants are doing when they act and speak in their normal course of interaction (Parker and Roffey, 1997)

Strauss and Corbin (1990, p.59) have outlined a prescribed formula for building theory (hypotheses), which involves specific coding procedures. They explained that the procedures and techniques for analysis of qualitative data in the context of grounded theory are based on three fundamental assumptions. The first relates to the issue that

theories are not found ready-made but must be constructed. The second refers to the issue that these procedures and techniques should be applied in a flexible manner based on circumstance. The third relates to the issue that these procedures should permit the use of numerous analytic questions of different kinds so that they are generated from the analysis

Grounded theory is based on a discovery model of theory development (theory generation) not verification (Artinian, 1982). The task of discovery is important because the researcher must discover what is going on (Glaser, 1978). A vital element of grounded theory methodology that aids discovery is creativity (Strauss & Corbin, 1990). Creativity involves the ability of the researcher to code concepts and derive apt categories that represent the underlying socially constructed reality of the particular study. It also allows the mind to make new insights with the data not previously observed that will lead to discovery and thus avoid “conceptually thin and poorly validated research” (Strauss and Corbin, 1990, p.94). Grounded theory uses multiple data sources, which increase the validity of subsequent explanation of the phenomenon under investigation in order to realise its objectives. Denzin (1970) stated that the grounded theory researchers are allowed to use a diversity of data sources such as interviews, archival documents and newspapers to understand the phenomenon being investigated. This variety of data sources incorporates the researcher’s understanding and enhances them to develop representative explanatory theoretical frameworks. It also directs them towards identifying and articulating concepts and their causal linkage as explanations of patterned behaviour (Parker and Roffey, 1996; Lye *et al*, 1997).

The theory (hypotheses) is derived by induction and grounded in data systematically collected and analysed relevant to a particular phenomenon. The analysis processes aim to organise many ideas that emerged from the data through continuous interplay between analysis and data collection. The data would be collected until the theory being constructed from the patterns found in the data is no longer being refined by further data. Thus, the theory (hypotheses) not only emerges from data but also is systematically worked out in relation to the data during the research process. Therefore, it is more likely to be a successful foundation for research and practice than theories logically deducted from a prior assumptions. This successful foundation is attributed to the hypotheses generation, which emerges from and directly connected to their source data rather than being treated in isolation from their source.

### 4.3.2 Glaser vs. Strauss and Corbin's approach

Recently there are two methodological approaches to the grounded theory namely Glaser's (1992) approach and Strauss and Corbin's (1990) approach. Parker and Roffey (1997) pointed out that both approaches generate core concepts and develop a theoretical framework that specifies their interrelationships and generate theory about a particular substantive issue. The differences between these approaches can be summarised in the following points, and Table 4-2 also illustrates the essentials of the differences between the two approaches (Parker and Roffey, 1997).

First, the more general frame of reference required by Glaser's approach could be difficult to implement whereas the Strauss and Corbin analytical procedures are easier to implement (Parker and Roffey, 1997). Glaser prefers analytical procedures that are considered to be a general methodology. His methodological approach relies primarily on constant comparisons of incident, perceptions and relationships. However, Strauss and Corbin approach uses a specific set of analytical procedures steps (Douglas, 2003). They are intended to help researchers with the interpretation process, which included specific procedures and techniques. This helps researchers to handle the usually large volume of qualitative data collected and to analyse and make sense of such data. Second, In Glaser's approach further verification (testing) of the emerging the theories (hypotheses) is left to other researchers. (Parker and Roffey, 1997) However, in Strauss and Corbin's approach continual verification and testing are undertaken to determining the likely validity of concepts and relationships between them (Glaser, 1992; Strauss and Corbin, 1994; Parker and Roffey, 1997). Finally, in Glaser's approach the main issue of investigation is determined on the site, whereas it is determined in Strauss and Corbin's approach before selecting the research site (Parker and Roffey, 1997; Douglas, 2003).

However, Glaser (1992) criticised the Strauss and Corbin (1990) approach as forcing, rather than allowing emergence of theory (Douglas, 2003). In order to successfully avoid forcing or imposing concepts that reflect personal bias rather than those emerging from interaction with the participants in the research site, Parker and Roffey (1997) suggested that grounded theory researchers must do every thing possible to maintain due care. Straus and Corbin (1990, p.59) suggested that their approach had a number of benefits. Firstly, it allows a large amount of data to be analysed. Secondly, it permits documentation of the analysis. Thirdly, it provides the reader with a description

of how the data was analysed. Finally, it makes the research relatively rigorous and constant. A comparison of the grounded theory methodology as presented in Glaser's and Strauss and Corbin approaches is presented in Table 4-2.

In this exploratory research study, the researcher will adopt the Strauss and Corbin (1990) grounded theory approach in order to understand accounting information in micro manufacturing enterprises in Libya for several reasons. First, before commencing this study, the researcher identified the phenomenon to be investigated. In contrast, Glaser asks researchers to enter the site without a predetermined research subject and the phenomenon will emerge through interactions with the actors. Second, Strauss and Corbin approach introduces structural sets of analytical steps, which provide the researcher with systematic analytical techniques for handling large quantities of raw data and also with analytical interpretive techniques in addition to developing concepts to build theory (Strauss and Corbin, 1998). This structural set of analytical procedures does not exist in the Glaser's approach, which prefers more general analytical procedures (Lye *et al*, 1997). Finally, the Strauss and Corbin approach saves time and resources as a result of its advantages over the Glaser approach. The researcher has a time limit in which to complete his research. However, Glaser approach will take unlimited time in the enterprises for the data collection. Moreover, the owner managers might be unwilling to host the researcher for unlimited time.

Following this methodological approach, a researcher begins with a broad area of study, generates large volumes of non-standardised data, processes them as they are collected, generates meaning from the data and allows the theory or hypotheses to emerge from the data (Turner, 1983). These hypotheses can be tested in future research (quantitative research study). Therefore, by adopting this methodology for this research study the researcher starts with an issue for investigation to allow relevant concepts to emerge from the data being collected (Eisenhardt, 1989). So, the main objective of the present study is to determine the hypotheses that are truly grounded in the data.



Table (4-2): Glaser VS Strauss and Corbin approach		
Approaches Criteria	Glaser	Strauss and Corbin
<b>Research question</b>	<ul style="list-style-type: none"> <li>What is the chief concern/problem of people in the area under study?</li> <li>What category does the concern indicate?</li> </ul>	<ul style="list-style-type: none"> <li>The research question is a statement that identifies the phenomenon to be studied</li> </ul>
<b>Methodology procedures and techniques</b>	<ul style="list-style-type: none"> <li>The problem emerges and should not be 'forced' by the methodology.</li> <li>Categories and their properties 'emerge' through constant comparison of incident to incident.</li> </ul>	<ul style="list-style-type: none"> <li>Researchers need help with the interpretation process: procedures and techniques need to be spelled out. Subcategories are linked to categories that denote a set of relationships (ie. Causal conditions, action/interaction strategies, and consequences</li> </ul>
<b>Degree of complexity</b>	<ul style="list-style-type: none"> <li>Can be difficult to operationalise</li> </ul>	<ul style="list-style-type: none"> <li>Easier to operationalise</li> </ul>
<b>Theoretical completeness</b>	<ul style="list-style-type: none"> <li>Produces a theoretical formulation or set of conceptual hypotheses. Testing is left to other researchers interested in such work.</li> </ul>	<ul style="list-style-type: none"> <li>Undertakes continual verification and testing to determine likely validity of concepts and relationships between them</li> </ul>

- Adapted from Parker and Roffey (1997).

### 4.3.3 Theoretical saturation

In grounded theory studies, the researcher continues collecting data until saturation is reached (Schreiber, 2001). Saturation occurs when no new information about the core processes is forthcoming from ongoing data collection (Strauss and Corbin, 1998). Saturation implies that the process of generating categories has been exhaustive rather than merely good enough (Dey, 1999). The state in which the categories and theory are saturated is often termed as 'theoretical saturation' (Glaser and Strauss, 1967). Therefore, theoretical saturation in grounded theory is the identification of the point where continued data collection yields only repetitive theoretical material, and further properties or relationships of the categories are generated by the data (Glaser, 1978). Theoretical saturation is the point where the generation of the theory is deemed completed (Glaser and Strauss, 1967). Theoretical saturation may be reached after a small or large number of data (Glaser, 1978). Nevertheless, theoretical saturation may not happen until late in the final write-up because it is in committing the theory to paper that the researcher may discover gaps in the data. When this happens, the researcher must identify the best sources of data to answer the questions that will fill these gaps (Schreiber, 2001).

However, theoretical saturation in grounded theory refers to the state at which categories cope adequately with new data without requiring continual extension and modifications. It implies that the capacity of the data to generate new ideas is exhausted, and not the accumulation of evidence to support those ideas (Dey, 1999).

### 4.3.4 Theoretical sampling

Theoretical sampling is the heart of grounded theory approaches to research in identifying, developing, and relating concepts. Strauss and Corbin (1990, p.176) defined theoretical sampling as:

*“Theoretical sampling is sampling on the basis of concepts that have proven theoretical relevance to the evolving theory”.*

Glaser and Strauss (1967, p. 231) also defined theoretical sampling as:

*“The process of data collection for generating theory whereby the analyst jointly collects, codes and analysis his data and decides what data to collect next and where to find them, in order to develop his theory as it emerge”.*

Parker and Roffey (1997, p. 231) defined theoretical sampling as:

*“The process of sampling events, situations, populations, and responses, making comparisons between the samples of responses, descriptions, and behaviours to guide the developing theory”.*

Strauss and Corbin (1998, p.201) introduced an inclusive definition of theoretical sampling as:

*“Data gathering derived by concepts derived from the evolving theory and based on the concept of “making comparisons” whose purpose is it to go to places, people, or events that will maximise opportunities to discover variations among concepts and densify categories in terms of their properties and dimensions”.*

Concepts are deemed to be significant because they are repeatedly present or notably absent when comprising incident after incident, and through the coding procedures they earn the status of categories (Strauss and Corbin (1990). Unlike other sampling methods, theoretical sampling does not determine the size of the sample population before study begins. Informants are not chosen on the basis of their representativeness, but rather because of their expert knowledge of the phenomenon under study (Keri and Francis, 1997). The essence of such sampling method is to collect data from informants who are best able to answer emerging analytic questions, rather than sampling a predetermined group of participants or settings (Glaser, 1978).

Informants who have experienced the phenomenon or have lived through the experience should be invited to “tell the stories” so that an overview of the process may be obtained. From this sampling other informants are purposely selected.

The use of theoretical sampling is to develop the emerging categories by identifying conceptual boundaries and specifying fit and relevance, and, in such a way, to make the categories more definitive and useful (Charmaz, 2000). It is an approach to sampling which is theoretical rather than site or population driven, i.e. emphasis is put on making theories as richly complex as possible, rather than on proving hypotheses or testing previous theories (Star, 1998). Indeed, theoretical sampling is an active, purposeful way of collecting data to formulate categories that fit, work and are relevant (Glaser and Strauss, 1967). Thus, sampling in grounded theory cannot be planned before the study, but evolves during the research process itself (Strauss and Corbin, 1998). It continues until the researcher is satisfied that a conceptual framework has been developed that is integrated and testable and explains the problem (Stern, 1994). Glaser and Strauss (1967) stated that the sampling process is stopped based on a judgmental decision by the grounded theory researcher, for instance, when saturation of themes is apparent. This occurs when the information collected from participants is repetitive, and no new themes are emerging.

### 4.3.5 Theoretical sensitivity

In grounded theory, the processes of generating theory are based on the capacity of the researcher to identify the important features of the collected data, to perceived variables (concepts, categories, and properties) and their inter-relationships, and to give them meanings. This capacity is termed theoretical sensitivity (Glaser and Strauss, 1967; Glaser, 1978). Strauss and Corbin (1990, p.42) defined sensitivity as

*“Theoretical sensitivity refers to the attribute of having insight, the ability to give meaning to data, the capacity to understand, and capability to separate the pertinent from that which isn’t.... you have a rich background of information that ‘sensitises’ you to what is going on with the phenomenon you are studying”.*

A recent definition by Strauss and Corbin (1998, p.46) is that,

*“Having insight into, and being able to give meaning to, the events and happenings in data. It means being able to see beneath the obvious to discover the new”.*

Theoretical sensitivity is the researcher's ability to think about the data theoretically and interact with the data collection and analysis continuously (Douglas, 2003). It allows the researcher to move beyond pure description to see theoretical possibilities in the data (Glaser, 1978). Theoretical sensitivity increases the researcher's ability to conceptualize and to formulate a theory as it emerges from the data, and in such a way that the theory faithfully reflects the true nature of the studied phenomenon (Glaser and Strauss, 1967).

Researchers need to enhance their theoretical sensitivity for several reasons. First, they need to challenge their existing assumptions. Second, they can enhance their knowledge structure. Third, they avoid theoretically thin and poorly validated research. Finally, transfer the researcher from a descriptive mode to a theoretical and analytical mode. There are several procedures and techniques that researchers can employ to enhance their theoretical sensitivities. The constant and maneuvering comparability, questioning, literature review, professional and personal experience and interaction with data, are techniques that can be used to enhance theoretical sensitivity (Lye *et al*, 1997). Strauss and Corbin (1994) explained that researchers can enter the research site with different levels of sensitivity depending upon previous reading and experience with or relevant to the area of investigation. Carrying out a literature review is one of the techniques of theoretical sensitivity. It can provide a rich source to stimulate thinking about the properties and for asking conceptual questions. Literature provides researchers with the ability to be familiar with the phenomenon under investigation. It also provides researchers with knowledge to enter the site with the ability to understand what the actors are saying and doing. Smith (1997, p. 20) stated:

*"General reading of the literature may be carried out to obtain a feel for the issue at work in the subject area, and identify any gaps to be filled using grounded theory. The researcher is able, therefore, to approach the subject with some background knowledge".*

Professional experience is another important source of sensitivity. It can enable the researcher to move into an area more quickly because there is no need to spend a long time gaining familiarity regarding the phenomenon under investigation (Strauss and Corbin, 1998). Therefore, it is important that the researchers use literature and professional experience as a motivation for acquiring sensitivity without imposing their literature and professional experience on the data. However, Glaser (1978) pointed out that exploring the literature before commencing data collection may increase the

chances of forcing or trying to fit the data with the established knowledge, and, thus, move the researcher too quickly toward completing data analysis. Nevertheless, the possibility of forcing meaning is routinely corrected by the constant comparative method, which aids the discovery of underlying patterns, and preconceived meaning, allowing the subjects' perspective to emerge (Glaser, 1992).

#### 4.3.6 Constant comparative method

The research process in grounded theory is an iterative methodology cycle, in which the collection, coding and analysis phases are interwoven continually from the beginning of an investigation to its end (Glaser and Strauss, 1967; Chicchi, 2000). In this way, data are collected, coded, analysed and revised during the entire research process (Star, 1998). The central idea of this combined strategy is to allow the gradual development of a theory that is strictly grounded in the data in a progressive manner, and to raise the theory from lowest level of abstraction to a level of generality higher in theoretical conception (Chicchi, 2000). This specific strategy used in grounded theory is called constant comparative method (Glaser and Strauss, 1967).

In constant comparative method, each piece of data is continually compared with every other piece of relevant data so as to generate theoretical concepts that encompass as much behavioural variation as possible (Glaser and Strauss, 1967; Munhall and Oiler, 1987). Concepts are a bridge between the phenomenon under study and grounded theory and therefore are critical elements in building theory; as Blumer (1969, p.143) points out, "they are the means, and the only means of such connection (between theory and the empirical world), for it is the concept that points to such empirical instances about which a theoretical proposal is made". A concept is the process of labelling events, happenings, actions/interactions, and other instances of phenomena. Through this constant interactive analytic process in the methodology cycle, concepts and ideas emerging from the data are compared and contrasted with each other, commonalties and differences are determined, interrelationships are delineated, and themes are drawn, refined and developed, eventually, leading to the discovery of a grounded theory (Glaser, 1967).

Constant comparative method is interplay between induction and deduction. Codes are emerging after the data collection starts. Deduction is then used to derive conceptual guides from inductive codes as to where to go next for which comparative

group or subgroup, in order to sample for more data to generate the theory. This deductive-inductive process continually checks for fit and produces modification of the generated theory (Wuest, 2000). Indeed, by alternating between inductive and deductive logic, the researcher is able to feed the emergent theory with new material and further verify the conclusions in subsequent data collection. When data analysis ceases to produce new information, core categories are established and saturation has been achieved. Saturation of categories signals the end of constant retroactive process, which also close the link between data collection and analysis (Glaser, 1978).

There are two essential methodology procedures in constant comparative method: coding and memo writing.

#### 4.3.6.1 Coding

Coding is the fundamental analytic process in constant comparative method (Corbin and Strauss, 1990). Coding is a dynamic and fluid analytical procedure, which provides the link between the data and the theory (Lye. *et. al.*, 1997). Strauss and Corbin (1998, p.3) defined coding as:

*“The analytic processes through which data are fractured, conceptualised, and integrated to form theory”.*

Strauss and Corbin (1990, p.57) defined coding as:

*“The operations by which data are broken down, conceptualised, and put back together in new ways. It is the central process by which theories are built from data”.*

Therefore, the aim of coding is to arrive at systematically derived core categories that become the focal concepts that contribute towards theoretical development (Douglas, 2003).

In grounded theory, there are three basic types of coding namely open coding, axial coding, and selective coding. The movement between one coding techniques to another is permitted. Strauss and Corbin (1990) indicated that coding techniques are associated with constant comparison, theoretical questioning, theoretical sampling and concept development procedures. Also, the techniques of theoretical sampling and constant comparison are linked with theoretical sensitivity. With respect to constant comparison Glaser and Strauss (1967) explained that the constant comparative method is used in coding techniques to identify similarities and differences, to uncover specific dimensions and to facilitate systematic development of theory. Theoretical sensitivity

enhances the effectiveness of the coding (Strauss and Corbin, 1990). With respect to the theoretical sampling, each type of the coding techniques is closely related to the type of sampling used to capture the data (Strauss and Corbin, 1990). Open coding is related to open sampling, axial coding to relational and variational sampling and selective coding to discriminate sampling.

#### 4.3.6.1.1 Open coding

Open coding is the process of breaking down, examining, comparing, conceptualising, and categorising data (Strauss and Corbin, 1990). These processes involve the reading of notes taken by the researcher from observation, interview, documents and reflection as well as interview transcripts line-by-line, and paragraph-by-paragraph to identify the core codes or concepts. These concepts represent names or labels that researchers give to events, incidents, functions, relationships and consequences (Parker and Roffey, 1997). Strauss and Corbin, (1998, p. 101) defined open coding as:

*“The analytic process through which concepts are identified and their properties and dimensions are discovered in data”.*

The main focus of open coding is the discovery of concepts. In order to discover these concepts, researchers need to open their texts derived from interviews and observations and expose the ideas and thoughts. During open coding the researcher asks questions about each (incident, event), like: What is this? What does it mean? What does it represent?” Strauss and Corbin, (1990, p. 63). After that, the researchers compare incident with incident as they proceed looking for similar incidents or events in order to give them the same name. The names given to the similar incidents or events are called concepts. Similar concepts are then grouped together around particular notion and given names closely relevant to the data they represent. These names are called categories and are more abstract than that given to their related concepts. Strauss and Corbin (1990, p.7) defined a category as:

*“A classification of concepts. This classification is discovered when concepts are compared against another and appear to pertain to a similar phenomenon. Thus the concepts are grouped together under a higher order, more abstract concept called category”.*

Strauss and Corbin (1990, p.7) stated:

*“Categories are the ‘cornerstones’ of a developing theory. They provide the means by which a theory can be integrated”.*

The categories have strong conceptual power for their ability to bring together around them other concepts and subcategories. Categories are developed according to their properties and dimensions. Properties are the attributes or characteristics of category (Strauss and Corbin, 1990, p.61). These properties are broken down into dimensions. Strauss and Corbin (1998, p.101) defined a dimension as:

*“The range along which general properties of a category vary, giving specification to a category and variation to the theory”.*

Categories have their conceptual power because they share similar properties and dimensions. It is important to see how those categories vary dimensionally along their properties. Through this analysis, researchers begin to see patterns, which constitute the foundations of theory building (Strauss and Corbin, 1998).

#### **4.3.6.1.2 Axial coding**

Axial coding aims to identify relationships between open coding. Once the breaking down of data during the open coding into categories and their properties and dimensions has been done, the researcher then recombines the data around the axes of core codes. It is the process of relating categories to their subcategories. It has been titled axial coding because this type of coding occurs around the axis of categories at the level of its properties and dimensions. Strauss and Corbin (1990, p.96) stated,

*“Axial Coding is a set of procedures whereby data are put back together in new ways after open coding, by making connections between categories. This is done by utilizing a coding paradigm involving conditions, context, action/interactional strategies and consequences”.*

In axial coding, researchers begin the process of organising and reassembling data that were broken down during open coding. Initial relationships between categories and subcategories begin to emerge and subcategories are enhanced to be direct to their categories to build more precise and complete explanations about categories, and make the conceptual links more specific (Strauss and Corbin, 1990).

Category refers to a phenomenon that might be a problem, an event or happening that considered by respondents to be significant and essential. The phenomenon importance relates to its ability to explain what is occurring. A subcategory is also a category that answer partial questions about the phenomenon such as what, why, who, where and which. Its importance is ability to give the category explanatory power. During axial coding, researchers usually ask question such as why, how, where and



when. In so doing, many relationships among categories emerge to produce a sufficient explanatory context. Answering these questions helps to contextualise a phenomenon, which is closely relating structure with process. This will locate the conditional structure of the phenomenon and identify the means through which a category has emerged (Strauss and Corbin, 1998).

Structures or conditions set the stage and create circumstances in which problems, issues or events relating to a phenomenon are discovered or arise. Its main concern is to know why, but not how, certain events occur. Process on the other hand, refers to the action and interactions that happen over time and through persons or organisations in response to certain conditions or problems. Therefore, its main concern is to know how persons act or interact but not why these derived events or problems occur.

In axial coding, the linking of subcategories to a category is done by utilizing a coding paradigm involving conditions, action/interactional strategies, and consequences (Strauss and Corbin, 1990).

Researcher's main focus is to search for repeated patterns of happenings and events or actions and interactions that can be found by tracing what people say and do. Each pattern would have its own set of conditions. These conditions are sets of happening or events that stimulate the creation of a specific situation, issue, and problems that are related to a phenomenon and explain why and how people respond in return to these conditions. In other words, it is those events that affect the categories (phenomenon) and explain why and how people respond in certain ways. Conditions are divided into three types: causal, intervening and contextual. Causal conditions are the events or incidents that make a phenomenon and are often pointed out in the data by phrases such as: when, while, since, because, due to, on account of and as a result of. In case such phrases do not exist the researcher can find causal conditions by concentrating on examining the events and incidents prior to the phenomenon. Intervening conditions are those that mitigate or otherwise alter the impact of causal conditions on phenomenon. Contextual condition refers to specific properties, dimensions and conditions of the phenomenon and to specific conditions within which the phenomenon is handled. Action/interaction refers to the sequences, movements; change over time and strategies undertaken in response to a phenomenon, which are often represented in the data by action verbs and participles. Strauss and Corbin (1990) stated that it is important that the researcher also directs his concern towards the failed actions. Thus, failed actions and interactions have the same importance as successful ones. These actions or

interactions have their consequences, which are one of the paradigm's components. Tracing these consequences plays an essential role in formulating the grounded theory. Consequences are the results of action and interaction undertaken to respond to a phenomenon. Strauss and Corbin (1990) stated that the consequences at one point of time might become part of conditions in another.

Finally, axial coding adds depth and structures to the huge mass of data that has been organised in the open coding. It introduced the paradigm with its component as an effective analytical instrument for connecting structures with process. These analytical procedures introduce important advantages for theory formulation by relating and connecting categories with each other.

#### **4.3.6.1.3 Selective coding**

Having saturated the categories by the substantive codes that have been generated from open coding, and the link between categories and subcategories have been completed during the axial coding, the researcher then uses the selective coding technique to integrate the major categories to construct a grounded theory (Strauss and Corbin, 1998). Strauss and Corbin (1998, p.143) stated:

*“Selective coding is the process of integrating and refining categories”.*

The essential idea is to weave the fractured data back together again and move the coding process from a descriptive level to theoretical level so as to develop a theme around which the emerged substantive concepts are integrated for theory generation (Glaser, 1998; Strauss & Corbin, 1998; Schreiber, 2001). Such coding process is referred as selective or theoretical coding, which involves hypothesizing the core category, and systematically relating this category to all other conceptual categories for theoretical integration. It is from selective coding that the core category is evolved (Glaser, 1992; Strauss & Corbin, 1998; Kendall, 1999).

Selective coding conceptualizes how the substantive codes will relate to each other as interrelated, multivariate hypotheses in accounting for resolving the main concern of the study. It is therefore more directed and, typically, more conceptual than open coding. When selective coding is started, it is the time to cease open coding (Glaser, 1998). In selective coding, the researcher begins to analyze the open codes or categories in terms of their types, dimensions, properties, consequences, and relationships to others. This conceptual elaboration gives theoretical order to the categories, and thus

leads to a theory (Glaser & Strauss, 1967; Chenitz & Swanson 1986). To facilitate selective coding, the use of typology or conditional matrix, which is an analytic diagram that maps the range of conditions and consequences related to the phenomenon or category, helps to sensitize the researcher about the range of conditions conceivably affecting the phenomenon of interest and hypothetical consequences (Glaser, 1978; Struass & Corbin, 1998).

Selective coding helps the researcher to maintain the conceptual level in writing about concepts and their interrelations. It is a process of integrating and refining categories. It is indeed the second level of generalization that brings all the data, codes, categories and core category into a seamless, integrated grounded theory (Strauss & Corbing, 1998; Charmaz, 2000; Schreiber, 2001).

However, selective process involves three main steps. Firstly, the researcher identifies the focal core category by writing down a descriptive story about the central phenomenon that has emerged from the axial coding process. The researcher then analyses the story in order to give the central phenomenon an abstract name that encompasses all that has been described in the story. The name could be that of any of the categories already identified or one, which the researcher creates. The new name is then recognised as the focal core category. Secondly, the researcher identifies the properties and dimensions of the focal core category in order to relate all other categories evolved from that axial coding in a systematic manner to the focal core category using a paradigm to construct a theoretical framework of interrelated concepts. This framework shows the relationships between the focal core category, its conditioning and intervening concepts, context, consequences and action/interaction strategies taken to manage it (Strauss and Corbin, 1990). Thirdly, the researcher checks the validity of the relationships against the data in order to determine whether they fit the data or not. In case these do not fit the data the researcher uses the discriminate sampling associated with selective coding for choosing sites, incidents, texts and individuals in order to provide maximum opportunity of verifying the story line and the relationships between categories. In discriminate sampling the researcher continues to gather further examples of the non-fit relationships, identify the reasons for the lack of fit and fill in categories that may need refinement and/or development until the relationships are validated by the data.

In summary it is important to understand that the Strauss and Corbin paradigm will enable the researcher to relate labels to accounting information in terms of causal

conditions, intervening conditions, context, action/interaction strategies, and consequences. Strauss and Corbin (1998, p.295) stated:

*“Students should stay within the general guidelines outlined in this book and use the procedures and techniques flexibly according to their abilities and the realities of their studies”.*

However, Strauss and Corbin (1998, p.288) cautioned that if the researcher's intent is to develop dense and tightly integrated theory, then he cannot shorten the procedures provided by the grounded theory. Bearing these considerations in mind, the researcher of this research study will fully follow the procedures and techniques provided by Strauss and Corbin (1990).

#### 4.3.6.2 Memo writing

Memos are the process for documenting findings in a grounded theory investigation. They are prepared as the study progresses and follow each of the coding sessions of the raw data (Strauss and Corbin, 1990). Memos enable researchers to capture thoughts and ideas about theoretical sampling and other issues that derive from the research process at each stage. Also, it gives researchers freedom to document the observed relationships among concepts as well as the analysis during the open, axial, and selective coding procedures. Furthermore, researchers can use memos for documenting directions and reminders. They may vary in form, efficiency and extension over time and also by the type of coding. They begin when first coding data, and continue to the very end of the study. Memos further reflect the process of constant comparison across concepts and codes. It allows the researcher to think theoretically and helps to generate open questions leading to further coding and data collection, which saturate and develop the categories (Glaser & Strauss, 1967; Glaser, 1978; Corbin & Strauss, 1990). Moreover, memos also provides the researcher with a system that keeps track of all the categories, properties, hypotheses, and generative questions that evolve from the coding process. If the researcher omits memos and moves directly from coding to writing, a great deal of conceptual detail is lost or left undeveloped (Corbin & Strauss, 1990). Glaser (1978, p.83) stated:

*“Memos are the theorising write-up of ideas about codes and their relationships as they strike the analyst while coding. Memos lead, naturally, to abstraction or ideas. Memoing is a constant process that begins when first coding data, and continues through reading memos or literature, sorting and writing papers or monograph to*

*the very end. Memo-writing continually captures the "frontier of the analyst's thinking" as he goes through his data, codes, sorts and writes.... The basic goals in memoing are to theoretically develop ideas (codes), with complete freedom into a memo fund, that is highly sortable".*

Parker and Roffey (1997, p. 229) stated:

*"Theoretical memos are written theoretical questions, coding summaries, and hypotheses, used to monitor and stimulate coding, and as a basis for theory integration".*

In short, memos help the researcher: (a) to grapple with ideas about the data, (b) to set an analytic course, (c) to refine categories, (d) to define the relationship among various categories, and (e) to gain a sense of confidence and competence in analyzing data (Charmaz, 2000).

#### 4.3.6.3 Resulting theory

The objective of the grounded theory approach is to develop theory from the data, rather than fitting the data into a theoretical model. The outcome of the grounded theory process is presented in two levels: substantive theory and formal theory. Strauss and Corbin (1990, p.174) stated:

*"Any substantive theory evolves from the study of a phenomenon situated in one particular situational context.... A formal theory, on the other hand, emerges from a study of a phenomenon examined under many different types of situations".*

Strauss and Corbin (1990) suggested that in order to develop a substantive theory into a formal theory, researchers could do that by studying the phenomenon in other situations. Thus, the researcher of this research study will investigate the phenomenon in different sites in order to develop substantive theories and then develop them into formal theories (hypotheses). These hypotheses can be tested in larger scale studies in the future for purposes of generalisation.

### 4.4 Research method

#### 4.4.1 Introduction

As discussed in the previous section, the grounded theory methodology of the qualitative paradigm was adopted in his study to allow the researcher to explore in-depth accounting information in micro manufacturing enterprises in Libya. This

methodology will guide the collection and analysis of data in an open and flexible manner, which will permit the researcher to uncover and explore in-depth the phenomenon under investigation. In this section, the researcher discusses the research methods, which will be used in this research study. It was decided to adopt the case study method as the research method for this research study.

The next sub-sections will present discussions to reflect the justification for using such method.

#### 4.4.2 Case study method

There are three basic empirical methods used in accounting research: experimental, survey and case research methods. The most common method used in generating primary data in accounting was through surveys until recently when the case study research method has made progress in gaining acceptance as a valuable research method (Brownell, 1995). “It was realised that surveys can give only a very superficial view of management accounting practice and that more intensive fieldwork and/or case studies were required” (Scapens, 1990, p.259). Ryan *et al* (1992) noted that in the literature, the terms case study and fieldwork are both used to refer to studies of accounting in its practical setting. Remenyi *et al*, (1989, p. 167) stated:

*“Although attempts are some times made to ascertain attitudes by means of questionnaires, the results are often unsatisfactory as one can not do justice to the complexity of an attitude by ticking Yes or No or rating 1 to 5. Such methods of evidence collection that reduce responses to a scale of binary choices lose much of the richness of the circumstances or context being studied”.*

The association between qualitative methodology and case study method is very well defined. Kaplan (1986, p. 447) concluded that “Case study tend to be used more for hypothesis generating than for hypothesis testing”. The case study based approach to research provides a solid empirical foundation for the collection of relevant and qualitative data in developing theory about the real work. Voss *et al*, (2002) stated that case research has consistently been one of the most powerful research methods in the development of new theory. Burns and Kaplan (1987, p. 2) stated:

*“Fieldwork is more expensive, time-consuming, frustrating than theoretical studies, but that’s the price of developing knowledge about the real world”.*

The arguments for use of case study research method is that it facilitates the generation of theory based on empirical evidence furnishing strengths like empirical validity, testability, relevance and novelty rather than the testing of preconceived theories. Eisenhardt (1989, p.548) noted that,

*“Given the strengths of this theory building approach and its independence from prior literature or past empirical observation, it is particularly well suited to new research areas or research areas for which existing theory seems inadequate”.*

Van de Van (1992) and Yin (1989) cited by Swartz and Boaden (1997) argue that case studies are especially appropriate within grounded theory methodology where real-life contexts are being investigated over a period of time.

Case studies provide exploration of accounting practices of real people in a work place and explanation of management accounting theories (Scapens, 1990, p.278). Ryan et al (1992, p.113) stated,

*“Case studies offer us the possibility of understanding the nature of accounting in practice; both in terms of techniques, procedures, systems, etc. Which are used and the way in which they are used.”*

Case studies allow data to be collected from participants in the working environments, to capture data rich in detail about accounting information and offer the researcher the flexibility to explore issues raised by participants. Drury and Tayles (1995, p.278) stated,

*“There is now a need for case study research that explores in much greater depth how accounting information is used and whether or not accountants and managers understand the weaknesses of conventional systems by making appropriate adjustments to the reported results”.*

The use of case study methods in accounting and management research has increased dramatically in recent years especially in accounting and management research (Parker and Roffey, 1997). Johnson and Kaplan (1987) pointed out that Case studies could help to bridge the gap between management accounting theory and practice. Parker and Roffey (1997) explore the important role that case studies can play in developing grounded theory and how grounded theory approach can deliver many aims of case study researchers.

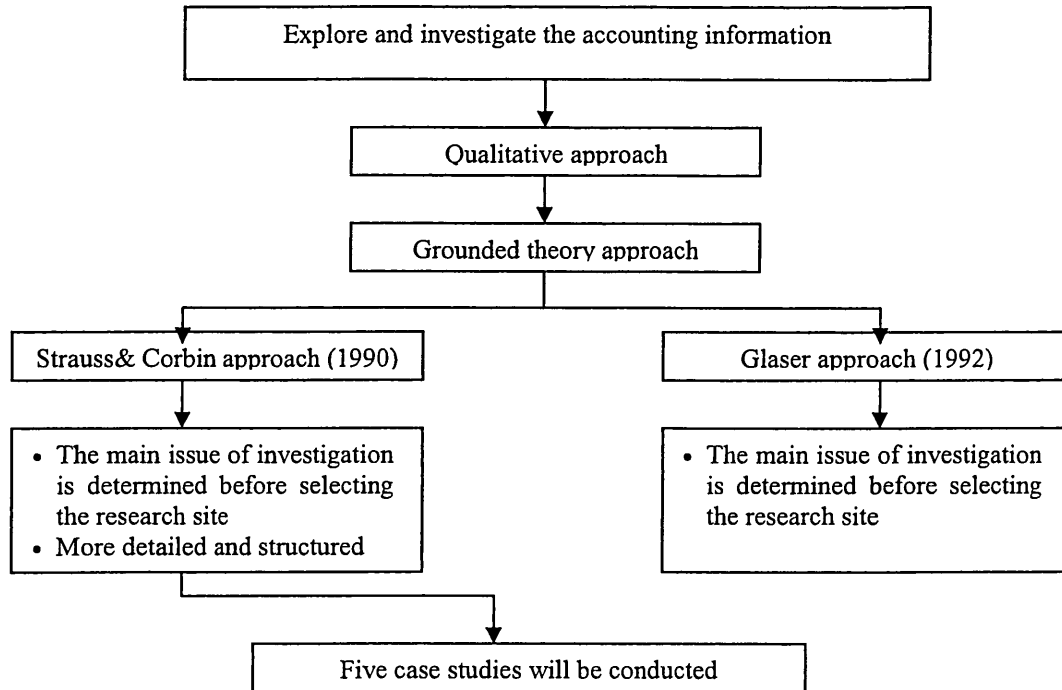
The case study method is applicable when examining contemporary events (Yin, 1994), which are relevant to the study and the phenomenon under investigation that have been not explored sufficiently. The case studies will be useful to understand the

main phenomenon when there is little prior research on the research subject. Ryan *et al* (1992) argued that the case study method is particularly appropriate in areas where theory is not developed. As was discussed earlier, the theory about micro business has not been yet well developed and there is relatively little literature on accounting information in micro manufacturing enterprises. This research project aims to explore the current practice of accounting information in micro manufacturing in Libya, as they exist, and factors affecting this practice. This research study is the first attempt of its type to explore this substantive topic in Libya where there was little information available. The case study approach was chosen for these reasons. Firstly, the case study method allows the researcher to have a considerable degree of flexibility and motivates the researcher to acquire sufficient scope regarding the quantity of data to be collected, the collection procedures and the sources of information to be used (Yin, 1994). Secondly, exploratory studies need intensive studies taking into account all their aspects and providing detailed case description and analysis. Thirdly, exploratory studies need direct contact with the organisation in order to provide more reliable knowledge. The opportunities of exploring and explanting offered by case study approach are unlikely available if a quantitative approach is adopted. Finally, as was discussed in the qualitative methodology section, researchers should be as close as possible to the phenomena and the people who have experience with the research issues. That must assume a role to get close enough to social subjects to be able to discover, interpret and understand the Owner manager's generation and use of accounting information and build a picture based on their ideas. For this reason, data will be collected from participants in their own environments using multiple methods of data collection. This will facilitate a grounded understanding of accounting information in micro manufacturing enterprises in Libya. Case studies allow data to be collected from participants in the working environments, to capture data rich in detail about accounting information and offer the researcher the flexibility to explore issues raised by participants.

For the above reasons, it was decided to adopt the case study method as the most appropriate research method to achieve the objectives of this research study. Figure 4-2 presents an overview of the study methodology.



Figure (4-2): Overview of the study methodology



#### 4.4.2.1 Case studies definition and categories

Yin (1989, p.23) defines a case study as:

*"An empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of data are used".*

Hartley (1994, p. 208-9) stated:

*"A case study is a detailed investigation, often with data collected over a period of time, of one or more organisations, or groups within organisations, with a view to providing an analysis of the context and processes involved in the phenomena under study".*

Hartley (1994) argued that a case study approach is not a method but rather a research strategy. Eisenhardt (1989) argued that case study is a research strategy, which focuses on understanding the dynamics present within single settings.

There are several types of case studies, which can be used for accounting research (Scapens, 1990; Otley and Berry, 1994). Case studies can be used to provide description of management accounting practice, to explore the application of new procedures, to explain the determinations of existing practice, and even to illustrate the exploitative nature of accounting. According to Ferreira and Merchant (1992), Spicer (1992) case

studies can be classified into major categories based on the objective of the research. The first category includes descriptive and exploratory purposes, which seek to describe and explore reasons for particular accounting practices. They enable the researcher to generate hypotheses about the reasons for particular practices (Ryan, et al, 1992). The research objective is to produce generalisation about accounting practices (Scapens, 1990). The majority of case studies go beyond the descriptive purpose to the evolving of hypotheses and assumptions about observed practices. The second category is that the informative and explanatory studies. This type of case study is used directly to explain the reasons for observed practices. The focus of the research is on a specific case. Theory is used in order to understand and explain specifics, rather than offer generalisations. The research objective is to generate theories, which offer valid explanations.

The distinctions between exploratory and explanatory case studies, it is not quite clear (Ryan *et al*, 1992; Ferreira and Merchant, 1992 and Spicer, 1992). The interrelationship between exploratory and explanatory studies makes the task of distinction difficult. Some exploratory studies may generate hypotheses and ideas that may be used to form the basis for an explanation of observed practices.

An exploratory case study usually takes place when the knowledge is insufficient to allow researchers to develop hypotheses that can be tested using deductive approach. Sekaran (2000) stated that exploratory studies are used when not much is known about the situation, or when no information is available on how similar problems or research issues have been solved in the past. The exploratory case studies type suited to the exploratory nature of this study as well as to the adopted grounded theory methodology, because it will help the researcher in the process of hypotheses generation. Scapens (1990, p.265) stated,

*“Exploratory case studies can be used to explore the reasons for particular accounting practices. They enable the researcher to generate hypotheses about the reasons for particular practices. These hypotheses can be tested subsequently in larger scale studies”.*

#### 4.4.2.2 Strengths and weaknesses of case studies

Researchers need to be aware of both the advantages and disadvantages of the case study approach. This awareness can guide researchers to maximize the strengths and avoid the weaknesses as far as possible.

#### 4.4.2.2.1 Strengths of case studies

There several advantages and strengths in adopting the case study approach. The case study approach enables a researcher to observe the very detailed events of the study in its natural setting. It represents a close and direct contact with the actual reality. This approach provides researchers with the ability to observe events, incidents and happenings as they occur in their natural environment (Kerlinger, 1973 and Yin, 1994). It can continue over a period of time, which allows the researcher to maintain continuous trend of observations. A longer involvement allows incidents, happenings and events to be traced over time (Ryan *et al*, 1992; Ferreira and Merchant, 1992 and Yin, 1994). Also, a case study approach is to provide an effective verification environment. Therefore, data and emerging findings can be continuously crosschecked and refined to increases their reliability (Mckinnon, 1988; Yin, 1994 and Ryan *et al*, 1992). Eisenhardt (1989, p. 546) stated that theory developed from case study research is likely to have important strengths, such as it generates novel theory, the emergent theory is likely to be testable, and the resultant theory is likely to be empirically valid, which arise from the intimate linkage with the empirical evidence. In addition, the case study approach allows the use of variety data collection methods, which improves the research reliability. Research methods such as interviews, documentation and observation can be combined together to form reliable findings (Ferreira and Merchant, 1992).

#### 4.4.2.2.2 Weaknesses of case studies

In spite of such strengths of the case study method, there are also weaknesses and limitations. Weaknesses of the case studies need to be taken in account in order that can be minimised. There are several weaknesses that can be identified. First, the case study method it does not furnish the basis for scientific generalisation. In other words, the findings or the conclusions derived from the case studies cannot be generalised to the whole population. This limitation applies to the both the nature of the research method and the nature of the adopted qualitative methodology. The case study findings are generated from a single or even a limited number of cases, which, accordingly, cannot represent the whole population. Also, the findings are merely hypotheses, which can be tested subsequently in studies that are based on large samples. It is obvious that case

studies' main appropriateness is located in areas where theory is not very well developed. Such case studies represent an exploratory tool, which can be used as a precursor to deductive approach where the hypotheses are scientifically tested at a later stage. Ryan et al (1992); Yin (1987); Strauss and Corbin (1998) concluded that these hypotheses could be generalised if they are verified deductively. However, even if the case study method cannot provide generalisation, it is still one source of development not only in management accounting practices but also in the whole social science field (Ferreira and Merchant, 1992). Second, biased views and dubious evidence can influence the degree of rigour applicable in a case study situation. The researcher needs to adopt certain techniques in order to increase research objectivity. Constant comparisons, multiple sources of evidences, permanent evaluation and self-assessment, grounded theory techniques and procedures are some of the techniques used to increase the objectivity of the research (McKinnon, 1988; Strauss and Corbin, 1998). Thirdly, the researcher needs to acquire extra competence and skills because the data collection procedures are not routinised (Yin, 1994; Voss *et al*, 2002). Finally, the danger of insufficient cooperation from the respondents affects the efficiency of data collected. In conducting a case study approach, researchers need to acquire good access and full cooperation on the one side, and personal and scientific competence on the other (Ferreira and Merchant, 1992; Ryan et al, 1992).

#### 4.4.2.3 Validity and reliability of case studies

Reliability is concerned with the question of whether the results of a study are repeatable (Bryman, 2001). The idea of reliability is very close to another criterion of research: replication or replicability (Bryman, 20001). McKinnon (1988) defined reliability in general terms as it is concerned with the issue of whether researchers are obtaining data on which they can rely. Kirk and Miller (1986, p.20) pointed out that reliability might be impaired if the data are not independent of the accidental circumstances under which they were collected. On the other hand, McKinnon (1988) defined validity in general terms as it is concerned with the issue of whether researchers are studying the phenomenon they purport to be studying. Validity is the most important criterion of research, it is concerned with the integrity of the conclusions that that are generated from a piece of research (Bryman, 2001).

There are four categories of threats to validity and reliability in case studies (McKinnon, 1988). These include researcher-caused effects, researcher bias, data access

limitations, and complexities and limitations of the human mind and these are discussed below.

#### 4.4.2.3.1 Researcher caused effects

The observer-caused effects are that the presence of a researcher may cause the participants to change their behaviour and conversations and therefore “the researcher is not observing the natural setting” (McKinnon, 1988, p.37). Like other qualitative methods, case method is concerned basically with the researcher’s interpretation of management’s signification of events, information and reality – that is, it depends on the researchers’ perceptions about management’s meanings, not on some ‘objective reality’. Ferreira and Merchant (1992, p.26) suggested:

*“Field researchers can study only organisations that are willing to be studies, and these organisations may be unique in that they are proud of what they have accomplished, or they may have problems and are hoping for some input from an informed outsider. The data collection methods introduce more biases, as interviews are subject to both response and interpretation biases, and even quiet observations can affect the behaviours being studied”.*

#### 4.4.2.3.2 Researcher bias

There is a problem with observer bias, McKinnon (1988, p.38) notes that “each researcher comes complete with a unique set of biases which mean that the way in which an event is seen, interpreted and recorded may differ from one observer to another”. Simon and Burstein (1985, p.224) identified researcher bias as the tendency to observe the phenomenon in a way that differs from the true observation in some consistent manner. McKinnon (1988) pointed out that it is what the researchers see and hear that is of concern and that is the distorted effects of the researcher’s selective perception and interpretation. McKinnon (1988, p.38) stated,

*“The nature of observer bias is such that it is a problem of management rather than elimination. Political and philosophical views, background experiences, etc., are inextricable parts of an individual’s psychological make-up. The individual cannot be separated from them or ‘de-biased’ prior to his assuming the role of observer. Consequently, the approach to overcoming observer bias must proceed on an acceptance of its existence, and be directed towards what actions the researcher can take to protect the collection and analysis of data from the contaminating effect of their own bias”.*

#### 4.4.2.3.3 Data access limitations

McKinnon (1988, p.38) identified three main data access limitations the case study researchers. First, researchers may be on site for only a limited period of time and therefore do not have the opportunities to observe the entire concept of the phenomenon under study. Second, the timing of the site visit may not be perfect for researcher to observe the real life events. Third, data access restrictions may be imposed on researchers during the site visits. In other words, the researcher may be faced with the prospect of being barred from witnessing specific aspects of the process relating to the phenomenon under investigation.

#### 4.4.2.3.4 Complexities and limitations of the human mind

McKinnon (1988) argued that the complexities and limitations of the human mind may create two types of threats to validity and reliability. First, the subjects might consciously provide misleading data to the researcher. Second, although subjects might be trying to provide honest and accurate data to the researcher, natural human tendencies and fallibilities may affect their statements.

The above threats to validity and reliability identified are of importance in case study research and initiatives must be taken during the research design to eliminate or manage the limitations.

#### 4.4.2.4 Single vs multiple case study research

Case studies can encompass either single or multiple cases and various levels of analysis (Yin, 1984). Eisenhardt (1991) argues that the appropriate number of cases depends on existing knowledge, the topic and extent to which further information can be obtained from additional case studies. The choice between single and multiple case designs for this research study was governed by the consideration of the risk with single case studies. Brownell (1995, p.66) warned case study researchers about the key risk with single case study when he stated, “the prospect that a rival explanation of what is found in the study is not uncovered and that study suffers, as a result, from an internal validity weakness”. In support of that view, Ryan *et al* (1992) stated that each individual case study alone cannot allow hypotheses to emerge because its objective is to explain the particular circumstances of the case. Thus, depending on only one single case study can be unreliable. A multiple case study design can guard against the risk of any

possible ignoring of any rival explanation. By using multiple cases, any rival or alternative hypotheses are given an opportunity to emerge. Eisenhardt (1991, p.620) suggests, "Multiple-cases are a powerful means to create theory because they permit replication and extension among individual cases". Furthermore, multiple-cases together with multi-method provide evidence to permit the generalisability of results. Multiple-cases also permit the opportunities to analyse and compare to identify similarities and differences between cases providing the basis for general theory formulation. Spicer (1992, p.11) argued that in multiple case studies, which involve a number of enterprises, data would be analysed for each single case, with patterns compared across cases. The findings drawn are related to all enterprises. Brownell (1995, p.66) identified the following advantages of multiple case studies, "The major strength of multiple case studies is the capacity to incorporate both literal and systematic replication with the design". The in-depth nature of grounded theory made it impractical to undertake more than a small number of case studies (Goddard, 2004). Abdul-Rahman and Goddard (1998) cited by Goddard (2004) pointed out that previous studies, which used the grounded theory methodology, suggest that the use of more than one case study does enable comparisons to be made and this allows a more rigorous theory to be developed.

Therefore, multiple case studies are needed for generating hypotheses capable of explaining all the observations, which have been made in the individual cases. Ryan *et al* (1992) referred to such explanation as theoretical generalisation because it attempts to generalise hypotheses so that they explain the observations, which have been made. Ryan *et al* (1992, p.117) argued that the multiple case studies approach requires that researchers look for theoretical generalisations rather than looking for statistical generalisations, which are concerned with statements about statistical events in a certain population. Also, the conduct of multiple case studies requires more time, which accordingly will increase the validity and reliability of the study (Brownell, 1995). For these reasons, the multiple case study design was adopted for this research study.

#### 4.4.2.5 Data collection methods

In undertaking case studies, different methods can be used in collecting and analysing data. Case studies may include several data collection methods such as interviews, observations and document analysis (Eisenhardt, 1989). These are direct contact methods, which need to consider each action, reaction and interaction that may

evolve from the phenomenon under investigation (Yin, 1994). A description of these methods provided below.

#### 4.4.2.5.1 Interviews

The most widely used qualitative method in organizational research is the interview method. Interview in qualitative research is most appropriate where exploratory work required (King, 1994). It is a highly flexible method, it can be used almost anywhere and it is capable of producing data of great depth (King, 1994).

Kvale (1996, p. 174) defines the interviews as:

*“an interview, whose purpose is to gather descriptions of the meaning of the described phenomena”.*

The interview method has three main features that distinguish it from other methods: it is a highly flexible method; it can be used almost anywhere; and it produces data of great depth (King, 1994). The goal of a qualitative research interview is to see the phenomena from the perspective of the interviewee, and to understand how and why he or she comes to have this particular perspective. Sarantakos (1998) identified the following advantages of interviewing as a research method:

- It provides researchers with a means of flexibility, which enables them to deal with several diverse situations.
- It results in a high response rate.
- It is easy to administer.
- It enables the researcher to observe non-verbal behaviour.
- It is perceived as a co-operative venture rather than a one-sided exercise.
- It enables the researcher to control the conditions under which the questions are answered, and to channel the reactions and comments to the researcher. There is an opportunity to correct any misunderstanding by respondents.
- It allows the interviewer to control the order of the questions.
- It provides the interviewer with the opportunity to record spontaneous answers.
- It allows the interviewer to be sure of the identity of the respondent.
- It guarantees the completeness of the interview.
- It allows the interviewer control over the time, date, and place of the interview.



- It enables interviewers to use more complex questions because their presence can assist in clarifying any question.
- It permits in-depth investigations.

Without doubt, there is no one-research method, which has advantages without having its disadvantages. Interview method has several disadvantages. Sarantakos (1998) pointed out that:

- The interviews procedures are costly and time-consuming.
- It is affected by the possible bias associated by the interviewer.
- It is more inconvenient than other methods.
- It offers respondents less anonymity.
- It is less effective than other methods when sensitive issues are discussed.

A key feature of the qualitative research interview method is the nature of the relationship between the interviewer and the interviewee. It has been suggested that this relationship may bias and affect the research findings (Gilbert, 1993). There are several sources of bias or error arising from carrying out an interview. Saunders et al (1997) described three types of biases to be considered when conducting interviews. These are interviewer bias, interviewee or response bias and sample bias.

- Interviewer bias is related to the interviewer's comments, tone or verbal behaviour during the interview that may affect the interviewee response.
- Interviewee bias occurs when an interviewee gives biased answers either to conceal some facts or to please the interviewer.
- Sample bias may occur as a result of bias in the individuals or organisational participants who agree to be interviewed. These may not have the information the researcher is looking for to answer the research question(s) and to achieve the research objectives.

However, the interview has a wide variety of forms and multiplicity of uses. The most common type of interviewing is individual, face-to-face verbal interchange. An interview can be structured or unstructured (Sekaran, 1992).

The researcher will adopt the unstructured interview. The rationale for choosing this type of interview is that the unstructured interview becomes the most common form of interview employed in qualitative studies (Sarantakos, 1998, p.177). When using unstructured interviews, case study researchers enter the interview setting without planned detailed questions that they will be asking the participant. The wording of the

questions, the order of questions and the interview schedule are not restricted. Brownell (1995) contended that the main advantage of the unstructured interview is that it allows the respondents to locate themselves along an important continuum, that extending from pure respondent in the sense of survey research, to key informant. This person not only can provide the case studies researcher with the specific, question-relevant feedback, but, if their interest and curiosity is aroused, may also be able to provide insightful commentary on other evidence already gathered and even facilitate progress down avenues of further potential evidence (Brownell, 1995, p.71). On the other hand, structured interviews are applicable when researchers know exactly what information is needed and have predetermined questions that will be posed to the respondents (Sekaran, 1992, p.190). The difficulty of the structured interview is that its very structure is contagious and may cause the respondent to be less expansive and, possibly, less forthcoming.

#### 4.4.2.5.2 Documentary

In addition to the above method, researchers may use documentation as a supplementary data collection method to interviewing. Documentation means that researchers inspect the organisation's documents in order to find other evidence. Brownell (1995) suggested that the case study researcher should plan for the documentary evidence to serve a role of convergent validation that is to assist in the establishment of construct validity of phenomena which are also planned to be assessed by other data.

#### 4.4.2.5.3 Observation

Observation is probably the collection method with which qualitative research is most closely associated (Bryman, 1993). Observation is the application of the sense of vision to gather information about people in their natural work environment and to record their behaviour (Sekaran, 1992). Brownell (1995) argued that in the case of observation, it is the researchers' own written record of what was seen and what it meant that is all that is taken away. Through participant observation, it is possible to describe what goes on, who or what is involved, when and where things happen and how they occur (Jorgensen, 1989). Observation is especially appropriate for exploratory studies, descriptive studies and studies aimed at gathering theoretical interpretation. Therefore, knowing what to record must be coupled with having the ability to record it

in a reliable and accurate way for valuable data results. Brownell (1995) regarded observational data as important for the following reasons:

- They enable the study of naturally occurring phenomena in their natural setting.
- They can provide data on phenomena, which cannot be the subject of interview or questionnaire.
- If unobtrusive, they overcome the problems attendant with having subjects aware they are being studied.
- They describe what people actually do, not what they say.

Sarantakos (1998) suggested the following advantages of the observation method:

- It is effective even when there is a lack of co-operation and requires less complicated procedures.
- It consumes less time in subject selection, deals with the natural reality and investigates events as they evolve.
- It collects first-hand information independently, costs less and offers a wider range of information.

On the other hand, some of the most significant limitations recognised by Sarantakos (1998) are as follows:

- Observation may be ineffective when large groups or extensive events are involved.
- It provides information only about present and predictable events.
- It is unable to provide information related to frequency of behaviour.
- It is inapplicable for studying opinions or attitudes directly and inadequate for studying sensitive issues such as sexual behaviour and family violence.
- It requires more effort and consumes more time.
- It makes the observer a part of what is being observed and offers no control over the observer's bias, attitudes and opinions.

However, triangulation of data collection methods (interviews, observations and document analysis) has many advantages both for the research credibility and the researcher's ability to find the data from different various methods. Whenever one method cannot provide suitable data, the researcher could use other methods, which are

able to provide such data (Ferreira and Merchant, 1992; Ryan *et al*, 1992 and Yin, 1994; Voss *et al*, 2002).

#### 4.4.2.6 Research design

Crosthwaite *et al*, (1997) stated that the case studies weaknesses and problems could be largely overcome through a good research design, which includes a stage of theory development and application. Research design necessarily links the data to conclusions (Yin 1989). Poor designs leave the quality of the research and general validity of the conclusions open to challenge. Therefore, the critical design phase must be well conducted and adequately specified (Eisenhardt 1991, Yin 1993). Qualitative researchers undertaking case studies on individuals and small groups place much importance on prior preparation, rather than simply allowing the case to speak for itself (Stake 1995, Harper 1992). The key to establishing a good research design is to follow a logical process of linking data to objectives, conclusions to data and, thereby, linking objectives to conclusions.

However, there are now sufficient guidelines, from the different perspectives of Yin (1989, 2003), Eisenhardt (1991), Stake (1995) and others, for getting the design right. Yin (1989, 2003) identifies five critical steps (elements) of a case study research design; as follows:

1. Presenting a clear and adequate specification of the theoretical issues and, from this, the questions that frame the study.
2. Clearly defining the units of analysis, including possible sub-units if these are warranted
3. Deciding on the appropriate number of cases to explore within the study.
4. Clearly specifying the selection criteria for choosing the case studies.
5. Choosing an appropriate and effective data collection and analysis strategy.
6. Developing appropriate tests to ensure the validity and reliability of the approach taken in conducting the case study.

The next sub-sections will outline these elements.

##### 4.4.2.6.1 The research questions

Stake (1995) argues that the researcher's greatest contribution is in 'working the research questions until they are just right'. He also emphasises the need for issue questions, which conceptually define the case study, and distinguishes these from information and evaluative questions, which may be important, but are not critical to the design phase. Voss *et al*, (2002) stated that the starting point for case research is the research framework and questions. Case study research has been recognised as being particularly good for examining the why, what and how questions (Yin, 1994). Such questions can lead both to theory testing, but more importantly theory development. In theory building research, no matter how inductive the approach, the researcher needs to have a prior view of the general constructs or categories he/she intends to study, and their relationships (Voss *et al*, 2002). So, the researcher's next step in designing case research is the initial research question behind the proposed study.

This research project aims to explore the current practice of accounting information in micro manufacturing enterprises in Libya, as they exist, and factors affecting this practice. In order to achieve this objective, the study will address the following research questions:

1. What is the nature of decisions confronting the micro enterprises in Libya?
2. How does accounting information inform day-to-day decision making in micro enterprises in Libya?
3. What are the sources (internal/external) and ways (formal/informal) in which accounting information is generated?
4. How is the use of accounting information by owner manager in the Libyan micro enterprises influenced by Libyan economic, social and political environment?

#### 4.4.2.6.2 Units of analysis

A common failing is to clearly define and stick to a unit of analysis that is appropriate to exploring the theoretical issues underpinning the research (Yin 1989). Selection of the appropriate unit of analysis results from accurately specifying the primary research question. Patton (1987, p.51) stated that the main factor in selecting and making decisions about the appropriate site of the case study is to decide "what unit it is that you want to be able to say something about". This unit of analysis in multiple case studies should be similar in order to allow comparisons and to identify the similarities and differences. Yin (1989) stated that the key to determining the

appropriate unit of analysis remains the research questions defined for the study. As this research study is interested in the accounting information in the micro manufacturing enterprises in the Libya, micro enterprises in the manufacturing sector were selected as the site for the cases.

#### 4.4.2.6.3 Site Selection

A number of criteria have been developed for the site selection, including: Firstly, enterprises should satisfy the European Commission definition of a micro manufacturing enterprise namely less than ten employees. Secondly, enterprises should be located in Benghazi, which is within the daily travelling distance of the researcher. In other words, case-enterprises had to be located close to where the researcher will be based during the empirical work to enable him to visit them on a daily basis for extended periods of time. Thirdly, enterprises should be in business for a minimum of three years. By stipulating that case-enterprise had to have been in business for a minimum of three years, the researcher would have access to participants' understanding of the ways in which, over time, the case-enterprises dealt with accounting information. Fourthly, owner manager should express a willingness to be interviewed and to host the researcher for four weeks. Fifthly, an enterprise should be owned and managed by only one person. As this research study is aiming at investigating accounting information in micro enterprises with only less than ten employees, it is necessary to include those enterprises with only one decision-maker (owner manager) in the case studies to explore the relationship between the owner manager and this particular type of information.

#### 4.4.2.6.4 Number of cases

Unlike statistical sampling methods there is no single rule concerning the minimum number of cases to be selected for a given research project. Easterby-Smith *et al* (1993) pointed out that in the situation where in-depth investigation is conducted to develop a detailed understanding of a social phenomenon, the number of cases involved is significantly less than when probabilistic sampling is used. However, Yin (1994) stated that in multiple case designs, it is not possible to specify with any rigour how many cases should be incorporated. Thus, he suggested that the choice is arbitrary and the researcher may elect more or less cases, but will do so subjectively. However, Eisenhardt (1989, p. 545) stated:

*“While there is no ideal number of cases, a number between 4 and 10 cases usually works well. With fewer than 4 cases, it is often difficult to generate theory with much complexity, and its empirical grounding is likely to be unconvincing unless the case has several mini-cases within it. With more than 10 cases, it quickly becomes difficult to cope with the complexity and volume of the data”.*

In this research the plan was to choose 7 micro manufacturing enterprises as an initial sample. This number was decided upon:

- The choice of 7 cases is between 4 and 10 cases recommended by Eisenhardt (1989).
- The access to more than that number of micro enterprises was expected to be difficult.
- The researcher’s time and money limitations.

This study was difficult to undertake due to respondents' skepticism of the motives of the research. The owner managers will be skeptical that the information would be used against them and then they will refuse to co-operate on the basis of lack of trust.

Foddy (1993, p 51) stated, “If we as researchers want to obtain good data it would be better that the persons we are interviewing trust us enough to believe that we will not use the data against them”. Therefore, in order to establish trust and confidence, the researcher used his own contacts and also introduction from friends and relatives to contact the owner managers of micro manufacturing enterprises located within his daily traveling distance after ensuring that their enterprises met the size, ownership and age criteria. Advantage was taken of the willingness of the owner manager of micro manufacturing enterprises in Benghazi to co-operate. A total five from eleven owner managers spoke frankly and provided opportunities for hosting the case studies. Therefore, it was decided that using five cases would be sufficient for ensuring that a detailed understanding of accounting information for planning and control in micro manufacturing enterprises was acquired (the choice of 5 is between 4 and 10 cases recommended by Eisenhardt, 1989). Data will be collected through observation, inspection of documents and interviews.

The enterprises, which expressed their willingness to host the case studies, were Pasta manufacturer, Plastic bags and printing manufacturing, Plastic manufacturer, clothing manufacturing and furniture manufacturer.

With respect to the period of time to be spent in each case, Patton (1987) recommended that the researcher spend a reasonable period of time with each case

enterprise to ensure that data pertinent to understanding the research problem are collected. For the cases of this research study, the reasonable period of time will be affected by a number of considerations including the time and financial resources available, and the extent to which owner managers are willing to host the study.

Taking in account the researcher is limited in terms of time and money, the case studies were conducted in a period of four months in Benghazi where the researcher was located during the empirical work. Thus the limitations of time, distance, the degree of access to the enterprises and financial resources available have affected the selection of the case enterprises.

#### 4.4.2.6.5 Questioning procedures

The researcher focused on research objectives as a strategy for designing unstructured and open questions to try to ensure his objectivity as much as possible. Formal, structured interviews were avoided in this study. Before the interview started a list of general points were listed for guidance and an attempt was made to keep the conversation informal and non-structured in the process of obtaining the information. During the processing of the interviews, the researcher also needs to be prepared to ask follow up questions but still unstructured and open. Respondents were allowed to talk openly about the topic and then the researcher guided the discussion, by asking detailed open questions such as “could you give more explanation, could you give examples, why, how”, and other similar open questions. The main objective of such open questions is to ensure that the researcher would not introduce his experience and knowledge and then influence the research. Examples the of the questions that are used at the beginning of the interviews with all the five micro enterprise’s interviewees are:

1. How do you plan your business activities?
2. How do you control your business activities?
3. Could you describe the information you use in managing and controlling your business and how is such information generated?

These broad interview questions gave the researcher the flexibility, freedom and objectivity to explore the phenomenon in depth. All interviews were tape-recorded and transcribed in full. In addition to the transcriptions, the researcher took notes during the interviews, which increased the effectiveness of data collection and interpretation.



#### 4.4.2.6.6 Single or multiple respondents and viewpoints

In designing case research, when one respondent “*interviewee*” can reliably answer a set of questions, then the research process should focus on identifying these and validating that this person is indeed one. However, when there are questions for which no one person has all the required knowledge, or the events being studied may have different interpretation or viewpoints, how and why questions may be subject to different interpretations. In such cases the researcher may consider interviewing multiple respondents (Voss *et al*, 2002). In addition, it is also important to recognise that respondents “*interviewee*” are prone to subjectivity and biases. Voss *et al*, (2002, p.206) stated:

*“The researcher should be seeking multiple viewpoints particularly where there is likely to be subjectivity and bias”.*

In this research study it was decided that by interviewing multiple respondents, the researcher might enhance the reliability of the data. The interviews were conducted over a period of four months during which 57 interviews were conducted and completed with the owner managers and production manager, salesmen, internal accountants and employees of these enterprises whenever the situation permits. Table (4-3) gives information about the interviews and interviewees.

Table (4-3): Profile of the interviewees and number of interviews conducted in the five cases						
Interviewees	Case 1	Case 2	Case 3	Case 4	Case 5	Total
Owner manager	5	5	4	5	6	25
Production manager	2	3	2	2	4	13
Internal accountant	3	3	4	Not applicable	Not applicable	10
Salesman	2	Not applicable	2	2	Not applicable	6
Employee	No interviews	No interviews	No interviews	1	2	3
<b>Total</b>	<b>12</b>	<b>11</b>	<b>12</b>	<b>10</b>	<b>12</b>	<b>57</b>
Cases 1: Pasta Manufacturing, Enterprise; Cases 2: Plastic Bags and Printing Manufacturing enterprise; Cases 3: Plastic Manufacturing enterprise; Cases 4: Furniture Manufacturing Enterprise; Cases 5: Clothing Manufacturing enterprise						

#### 4.4.2.6.7 Data Analysis

The researcher collected a large quantity of data, which required effective analytical procedures informed by Strauss and Corbin. These analytical procedures begin with the open coding and during the open coding the researcher used sentence-by-

sentence coding, especially for the initial interviews. This detailed procedures is very beneficial in the early stages. The detailed open coding enabled the researcher to obtain initial related points. After each interview was analysed, the main points (concepts) raised by the interviewee in each interview were identified and summarised. Before going to the next interview the researcher obtained guidance from the analysis of the data from the previous interview. The points that were raised in all interviews were compared, relationships between them were noted and related points were grouped and given a label, which usually was the one that seemed most logically suitable for the data, they represented. Once the labels<sup>13</sup> were identified, they were divided into two groups. The first was labels pertaining to the owner managers, enterprises and environmental features. The hypotheses on this group were related to the impact of the owner manager's, enterprises and environmental features on the generation and use of accounting information for planning and controlling the business aspects. The second was labels pertaining to the applied procedures and the accounting information generated and used for the business aspects (product costing and pricing, financial, profit and manufacturing planning; productivity, inventory, quality, cash flow and capital expenditure control and make or buy decisions). Then, labels were discussed in order to identify the hypothetical relationships among them and were related to the main phenomenon using Strauss and Corbin's (1990) paradigm model to begin to develop some hypotheses. According to this model, *causal conditions* create a *phenomenon* within a specific *context*. *Action/interaction* strategies are implemented to manage the phenomenon having regard to the *intervening conditions*, which influence it and to produce desired consequences. Strauss and Corbin (1998, p.142) stated:

*"It is not the notion of conditions, actions/interactions, and consequences that is significant; rather, what is important is discovering the ways that categories relate to each other. The paradigm is just one evidence that analysts can use to think about such relationships. Although helpful, the paradigm never should be used in rigid ways; otherwise, it becomes the end rather than the means".*

The results of this relationship presented in the paradigm suggested some hypotheses. Strauss and Corbin (1990) considered the hypotheses, which were highlighted at the end of each case study as substantive hypotheses. These hypotheses

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<sup>13</sup> Labelling procedures was applied to all groups of related main points that were raised by the interviewees

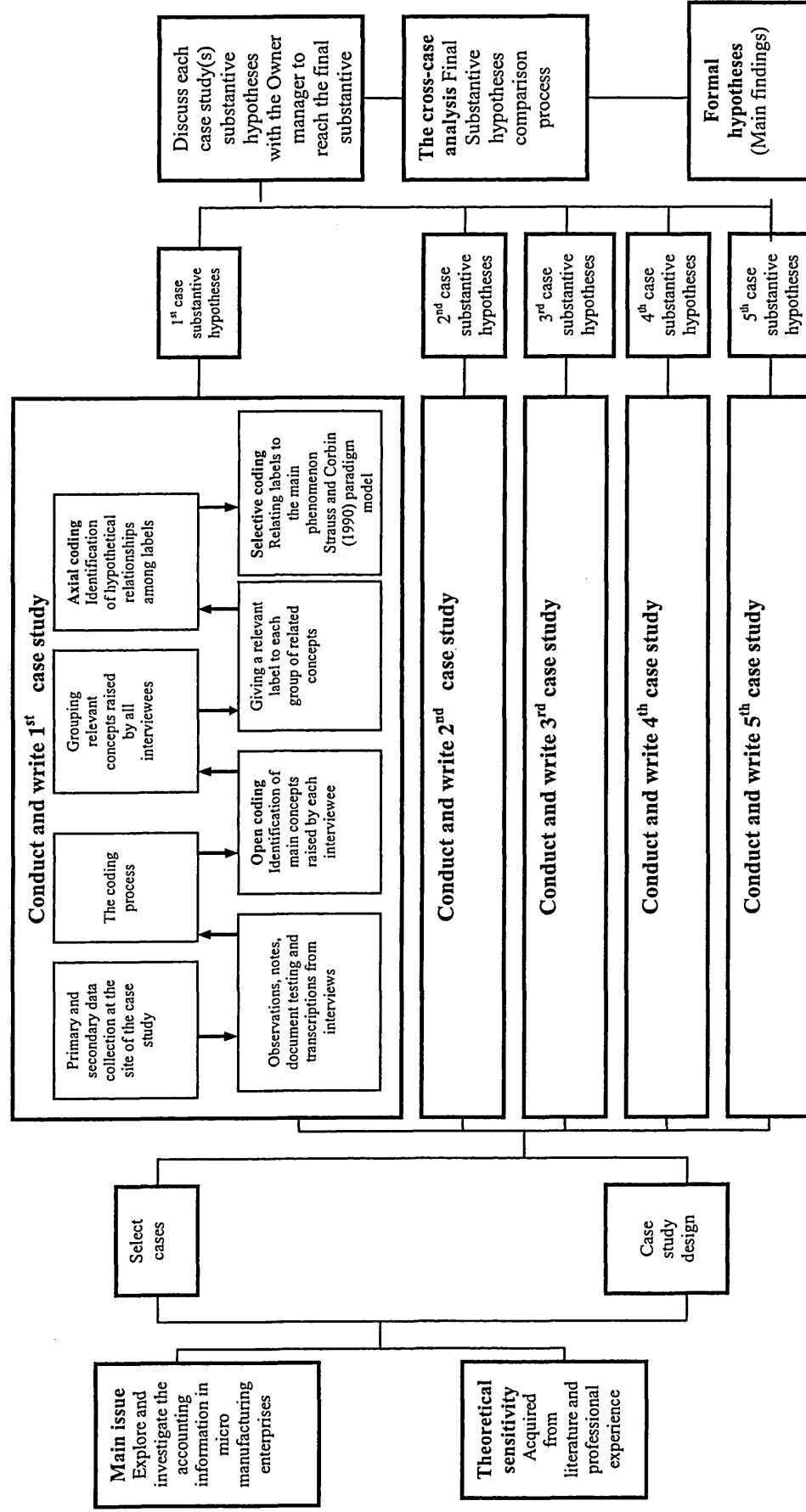
will be discussed with the Owner managers to reach the final substantive hypotheses. Feedback from informants is a very important technique to increase the research validity. Interviewees can check the generated findings, conclusions and hypotheses to judge the trustworthiness and validity of the study's hypotheses (Strauss and Corbin, 1990; Sarantakos, 1998).

#### **4.4.2.6.8 Cross case analysis**

The final stage of the analysis of data involves analysis of all five case studies and constitutes what is called a comparative or cross case study. Each case is analysed, allowing the unique patterns of each case to emerge and provides rich knowledge about each case, which, in turn, accelerates cross-case comparison (Eisenhardt, 1988). In cross-case analysis, the researcher seeks common patterns across all cases (Miles and Huberman, 1994).

The five cases final substantive hypotheses were compared in a cross-case analysis (Miles and Huberman, 1994) to discover the similarities and differences across all the cases in order to form formal hypotheses (Strauss and Corbin, 1990), which were regarded as the main findings of this research study. Figure 4-3 is the Case study design that has been linked by grounded theory in order to developing the formal hypotheses.

Figure (4-3): Case study design and the process of developing the formal hypotheses



#### 4.4.2.6.9 Tests of validity and reliability

In the view of Brownell (1995) good case designs must adequately address what he calls construct validity, internal validity, external validity as well as reliability. Some writers suggested ways, which case researchers can use when addressing these issues in a proper manner (Eisenhardt, 1989; Yin, 1994; Spicer, 1992). These ways are explained in the following summary.

Reliability implies that the operations of a study can be replicated with the same results. In other words it refers to the ability to repeat the findings if the same methods etc. are applied. Yin (1989) suggests two procedures as a means of maximizing reliability: a case study protocol and a case study database. To meet the test of reliability the research design and methodology can be guided by a case study protocol. Brownell (1995) stated that a case study can be considered reliable when an independent researcher who follows exactly the same procedures could have performed the study again and arrived at the same findings or conclusions. At the same time the development of a formal protocol for the interviews and database is necessary. Case study protocol can also provide a basis for the departure from the pre-conceived research design and methodology for discoveries in the field and guidance to the researcher to carry out the study. Furthermore, in multiple case study research, one can examine whether the same patterns or events or thematic constructs are replicated in different settings. Reporting a detailed protocol for data collection would enable researchers to replicate the procedure of a qualitative case study in another setting (Yin, 1994). In support of this, Brownell (1995) urged researchers to document their procedures and data in such a way as to theoretically make it possible to repeat the study and that would maximise the reliability of a case study.

Construct validity is attained through the establishment of operation measures for the concepts being studied. Yin (1989) suggests that this can be obtained by:

1. Using multiple data source collection methods
2. Creating a case study database
3. Maintaining a chain of evidence.

External validity concerns convincingly specifying the domain to which the findings can be generalised. This requires carefully choosing the cases and explaining why each case has been chosen, and its similarities and differences to other cases, in terms of the research questions guiding the study. External validity is maximised in multiple rather than single case study design.

Internal validity establishes a causal relationship whereby certain conditions are shown to lead to other conditions. A well thought out strategy for data analysis and the use of a formal interview protocol as well as the aforementioned techniques for construct validity strengthen the internal validity of the research findings.

Yin (1989) suggests that in order to assist in preparing an effective report on the work, start composing the report early in the analytic process. Yin (1984, p.42) further provided the following tactics:

1. Increase construct validity:
  - Use of multiple sources of evidence
  - Establish a chain of evidence
  - Have the draft case study report reviewed by key informants
2. Approach to reliability problem
  - Conduct research as if someone were always looking over your shoulder
3. Establish external validity
  - Use replication logic in multiple-case studies

McKinnon (1988) proposed three main strategies to overcome some of the threats to validity and reliability of case studies:

1. The amount of time the researcher spends in the research setting;
2. The use of multiple methods and multiple observations; and
3. The researcher's social behaviour while in the setting

Other tactics suggested by McKinnon (1988, p.39) cover "note taking, choice of type of participant observation, team research, selection of informants and respondents, and the use of probing questions". Parker and Roffey (1997) supported the use of multiple data sources in interpretive research as a means of increasing the validity of management accounting research phenomena.

With respect to the problem of bias, McKinnon (1988, p.38) stated:

*"The nature of observer bias is such that it is a problem of management rather than elimination... The individual cannot be separated from them or 'de-biased' prior to his assuming the role of observer. Consequently, the approach to overcoming observer bias must proceed on an acceptance of its existence, and be directed towards what actions the researcher can take to protect the collection and analysis of data from the contaminating effect of their own bias".*

McKinnon (1988) proposed suggestions that help manage some of the limitations, for example, researchers must spend a lot of time at the research sites, the longer the researcher remains in the field, the more likely it is she/he as researcher can have

access to events, activities and people and further, the more time the researcher remains at the research site, more likely she/he would be able to observe the phenomenon in a natural setting.

## 4.5 Summary

An overview of the four paradigms provided the methodological frames of reference as the basis for the research. The methodological basis for this research study is located in the interpretive paradigm and the grounded theory is an appropriate research methodology to adopt. Within this methodological framework the study was influenced by the general guidance of the Strauss and Corbin (1990; 1998) grounded theory theoretical approach. Based on this approach the researcher should identify a specific research problem before choosing the research site and also have theoretical sensitivity about the selective phenomenon, which is gained by reviewing the literature review. Five case studies within the grounded theory methodological framework provide the ability to explore the current practice of accounting information in micro manufacturing enterprises in Libya and factors affecting this practice. Within the case studies three data collection methods namely interviewing, document testing and observing were employed.

The next five chapters (chapter 5; chapter 6; chapter 7; chapter 8; chapter 9) present the five different in-depth case studies. Chapter 10 introduces the cross case analysis for the five different cases.

## **Chapter 5: Case No. 1**

### **Pasta Manufacturing Enterprise**

#### **5.1 Introduction**

This case study was conducted to explore in depth the accounting information (AI) for planning and control in a pasta manufacturing enterprise. There are 25 pasta manufactories in Benghazi and they are family owned businesses employing on average nine people. The enterprise produced 200 tons of long and short pasta, soup and cous-cous per month and it was distributed through the local market. Production was mostly done mechanically using five second-hand machines acquired from the local market. All the raw materials were purchased from local suppliers except the packing, which was imported from the Egyptian market.

#### **5.2 The manufacturing background**

The enterprise was registered in Benghazi in 1999 and the main objective was to make profits. The building was no more that 350 square meters with 200 square meters for the manufacturing work place, 100 square meters for the storage room and 50 square meters for the owner manager (O/M) and internal accountant (I/A) office. The amount invested in the business was LD 45,000 collected from personal savings and personal loans. The enterprise has two production lines with five Italian second-hand machines. There were four main categories of pasta produced and sold by the pasta manufacturing enterprise namely long pasta (Spaghetti), short pasta (Macaroni), soup and cous- cous. In addition to the O/M, the enterprise had a production manager (P/M), internal accountant (I/A), salesman (S/M) and four production employees which are sons of the O/M. The P/M was 40 years old with a secondary school education and he was given responsibility for the employees and all the production processes. The I/A had a three-year diploma in accounting and his main concern was to record the data of financial transactions. The S/M was 40 years old with an elementary school education and his main concerns were distributing and marketing the products and collecting debits from customers.



## 5.3 Primary data and data analysis

### 5.3.1 Primary data

#### 5.3.1.1 The Interviews

Unstructured interviews, observations and documents collected at the research site were carried out over a full-time three-week period. The interviews were conducted with the owner/manager (O/M), production manager (P/M), internal accountant (I/A) and salesman (S/M). All the interviews were conducted in the I/A's office and the minimum time for each interview was about one hour. A total of twelve separate interviews were conducted in the case study and table (5-1) shows the profile and the number of the interviews

Table (5-1): Profile of the interviewees and number of interviews					
	O/M	P/M	I/A	S/M	Total
Number of interviews	5	2	3	2	12

#### 5.3.2. Documentary evidence

Copies of bills from the suppliers and the manufacturing purchase and sales invoices and cash receipts were obtained. The researcher was also allowed to examine all business records and books. In addition, the O/M allowed the researcher to see the bank statements.

## 5.4. Data analysis

A structured set of grounded theory coding procedures were employed to organise the ideas emerged from the analysis of the primary and documentary evidence. After each interview was analysed, the main points (concepts) were identified, summarised and compared. Relationships between the concepts were noted and then related concepts were grouped and given a label. All labels were listed and checked to make sure that all the labels had been considered. Table (5-2) shows all the labels that represent the main points raised by all interviewees. These labels are discussed in the next section.

Table (5-2): Labels represent the main points that were raised by all respondents	
<b>Labels</b>	
1.	Lack of education in management and accounting skills
2.	Lack of the Owner manager's time
3.	The business expansion
4.	Some business records and documents

Table 5-2 (Continued)
5. Small size of business
6. Competition
7. Use of internal accountant
8. Non supportive role of the government agencies
9. No formal procedures for product costing and pricing
10. Informal procedures for product costing and pricing
11. Very little written but a little more oral accounting information was generated and used in product costing and pricing
12. No formal procedures financial planning or budgeting
13. Informal procedures for financial planning
14. Very little written but a little more oral accounting information was generated and used in financial planning
15. No formal procedures for profit planning
16. Informal procedures for profit planning
17. Use of break-even technique
18. Very little written but a little more oral accounting information was generated and used in profit planning
19. No formal procedures for manufacturing planning
20. Informal procedures for manufacturing planning
21. Generated and used accounting information based on personal experience
22. Very little written but a little more oral accounting information was generated and used in manufacturing planning
23. Formal procedures for productivity control
24. Informal procedures for productivity control
25. Some written and oral accounting information was generated and used in productivity control
26. No formal procedures for quality control
27. Informal procedures for quality control
28. Very little written but a little more oral accounting information was generated and used in quality control
29. Formal procedures for cash flow control
30. Informal procedures for cash flow control
31. Some written and oral accounting information was generated and used in cash flow control
32. Formal procedures for inventory control
33. Informal procedures for inventory control
34. Use reorder point technique
35. Some written and oral accounting information was generated and used in inventory control
36. No formal procedures for capital expenditure control
37. Informal procedures for capital expenditure control
38. Very little written but a little more oral accounting information was generated and used in capital expenditure control
39. No formal procedures for make or buy decisions
40. Informal procedures for make or buy decisions
41. Very little written but a little more oral accounting information was generated and used in make or buy decisions

## 5.5. Discussion

### 5.5.1 Lack of education in management and accounting skills

In 1999, when the pasta enterprise was established, the O/M was 32 years old with a two year diploma in engineering and no financial and management background at all.

He used a very simple method to record the business transactions and it was completely different from that employed by the accountant. Although this was the only method that the O/M was familiar with, it satisfied him. The salesman (S/M) stated that although the O/M has learned from his previous mistakes, he was still poor in accounting and management skills. The I/A pointed out that the O/M should attend any short-term accounting and management courses which could help him run his business more efficiently. The O/M stated that he aware of the need for management training and accounting courses and programmes, but he could not found any. He added that the training centres and institutes should pay more attention to the management and training programmes and courses (see label 1; Table 5-2).

### 5.5.2 Lack of the O/M's time

The O/M had another job which he attended every morning as he worked as an engineering adviser in a Public Company. In the afternoon he was responsible for all the management activities in the pasta enterprise such as purchasing raw materials, delivering finished products, collecting debits and supervising the productions processes. The P/M stated that, "In addition to the management responsibilities of all aspects of the business, the O/M was inspecting the machines every day". The I/A noted that there was not enough time available for the O/M to manage all the business aspects. The O/M indicated that the frequent social occasions and visits during the working hours interrupted the management function (see label 2; Table 5-2).

### 5.5.3 The business expansion

When the business was established in 1999, there was only one category of pasta produced and sold by the pasta enterprise namely long pasta (Spaghetti). As a result for that there was no recording of the financial transactions except the cash flow. The S/M stated that after the introduction of the second, third and fourth categories in 2001, the financial transactions of the business increased to a level which made it difficult to organize and to classify the details of these transactions. The O/M pointed out that the need for an accountant to tackle this problem became very important (see label 3; Table 5-2).

### 5.5.4 Some business records and documents

The pasta manufacturing used five books to record the financial transactions. The first book was the daily book transactions, which was used by the I/A. This book was divided into two parts. The first was used for recording the details of the daily expenses transactions (purchase of raw materials, suppliers and payments of other expenses). Table (5-3) shows a typical example of a page created in the daily expenses transaction book.

The second part was used for recording the details of the daily revenue transactions. Table (5-4) shows a typical example of a page created in the daily revenue transaction book.

Table (5-3): A page of the daily expenses transaction book		
Tuesday 20/02/2004		
Descriptions	Expenses	
	Cheques	Cash
Retailers in the southern region	1,500	
Salt		20
Electric bill	60	
Khaled (Drawing employee)		15
Balance	1,560	35
	1,595	

Table (5-4): A page of the daily revenue transaction book		
Descriptions	Revenue	
	Cheques	Cash
Ahmed Nasser	1,942	
Unknown customer		20
Balance	1,942	20
	1,962	

The second book was kept for customers and suppliers accounts, which was also used by the I/A. The third was the employee's book, which was used by the P/M to record the employee's daily working hours (normal and over-time). The fourth was also the employee's book, which was used by the I/A to record all the employee's financial transactions. The fifth was the inventory book used by the I/A to record the details about the inventory. This book was divided into two parts. The first was for recording the details of the finished products and the second was used for recording the details of the raw materials items. This book was designed to replace an inventory bin cards. Each

item of the raw materials and finished products has a page in this book. Each page included columns for day, date, quantities added and taken, balance and notes.

In addition to the books there were several documents originated and used by the Pasta Manufacturing enterprise including cash receipts, sales and purchasing invoices bills (see label 4; Table 5-2).

### 5.5.5 Small size of business

The O/M highlighted that as a result of having a small enterprise the amount of information generated and used in the enterprise was relatively small compared to larger enterprises. In supporting the O/Ms statement, the I/A stated that the size of the enterprise with eight employees and the number of financial transactions were too small to use either an external accountant or computer accounting software (see label 5; Table 5-2).

### 5.5.6 Competition

The S/M identified 25 local competitors producing pasta in Benghazi and its outskirts. The O/M noted ten of them as serious competitors. The S/M stated that the price, quality and the finishes were the most important competitive factors in the pasta market. The O/M stated that the local market had become more competitive than in the past. He added that, his enterprises and ten other competitors had a potential market advantage by producing colored pasta products. The P/M stated that, “competing with foreign and local pasta manufacturing in terms of price and quality is the most difficult problem facing this business”. The salesman added that it was difficult to compete with Italian pasta manufacturing because of the higher quality of the Italian products. He also added that it was difficult to compete with the Egyptian pasta manufacturing because of the lower prices as a result of the lower labour wages and the lower quality of raw materials. The P/M noted that it was difficult to compete with some local and foreign competitors in terms of prices as the use of lower quality of raw materials. He added, “We use high-quality raw materials which make our products better in quality but more expensive than the competitors. The flexibility of our competitors enabled them to meet the preferences of the customer who pays more attention to the prices than the quality”. The O/M stated that the absence of product’s quality standards and the absence of specific agency or centre to supervise and control the micro manufacturing enterprises

activities were the main reasons made the market full of low quality products with cheap prices.

The higher competition made the O/M realise that he must increase investment to improve the product's quality and to reduce the cost elements (see label 6; Table 5-2).

### 5.5.7 Use of an internal accountant

After the other three categories (short pasta, soup and cous- cous) became established the business financial transactions increased. Due to the lack of the O/M's time and the lack of accounting and management education, the O/M was unable to be responsible for both management and accounting functions at the same time. Therefore, in 2001 he employed a full time accountant to be responsible for recording the financial transactions and to provide information on a daily basis. The O/M stated that he met the I/A frequently in order to discuss the certain accounting issues. The I/A stated that, "The accounting function in this enterprise was poor and there were not any sets of documents and business records". In support of this opinion the O/M stated that, "After the I/A was employed, the accounting function became well arranged, financial transactions were fulfilled and recorded and a lot of information was prepared". At the end of each month the O/M received reports about the expenses and revenues details. Further, the I/A reported to the O/M on a daily basis the inventories levels, returned products from previous sales, collections, waste, and amounts of sales. On a weekly basis information about the bank balance was given to the O/M. In addition, the O/M received the net profit or loss reports at the end of each month and year.

The I/A indicated that the formal income statement and balance sheet were not prepared at the end of each year. The O/M noted that there was no need to prepare a formal income statement and balance sheet, because the government agencies were not interested and did not request them. For example, the tax office used an estimated method to determine the amount of VAT. However, the I/A prepared informal reports for internal use (see label 7; Table 5-2).

### 5.5.8 Non supportive role of the government agencies and inadequate infrastructure

The O/M stated that there was no reliable and valid information provided by the government agencies to the micro enterprises sector. He added that there was not

willingness to organise and prepare technical and management development training courses which were needed to support the enterprises.

The I/A stated that there was high competition especially with the Egyptian products because the Libyan borders were open to these products without any conditions and quality standards. In view of this, the O/M stated that the government agencies should protect the local manufactures by:

1. Imposing adequate quality standards to the imported products and adequate measures to restrict the import of foreign products.
2. Create specific agency or centre to support, supervise and control the micro manufacturing enterprises activities.
3. Fair prices of the raw materials.

The P/M stated that common cause of the technical mistakes and the enterprise's temporary closure was the frequent and unexpected interruption to the electrical power

Furthermore, as a result of the owner managers Islamic belief regarding the prohibition of loans with interest and due the bank's difficult loan procedures and the required guarantees, easy and free interest loans obtained from friends to cover the shortage in cash which often occur, and to acquire some second hand machines. The I/A stated that the commercial banks were not interested in financing the micro enterprises sector (see label 8 and 9; Table 5- 2).

### 5.5.9 Product costing and pricing

Before the enterprise was established, an external accountant computed the estimated total cost of producing one kilo of pasta (the first category- long pasta). The relevant data was provided by the O/M and they were based on his personal estimations. This data included most cost elements involved in the product which included the raw materials (flour, semolina, salt, food colouring, and yeast), electricity, water, wages, packaging, fuel and other expenses. The estimated total cost of one kilo of finished product was calculated by dividing the total cost per month by the total production of the same month. After the other three categories (short pasta, soup and cous-cous) were added, the I/A computed the estimated total cost of producing one kilo of each category. The I/A added to the estimated total cost of producing one kilo of each category repairs, maintenance expenses and waste. These elements were also provided by the O/M and

they were based on his personal estimations. Table 5-5 shows the estimated total cost of producing one kilogram of pasta.

The O/M stated that the estimated unit-selling price was based on the estimated total cost of each unit produced, marketing conditions, competitor's prices and reasonable profit margin, and would be based on his personal experience. He added that he took into his consideration the local competitor's prices when the profit margin was determined (see label 10, 11 and 12; Table 5-2).

Table (5-5): The estimated total cost producing one kilogram of pasta	
Description	LD
Cost of raw materials	0.25
Wages	0.016
Fuel	0.05
Cost of electric power supply	0.022
Other expenses	0.006
Total cost of one kilogram of pasta	0.334

### 5.5.10 Financial planning

The pasta manufacturing did not have a standard business plan or objectives written down on paper. The P/M and the S/M noted that the information used in the short term planning, marketing and production decisions were based on the O/M's personal experience and opinions. The I/A stated that the lack of the O/M's time, management and accounting skills were the major reason that the O/M was unfamiliar with budgeting and unaware of its importance.

The O/M stated that it was very difficult to forecast the demand for the pasta manufacturing products for the next day, week or month. He added, this is because of the market conditions and the strong competition. The I/A stated that he never prepared budgets, formal income statements and balance sheets, because they are never requested by the O/M. The O/M stated that it was waste of time to prepare such statements, because no one would request them. He added that the tax office used an estimated method to determine the VAT and the existing banking sector requested interest and guarantees to give loans (see label 13, 14 and 15; Table 5-2).

### 5.5.11 Profit planning

The S/M stated that this business was seasonal and the demand on pasta was influenced by the market conditions. He added the demand usually increased to its



highest levels during the winter and in Ramadan<sup>14</sup>. The P/M indicated that before the winter and Ramadan started instructions were given to increase the production capacity to 80 per cent. The O/M added that in the other seasons it was difficult to forecast the demand even for the next day. Therefore, the O/M used his personal experience to determine the type and quantities of pasta, which would be demanded by the customers. However, the I/A computed the estimated break-even point<sup>15</sup> and the unit selling prices and sales volume at which the enterprise makes neither a profit nor a loss. The estimated relevant data was provided by the O/M and they were based on his personal estimations. The I/A stated that 100 tons of pasta products should be sold during each month in order to recover the total monthly costs. Therefore, selling more than 100 tons of pasta products were the O/M's main concern in order to made reasonable net profits. The S/M stated that after the pasta business reached its estimated monthly break-even point, sometimes instructions were given to reduce the unit-selling prices to increase the sales. In addition to increase the sales, the O/M always contacted the customers who had bought less products in order to discover their reasons, which would then be considered. Regarding the cost reduction aspect, the O/M stated that under the high competition conditions, several actions were taken to reduce the cost and the expenses: waste was minimised to lower levels through close monitoring, the O/M's car was used to distribute the products rather than hiring delivery cars and the food colouring was bought as a ready-made rather than natural colouring to minimise production costs. The O/M monitored the costs and expenses during the month and year in order to keep them at the lowest level. The O/M and the I/A compared the estimated costs and expenses of the current month and year with these in the previous months and years. Also, they identified the cost and expense elements, which had increased more than the normal level and investigated the causal reasons in order to achieve the best-cost reduction. At the end of each month and year the O/M obtained informal net profit or loss reports from the I/A. The O/M pointed that to evaluate how the business was performing, every month and year he met the I/A to compare the net profits /loss, sales and costs of the current month or year with those in the previous months or years (see label 16, 17, 18, 19 and 20; Table 5-2).

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14 It is the Moslems' holy month in which they fast from sunset until sundown every day.

15 The break-even point is the point where total revenue equals total cost, the point of zero profit. The analysis is used to determine the number of units that must be sold to earn a targeted profit (Hanson and Mowen, 1997).

### 5.5.12 Manufacturing planning

Because of the second hand machinery and the high competition, the actual production capacity was reduced by 50 per cent. The O/M stated that the pasta enterprises had to reduce their production capacity in order to maintain the machines in good conditions. The S/M noted that during Ramadan and winter the production capacity would increase by 80 per cent. This is because these times were when the pasta sold strongly. The manufacturing plans and schedules were considered based on the O/M's personal experience and retained in his head. The P/M noted that estimating the required and utilisation of the production capacity were based on the O/M's personal experience.

During periods of high sales, the O/M and the P/M kept the manufacturing processes running until late every night. During the other seasons the O/M used his personal experience to determine the pasta types and quantities that would be demanded by the customers every day. Therefore, the O/M checked the items in the inventory late in the evening of every working day in order to identify the items which were below the normal levels. The P/M noted that every evening, instruction was given by the O/M to produce the quantities that would bring these items up to the levels which would meet the expected demand.

However, the S/M indicated that in case of urgent orders and if these orders were larger than that available in the inventories, instructions were given to the P/M to focus the actual production capacity to produce the urgent orders (see label 21, 22, 23 and 24; Table 5-2).

### 5.5.13 Productivity control

The pasta manufacturing machines were switched on from Saturday to Thursday 8am to 8pm. The P/M stated that the employees were his responsibility and he added that every working day he recorded the time at which each employee came to and left the enterprise. Also, he monitored them at work. By the end of each month, the P/M reported to the I/A about the employee's attendance. Based on this data the I/A computed the net wages of each employee and paid them at the end of each month. The O/M also made three inspection tours to the work place every day.

The O/M stated that he monitored all the manufacturing processes. However, after each job was completed, the O/M or the P/M inspected it in order to make sure that it was made according to the quality standards. If defects were discovered, the employees were

asked about the reasons which would then be considered. Although the machines were tested and maintained weekly, the interruption to the electric power and water were the main causes of the technical mistakes in the production and manufacturing processes. The P/M stated that the frequent interruption to the electric power and water affected the production capacity and the quality of production.

Regarding the relationships with the employees, the O/M stated that he was very concerned about the pasta-manufacturing employees, listened to their suggestions, complaints and problems. Therefore, he maintained a friendly atmosphere with the employees and established a strong relationship with them.

Regarding the raw materials, the P/M recorded all quantities of raw materials used in the production processes and the finished products manufactured during the day. At the end of the day all this information was reported to the I/A who recorded it in the inventory book.

The standard quantities were compared with the quantities produced in order to determine the waste and unusual amounts of waste were identified and investigated. Also the O/M and the P/M compared the production size with the production capacity at the end of each day. The reasons underlying differences were identified and investigated (see label 25, 26 and 27; Table 5-2).

### 5.5.14 Quality control

The quality control was the P/M and the employee's responsibility. In each stage the quality of the products was inspected. If a faulty unit was discovered at any stage, the P/M and the employees stopped the machines and repaired the fault or obtained help from the O/M. The O/M and the P/M always inspected the raw materials before use in the manufacturing processes in order to confirm that they met the required standards. Also they monitored the quality of units produced through frequent inspections. The O/M stated that any quantities which did not meet the required standards (defects) were sold to specific customers for cheaper prices than perfect units. The defective unit prices were determined based on the O/M's personal experience.

However, the P/M stated that the pasta manufacturing products were of a lower quality than Italian products. He added the reason for this was the modern machinery used in Italy.

The O/M stated that he and the P/M always compared between the pasta manufacturing products and the other local competitors products.

Regarding packaging, the S/M noted that the enterprise had first-class packaging, and an overall design, which was attractive and appropriate. The O/M stated that they imported the packs from Egypt because it was well designed and this would enable the products to continue selling well.

Customer satisfaction was the main concern to the O/M. The S/M noted that instructions were given by the O/M to report all the customer's feelings towards the products. In addition the O/M always visited the customers and listened to their suggestions, complaints and comments towards the products. Feedback (from them) was always considered to improve quality (see label 28, 29 and 30; Table 5-2).

### 5.5.15 Cash flow control

The O/M classified the customers in terms of their credit reputations. The S/M stated that customers who had excellent credit reputations were allowed to pay their balances by cheques but new and other customer's payment were made in cash. This policy was changed and payments by other methods for all customers were accepted. The O/M stated that, "under the high competition I decided to become more flexible and accepted all the payment method". The collection of debit from the customers was the S/M's responsibility. The O/M received report about the customer debit accounts from the I/A and he remarked on the debit accounts which were higher than normal. Then instructions were given to the S/M to sell smaller quantities than ordered from these customers until they became able to pay the amounts which placed them again to the normal average.

The I/A deducted the amounts of cash and cheques that were received from customers from their debit accounts. These cash and cheques were deposited in the bank account the next day. After the deposit was completed a deposit slip and the bounced cheques (if any) were obtained. The deposit slip and the bounced cheques were handed to the I/A in order to update the records. After that the bounced cheques were given to the S/M in order to contact the customers who gave these cheques, and a new agreement would be made with them.

The I/A received a bank statement every week because he regarded it as a very important information tool to keep him aware of the bank balance. The bank balance was reconciled by the I/A, and then was given to the O/M for information.

Issued cheques were the O/M's responsibility. The O/M reviewed the bank balance before issuing the cheques to see whether it was sufficient to cover the amounts or not. After issuing the cheques, the details were given to the I/A to update the records.

The employee wages were paid in cash after deductions by the end of each month. Also the amounts withdrawn by the employees during the month were paid in cash. The amount of money an employee could withdraw was limited to their monthly wages. The employee's personal account was checked when they requested money during the month and compared with its limit.

After the end of each week, month and year details about the purchases, sales, collections and expenses were reported to the O/M. The O/M monitored and compared these with their normal averages. The reasons underlying differences were identified and investigated (see label 31, 32 and 33; Table 5-2).

### 5.5.16 Inventory control

The inventory of raw materials (flour, semolina, salt, food colouring, and yeast) kept in the enterprise should be sufficient to supply seven days of production. This level of inventory was estimated based on the O/M's personal experience. All raw materials that were used in the pasta manufacturing were purchased from local suppliers except the packs, which were imported from Egyptian suppliers. The I/A recorded the raw materials in the inventory book which was divided into two parts. The first was for recording the details of the finished products and the second was used for recording the details of the raw materials items. The I/A stated that by using this book he was able to provide information if the O/M required information about any item in the inventory. The inventory book showed the current balance of each item in the finished products and raw materials inventory and enabled the I/A to identify the items which reached the reorder points.

There was a predetermined minimum and maximum level of finished products kept in the inventory. These levels were determined based on the O/M personal experience to meet unexpected orders and due the high level of competition. The minimum inventory level of finished products was two tons, whereas the maximum level was four tons of each type of product. At the end of each day the I/A recorded the information about raw materials used in the production processes, quantities produced and finished products in the inventory book. In case there were returned products from previous sales, the O/M

and the P/M decided to repackage or sell them as defective units to specific customers. If they decided to repackage them, then they would be added to the inventory book.

Late in the evening of every day, information about the inventories was reported to the O/M by the I/A. This information included the levels of the raw materials, and finished products for each type of the categories. The O/M and the P/M compared the levels of finished products in the inventory with normal levels and consequently they determined the items which would be produced the next day.

Every year and selected months the O/M and I/A conducted a physical count of the items in the inventory and the results were compared with the balance in the inventory book. Differences were identified, investigated and corrected (see label 34, 35, 36 and 37; Table 5-2).

### 5.5.17 Capital expenditure control

The decision to acquire additional second hand machines to produce the other three categories (short pasta, soup and cous-cous) was based upon the O/M's personal experiences and businesses needs. The O/M stated that from basic information obtained from experts and personal observation, he realised that acquiring other machines to produced different types of the pasta products would increase their sales and profits. Also, the O/M was considering replacing the electric dryer. Therefore, an instruction was given to the I/A to prepare a feasibility study to replace the electric dryer with a fuel dryer. The I/A and the P/M stated the study indicated that the fuel dryer would increase the quality and decreases the manufacturing costs. Consequently the enterprise competitive position would be improved (See label 38, 39 and 40: Table 5-2).

### 5.5.18 Make or buy decisions

There was only one situation in which the O/M decided to buy an ingredient for the products. This was the food colouring. The pasta enterprise did not use natural ingredients (spinach and tomato) to get their red and green coloured pasta, as they used ready-made food colouring. In order to compute the financial implications of making these ingredients in the enterprises rather buying them, the I/A prepared basic calculations on paper based on estimated data which was provided by the O/M. These papers were kept in separate files. Based on these calculations the I/A stated that the food colouring subcontractors charged LD 2 per litre, whereas to make a litre of food colouring in the enterprise would cost LD 2.5. The O/M stated that they usually used 15

litre per day and he added that based on the I/A's calculations they would save about LD 225 per month, which could be regarded as additional net profits. The P/M stated that although buying the food coloring would make additional profits, the natural ingredients (spinach and tomato) for food coloring were better quality than the ready-made (see label 41, 42, and 43; Table 5-2).

## 5.6 Summary

In the previous sections, relationships between the labels listed in table (5-2) were identified, and a basis was established for organising the ideas which emerged from the analysis. In the next section the researcher will attempt to relate the labels based on these relationships, to the main phenomenon.

## 5.7 Results

In order to relate labels to the main phenomenon to begin to develop some related hypotheses, the researcher pieced them together by means of Strauss and Corbin's (1990) paradigm model. According to this model, causal conditions create a phenomenon within a specific context. Action/interaction strategies are implemented to manage the phenomenon having regard to the intervening conditions which influence it and produce desired consequences. However, in order to utilise this model, labels are grouped in terms of causal conditions, context, action/interaction strategies, intervening conditions and consequences.

### 5.7.1 Causal conditions

According to Strauss and Corbin (1990, p100), Causal conditions are defined as "the events or incidents that lead to the occurrence or development of a phenomenon". Causal conditions are often highlighted in the data by terms such as: when, while, since, because, due to, on account of and as a result of. In case such terms are missing, the researcher can locate causal conditions by focusing and concentrating on examining the events and incidents prior to the phenomenon.

The local and foreign competition was regarded as a major causal condition of the main phenomenon (accounting information for planning and control) because it forced the O/M to change his selling policy by becoming more flexible and by accepting all the payments methods in order to increase the sales. Other actions were taken to reduce the

cost in order to reduce the product selling prices to increase the sales and the profits. Information about the quality of the products and feedback from customers was needed in order to maintain the high level of customer satisfaction.

The use of some business records and documents to record and support the financial transactions was a major source of data which allowed the I/A and the O/M to generate and use a lot of accounting information about the inventories, cash flow, and supplier's balances. Therefore, these business records and documents were considered as another causal condition.

The business expansion increased the number of financial transactions. After the introduction of the second, third and fourth categories, the financial transactions of the business increased up to level which made it difficult to organize record and classify the details of these transactions. Therefore, it was an affective factor which contributed to the decision by the O/M to use an internal accountant (I/A). Consequently, the increased number of financial transactions could be considered as a causal condition.

The use of an internal accountant (I/A) was also regarded as another major cause of the main phenomenon because he was responsible for the accounting function in the enterprise. He was also responsible for recording the business transactions in the business books, and useful information was generated and provided to the O/M on a daily, weekly, monthly and yearly basis by the internal accountant (I/A).

The use of some of the management accounting techniques such as 'break-even point' and 'reorder point' were regarded as major causal conditions because they influenced the need for generating and using the related accounting information. This information included the production size, types and quantities, unit price and cost of the unit produced.

The application of informal procedures for quality and capital expenditures control; financial, profit and manufacturing planning increased the ability to generate and use accounting information in planning and controlling these aspects. Thus, the existence of these procedures was regarded as a causal condition.

By the application of formal and informal procedures for product costing and pricing; cash flow, productivity and inventory control and make or buy decisions the O/M was able to form the basis for generating and using some written and oral information pertaining to these five specific aspects in planning and controlling them. Thus these procedures were regarded as a major causal condition of the main phenomenon (AI for planning and control).



## 5.7.2 Intervening conditions

According to Strauss & Corbin (1990, p.103) intervening conditions are defined as “The broad and general conditions bearing upon action and interaction strategies”. These conditions are not the particular properties of the phenomenon but rather conditions outside the phenomenon itself.

In light of this, the researcher identified several labels which represented the conditions that influenced the strategy, and which may be considered as the intervening conditions. These labels are summarised thus: The lack of the owner managers education in management and accounting skills was regarded as an intervening condition because it would prevent the O/M using all the useful information which was provided by the I/A to achieve better planning and control levels. The lack of the owner manager time was a barrier for obtaining enough accounting information to manage the daily business activities and develop short and long-term plans. The small size of the business in terms of number of employees and the fact that financial transactions were relatively small would also be a barrier for the generation and use of accounting information for planning and control. Thus, the small size of the business was regarded as an intervening condition.

The lack of interest by the government agencies in preparing of income statements and balance sheets was a barrier to the generation and use of accounting information. The lack of formal procedures for planning and controlling the financial, profits, manufacturing planning, quality and capital expenditures control was a barrier to the generation and use of related accounting information. Thus, the lack of these procedures was regarded as a major intervening condition.

## 5.7.3 Context

The context represent the specific set of properties and dimensions which pertain to phenomenon and to particular set conditions within which the action/ interaction strategies are taken to handle the phenomenon. In the light of this the researcher addressed three labels which may be considered as the main context for the main phenomenon. The first was inadequate infrastructure. The second was the difficult access to bank loans, which forced the O/M to use family savings and obtain friend's loans. The third was the estimated tax method.

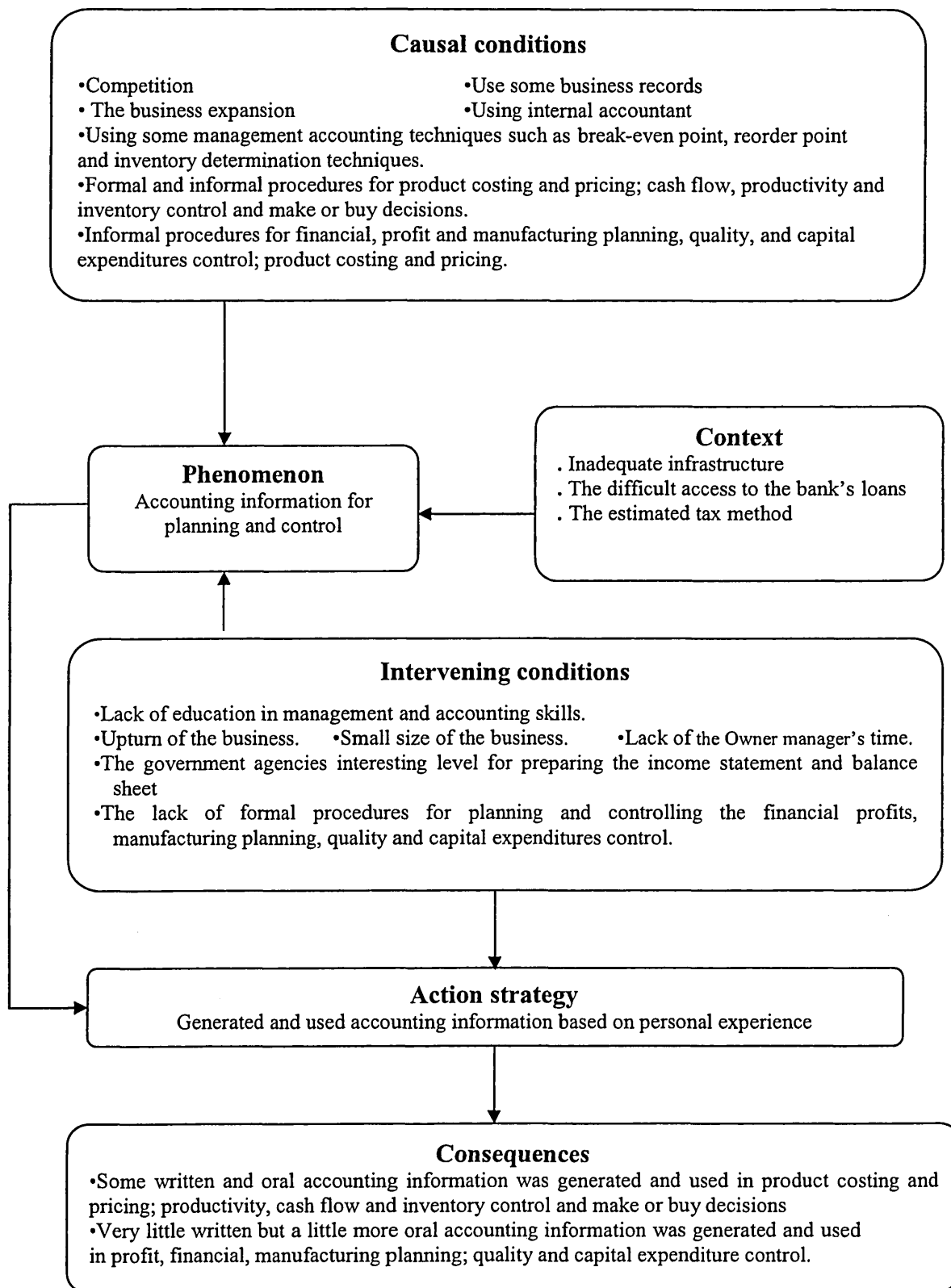
### 5.7.4 Action/Interaction strategy

Action/Interaction strategy refers to the sequences, movements, change over time, strategies and tactics undertaken in response to a phenomenon which are often reported in the data by action verbs and participles. According to this the researcher identified that the strategy used by the O/M to manage the main phenomenon, was that he generated and used accounting information based on personal experience for planning and controlling business activities.

### 5.7.5 Consequences

Consequences or outcomes are the results of actions and interactions undertaken to respond or to manage a phenomenon. Having specified that the O/M generated and used accounting information based on personal experience was the action strategy to manage the phenomenon, the researcher identified some consequences of this strategy. Firstly, some written and oral accounting information was generated and used in product costing and pricing; productivity, cash flow and inventory control and make or buy decisions. Secondly, very little written but a little more oral accounting information was generated and used in financial, profit and manufacturing planning; quality and capital expenditure control. Figure (5-1) shows the relationship between the labels in terms of Strauss and Corbin's (1990) paradigm model for Case No.1.

Figure (5-1): The relationship between the labels



### 5.7.6 Substantive hypotheses

This case study was conducted in a micro pasta manufacturing enterprise with less than ten employees and one O/M. It started with a description of the enterprise history and background and business records and documents. In-depth discussion and analysis processes were used to identify the labels that were related to the main phenomenon (accounting information for planning and control). Consequently, the hypothesised relationships between these labels were identified and related to the main phenomenon by using the Strauss and Corbin (1990) paradigm. Several substantive hypotheses relating to the accounting information for planning and control in this micro manufacturing enterprise emerged and are listed below:

1. The owner manager's lack of education in management and accounting skills is a major barrier to generating and using accounting information. (see section: Lack of education in management and accounting skills).
2. As the O/M becomes more involved in managing all the business aspects and in other activities (such as social occasions and visits), the lack of Owner manager's time increases. (See section: Lack of time).
3. The lack of O/M's time is a major barrier to the generation and use of accounting information (see section: Lack of time).
4. The enterprise expansion is a major factor affecting the generation and use of accounting information. (See section: Upturn of business).
5. The use of some business records and documents is a major reason for the generation and use of accounting information in planning and controlling the business activities (see section: some business records and documents).
6. The small size of the business is a major barrier to the generation and use of accounting information in planning and controlling business activities. (See section: Small size of the business).
7. The owner manager and government agencies (such as tax authorities and state banks) level of interest in the micro enterprise's financial information is a major factor affecting the generation and use of accounting information. (See section: Financial planning).
8. The competition is a major factor affecting the generation and use of some accounting information. (See section: Competition).
9. The internal accountant is a major reason for the generation and use of accounting information. (See section: Use of internal accountant and other sections).
10. The O/M generates and uses accounting information based on personal experience in planning some aspects of his business (see sections: profit planning and capital expenditure control and other sections).

11. The use of 'break-even point', 'inventory level' and 'reorder point determination' is a major reason for the generation and use of accounting information. (See sections: profit planning and inventory control)
12. The application of formal and informal procedures for product costing and pricing is a major reason for the generation and use of accounting information (see section: Product costing and pricing)
13. The application of formal and informal procedures for cash flow, productivity and inventory control is a major reason for the generation and use of accounting information (see sections: productivity control; inventory control and cash flow control).
14. The application of formal and informal procedures for make or buy decisions is a major reason for the generation and use of accounting information in planning and control (see section: Make or buy decisions).
15. The application of informal procedures for financial, profit and manufacturing planning is a major reason for the generation and use of accounting information for planning and control (see sections: financial planning; profit planning; and manufacturing planning).
16. The application of informal procedures for quality control is a major reason for the generation and use of accounting information in planning and control (see section: quality control).
17. The lack of formal procedures for financial, profit and manufacturing planning; quality, and capital expenditure control is a barrier to the generation and use of accounting information in planning and controlling business activities (see sections: Financial planning; profit planning; manufacturing planning; quality control; capital expenditure control).
18. Some written and oral accounting information is generated and used in productivity, inventory and cash flow control (see section: Quality control; inventory control and cash flow control).
19. Some written and oral accounting information is generated and used in product costing and pricing (see section: product costing and pricing).
20. Some written and oral accounting information is generated and used in make or buy decisions (see section: make or buy decisions).
21. Very little written but a little more oral accounting information is generated and used in financial, profit and manufacturing planning (see sections: financial planning, profit planning and manufacturing planning).
22. Very little written but a little more oral accounting information is generated and used in quality and capital expenditure control (see sections: quality control and capital expenditure control).

## Chapter 6: Case No. 2

### Plastic Bags and Printing Manufacturing Enterprise

#### 6.1 Introduction

This case study was conducted in one of the growing and developing enterprises in Benghazi. There are sixty-two packing product manufacturers in Benghazi, mostly family owned. The Plastic Bags and Printing Manufacturing Enterprise was one of ten manufacturing enterprises, which produce and print plastic bags at the same time. The Plastic Bags and Printing Manufacturing Enterprise produced the most packing sizes and types, and distributed through the local and national markets. It used five new Korean machines acquired from the Egyptian market and all the raw materials were purchased from local suppliers.

#### 6.2 The manufacturing background

The enterprise was established in Benghazi in 1998 to secure an additional source to the family income. The total investment at the start up of the business was LD 53,000 obtained as a soft loan. The enterprise building was 300 square meters with a new production line. Eighteen months later, additional new printing and cutter machines were introduced based on a study prepared by the O/M in order to maximize profits. The total acquisition cost of the new machines was LD 35000, which was fully paid from the enterprise and family savings. In addition to the O/M the enterprise employ eight employees; one currently working as a production manager (P/M), another as internal accountant (I/A), one as a salesman (S/M) and five others as production employees. The P/M was a son of the O/M and he was 30 years old and had a three-year diploma in mechanical engineering. He was given responsibility for the employees and all the production processes. The internal accountant (I/A) was 26 years old with a three-year diploma in accounting. The O/M chose his employees based on personal relationships. He stated, “I do not use any employee until I am sure he is honest and good at his job”.

## 6.3 Primary data and data analysis

### 6.3.1 Primary data

#### 6.3.1.1 The Interviews

A tour of the enterprise and an explanation of the production lines and the manufacturing process were given to the researcher before conducting the interviews.

Unstructured interviews, observations, and an examination of the business documents and books were carried out over a full-time four week period. Eleven interviews were conducted with the O/M, P/M and I/A. All the interviews were conducted between 9 and 11 o'clock in the morning in the I/A's office, except the O/M interviews were conducted between 8 and 10 o'clock in the evening in his office.

The interviews started with broad questions and then became more focused according to any points which were relevant and important to the main phenomenon (Accounting information). All the interviews were tape-recorded and they were later transcribed. Table (6-1) shows the profile and the number of interviews.

Table (6-1): Profile of the interviewees and number of interviews				
	O/M	P/M	I/A	Total
Number of interviews	5	3	3	11

### 6.3.2. Documentary evidence

The researcher was allowed to examine all the business records, books and documents and in addition, to obtain copies of the business documents, purchase, sales invoices and cash receipts. Also, the researcher was allowed to watch the I/A while making the bank balance reconciliation.

## 6.4. Data analysis

A structured set of grounded theory coding procedures were employed to organise the ideas, which emerged from the analysis of the primary and documentary evidence. After each interview was analysed, the main points (concepts) were identified, summarised and compared. Relationships between the concepts were noted and then related concepts were grouped and given a label. All labels were listed and checked to ensure that all the labels had been considered. Table (6-2) shows all the labels that represent the main points rose by all interviewees and these labels are discussed in the next section.

Table (6-2): Labels represent the main points which were raised by all respondents

Labels
1. Adequate education in accounting and management
2. Availability of the owner manager's time
3. The business expansion
4. Some business records and documents
5. Small size of business
6. Competition
7. Use of internal accountant
8. Inadequate infrastructure
9. United Nations sanctions
10. Formal procedures for product costing and pricing
11. Informal procedures for product costing and pricing
12. Some written and oral accounting information was generated and used in product costing and pricing
13. Formal procedures for financial planning or budgeting
14. Informal procedures for financial planning
15. Some written and oral accounting information was generated and used in financial planning
16. Formal procedures for profit planning
17. Informal procedures for profit planning
18. Use of break-even technique
19. Some written and oral accounting information was generated and used in profit planning
20. No formal procedures for manufacturing planning
21. Informal procedures for manufacturing planning
22. Generated and used accounting information based on personal experience
23. Very little written but a little more oral accounting information was generated and used in manufacturing planning
24. Formal procedures for productivity control
25. Informal procedures for productivity control
26. Some written and oral accounting information was generated and used in productivity control
27. Formal procedures for quality control
28. Informal procedures for quality control
29. Some written and oral accounting information was generated and used in quality control
30. Formal procedures for cash flow control
31. Informal procedures for cash flow control
32. Some written and oral accounting information was generated and used in cash flow control
33. Formal procedures for inventory control
34. Informal procedures for inventory control
35. Use reorder point technique
36. Some written and oral accounting information was generated and used in inventory control
37. No formal procedures for capital expenditure control
38. Informal procedures for capital expenditure control
39. Very little written but a little more oral accounting information was generated and used in capital expenditure control
40. No formal procedures for make or buy decisions
41. Informal procedures for make or buy decisions
42. Very little written but a little more oral accounting information was generated and used in make or buy decisions



## 6.5 Discussion

### 6.5.1 Adequate education in accounting and management

The O/M was 54 years old and held a three-year diploma in accounting and management administration from the Management and Accounting Higher Institute in Benghazi. After graduation he started his own business as a taxi driver which lasted until the end of 1997. The O/M stated, “In this job I was unable to gain practical accounting and management experience”. He added that although he had no accounting and management experience, recording the business transactions was his responsibility, when the Plastic Bags and Printing enterprise was established in 1998. The I/A stated, “I believe that although the O/M does not have enough experience, he has adequate accounting and management skills which enabled him to generate and use relevant accounting information to make informed decisions” (see label 1; Table 6-2).

### 6.5.2 Availability of O/M's time

The O/M was responsible for collecting debts, purchasing raw materials, delivering finished products, monitoring the inventories and supervising the production processes. The O/M stated that every morning he made a tour inside the enterprise in order to ensure the enterprise processes were operating efficiently. The P/M stated that daily notes and instructions were given by the O/M regarding the manufacturing processes. After the tour, the O/M left the enterprise to monitor the plastic bags market, seek new customers, deliver products, visit old customers and purchase all other enterprise necessities. The P/M stated that in the early evening the O/M returned to make another tour of the facility and became fully involved with the manufacturing processes until midnight. The O/M stated, “I am always busy with the manufacturing activities and processes”. He added that because of this situation he was unable to generate and use useful information for planning and controlling the business activities. Therefore, he used an I/A to be responsible for the accounting and sales functions. The O/M stated that after starting to use the I/A, he became fully devoted to the management function and had enough time to manage the daily business activities and useful information was generated and used (see label 2; Table 6-2).

### 6.5.3 The business expansion

The O/M had managed the business since it was established and he was responsible for the accounting function until July 1999. The P/M stated that from 1998 to the middle of 1999 the O/M was responsible for recording all the details of the business transactions in a yearbook agenda using his own method. The O/M added that the number of business transaction was too small and the financial transactions were few and less complicated to use other books. The P/M stated that after the introduction of the new product lines in June 1999, the size of the business grew and the business transactions increased to a level which made it difficult for the O/M to remain responsible for the management and the accounting functions at the same time. It also became difficult to use the same recording method. The O/M stated that the business had improved and the numbers of financial transactions were increased to a level which made the need for an accountant to arrange both the accounting and the sales function very important (see label 3; Table6-2).

### 6.5.4 Some business records and documents

The enterprise used a number of books for recording its business transactions. The first was the daily transactions book used by the I/A to record all the financial transactions, which occurred during the business day: purchase, suppliers, other expenses, employee's wages and withdrawal payments and sales. Table 6-3 shows a typical example of a page created in the daily transaction book.

Table (6-3): A page of the daily transaction book				
Tuesday 20/03/2004				
Cash		Descriptions	Cheques	
Revenue	Expenses		Expenses	Revenue
5000.000		Balance from the previous page		20,564.000
		Raouf (sales)		1,950.000
400.000		Abdelrahman (sales)		
		Electric bill	235.000	
	50.000	Colour		
	45.000	Drawing by an employee		
5,400.00	2,095.000	Balance	235.000	22,514.000
3,305.000			22,279.000	

The end balance in the last column was transferred to the next page which would represent another day. The second book was the debtor and creditor book which was also used by the I/A. This book was divided into two parts. The first was used to record the details of the debtors and the second to record the details of the creditors. The third book was the employee's book which was used to record details regarding employee attendance, overtime hours, fines, withdrawals, and net salaries and wages. The fourth book was the finished products book, which was used by the P/M to record all the details of the finished products: types, quantities and the shift number. The fifth was the special order book which was used to record customer deposits and payments. No book was used to record the sales transactions. The O/M stated, " I do not feel it is necessary to record the sales transactions in a book because all the sales transactions were recorded in the copies of the sales invoices, which are kept in the sales invoices file".

In addition to these books there were many files: sales invoices, purchases bills, inventories bin cards, electricity bills and telephone bills (see label 4; Table 6-2).

### 6.5.5 Small size of the business

The O/M explained that when the business was established in 1998, it was very small with only two machines and three employees, and that there were few business transactions and the related accounting was straightforward. The P/M stated that although the financial transactions dramatically increased after the introduction of the new lines, the O/M did not feel that there was a need for an expert accountant and external accountant since his young brother, who was the I/A, was responsible for all the accounting and sales functions (see label 5; Table 6-2).

### 6.5.6 Competition

There were sixty-two local competitors producing plastic bags in Benghazi and the O/M regarded seven of them as serious competitors. The P/M stated that there was a high level of competition between the enterprise and the other seven serious competitors in terms of quality, delivery time and unit prices. The O/M stated that the enterprise product prices were similar and sometimes cost less than the competitors product prices. He added that the fact that Benghazi's small manufacturing community enabled him to closely monitor all the activities of competitors including their product types and prices. The I/A noted that the O/M spent more than two hours every day outside the enterprise

in order to monitor raw materials prices, competitor activities, customer satisfaction and seek new customers.

The O/M also gathered information regarding the prices of raw materials from suppliers. He used his personal experience to project the trend of these prices and the period they when they were likely to be cheaper or more expensive to purchase. The O/M stated “To be able to compete with the other competitors and to be a successful owner manager, you should be clever in purchasing raw materials”. The I/A noted that due to this competitive situation, several actions were taken to reduce the costs and expenses in order to keep the product prices similar to or less than the prices of competitor’s products (see label 6; Table 6-2).

### 6.5.7 Use of an internal accountant

The O/M stated that he used a full-time I/A to be responsible for recording the business financial transactions and the sales function at the same time. In addition, the I/A was responsible for managing the business when the O/M was absent.

Since the I/A started at the beginning of July 1999, he recorded the financial transactions in new books which were created by him. The P/M stated that since using the I/A, the business records and recording methods had improved. In support of this opinion the O/M stated, “employing the I/A made it easy for me to find and obtain information which enabled me to more effectively manage the daily business activities for the next day, week and month”.

At the end of each month and year the I/A prepared informal net profit or loss reports and also a basic cash flow statement during the month. Furthermore, the I/A generated several other reports on a daily, weekly, monthly and yearly basis. These included quantities and amounts of sales, expenses and cost elements, inventory levels, raw materials used, debtors and bank balances. The I/A stated, “he was willing to prepare other formal reports if requested such as income statement and balance sheets”. The O/M stated that government agencies were not interested and did not request a formal income statement and a balance sheet. He added that all the reports were created for internal use only (see label 7; Table 6-2).

### 6.5.8 The United Nations sanctions and inadequate infrastructure

The O/M stated that the United Nations sanctions, which were imposed against Libya in 1992, were the main factor affecting the repair times for machines due to a lack of local and national suppliers. In order to repair machines, the O/M imported the necessary spare parts from Egypt. He added that importing the spare parts from Egyptian suppliers rather than local or national suppliers took a long time, and this sometimes caused the enterprise to close for days. The cost of imported spares was also very expensive.

Regarding the infrastructure, the common cause of the manufacturing production interruption was the frequent and unexpected interruption to the electrical power supplies. The P/M stated that these interruptions were frequent and usually lasted longer than expected. The O/M stated that the machines consumed a lot of electricity when they re-started after the electrical interruption (see label 8; Table 6- 2).

### 6.5.9 Product costing and pricing

Although the O/M had an accounting and management diploma, he did not have enough experience to estimate the product costing and pricing which would be charged for the bag units when the enterprise was established. The O/M stated that he used a popular and common method to compute the estimated total cost of producing one kilogram of plastic bags: the estimated total cost of one kilogram was computed by dividing the total costs paid during the month (cost of raw materials, cost of electrical power, wages and other expenses) by the total production during the same month. However, after the new machines were added, the O/M became very concerned and re-computed the product's total cost. The O/M noted that determining the products total cost was very important because it was used as an indicator of the profit margin which would be made at any price level based on the competitors' prices. Therefore, the O/M and the IA re-computed the estimated total cost of producing one kilogram of bags and recorded on paper. The O/M stated that his personal experience in product costing and pricing had improved in recent years, which now enabled him to re-compute the estimated total cost without the I/A's help. The calculation of the estimated total cost was performed on paper based on relevant data which was based on his personal estimation. Table (6-4) shows the estimated total cost of producing one kilogram of plastic bags.

Table (6-4): The estimated total cost producing one kilogram of bags	
Description	LD
Cost of raw materials	1.05
Cost of electric power supply and utilities	0.05
Cost of labour	0.10
Other expenses	0.05
Total cost of one kilogram of plastic bags	1.125*
*The enterprise will added LD 0.15 to the total cost of one kilogram for each colour in order to print the customer's details on the bags.	

The O/M stated that updating the estimated total cost of each unit produced was very important in determining the break-even point and the estimated unit price, which would be somewhere between the estimated total cost of the unit and the competitors' prices. The I/A added that by taking in to account the competitors' prices and the total cost of each unit produced, the O/M priced the products with a reasonable profit margin. He added that as a result of the change to the cost elements from month to month, the O/M frequently asked him to update the estimated total cost of the each produced and to re-compute the break-even point. The O/M and the I/A indicated that the main factors which affected the total estimated cost were:

1. The cost of the raw materials. The O/M indicated that the prices of raw materials fluctuated over the year.
2. The higher cost of spare parts (which were imported from Egyptian sources rather than local or national sources as a result of the United Nations sanctions).
3. The frequent interruption to the electrical power and technical errors (the P/M explained that the machines required one hour to warm up when they were switched on after an electrical interruption and that during this hour the machines consumed a large amount of electricity. In addition, the machines required re-adjusting and re-setting to avoid production defects).

The I/A added that when the O/M was away from the enterprise, the sales activity inside the enterprise was also his responsibility. Instructions were given to him to allow discounts from LD 0.10 to LD 0.15 for each kilogram above 400 kilograms and other discounts were given to specific named customers. The determination of the size of discount and percentages were based primarily made on the O/M's personal experience and judgement.

In general, the I/A stated that specific instructions and orders were given by the O/M when he was away from the enterprise (see label 10, 11 and 12; Table 6-2).

## 6.5.10 Financial planning

The O/M stated that the enterprise was established based on advice from a friend who was an expert in plastic bag manufacturing, and on a basic feasibility study prepared by him-self. The basic feasibility study and strong relationships allowed the O/M to obtain a soft loan from the development bank to initiate his business. The P/M stated that the O/M was worried about the high risk of this new business and its potential failure. Thus, planning was one of the O/M's main concerns. Purchase, sales and cash flow were monitored and capital expenditure, profit and manufacturing planning were undertaken. He was also able to base decisions on an understanding of the enterprise's financial and technical capacity and on the market needs. The P/M stated that when the enterprise was established, the O/M realised that if manufacturing developments were not introduced, the competition would cause the business serious problems. Consequently, he started to save an amount of money each month in order to introduce new production lines. In July 1999, LD 30,000 was spent to acquire new printing and large cutting machine. The O/M stated that the LD 30,000 was fully paid from the enterprise and family savings.

The P/M stated that some plans, which were prepared by the O/M, were clear, known and understandable, but that these were not in clear written form. The I/A stated, "The budgets were prepared only in preparation for the high sales seasons". The O/M stated that the demand would become higher during the summer, spring, Ramadan and during the festivals and this was because people increased their number of purchases during these seasons. He added that in the other seasons it was very difficult to forecast the demand which should be used as a corner stone for preparing a budget.

The I/A stated that the existing banking sector procedures and the tax office's estimated method to calculate V.A.T was a major barrier to the preparation of a formal income statement and balance sheet.

The O/M's primary concern was to sell an increased number of units and accrue more money in order to make profits and have enough money to cover the enterprise's monthly obligations. Therefore, small amounts were waived from the customers existing debt balances in order to encourage their payment. In addition, discounts were given to quantities sold above 400 kilograms. The decision to waive small amounts from the customers' balances and give discounts were based primarily on the O/M's personal experience and judgement.

During a given week and before the next week began, the O/M ensure there were enough raw materials in the inventory to supply the production processes, enough finished products to cover the customers orders and secure at least LD 260 to cover the loan's premium.

The I/A stated that instructions were given by the O/M to retain enough cash money in the enterprise safe in order to take advantage of raw materials offers. The O/M stated that of all the cost elements; raw materials were the highest. He also added that, "to be a strong competitor and a successful businessman, you should be intelligent in purchasing the raw materials". The O/M's personal experience and the market conditions had taught him to purchase raw material special offers, which appeared from time to time. Therefore, the O/M used his personal experience to project the trend of raw material prices and the period when they would be either in an increasing or declining mode. Also, obtaining some of the raw materials offers enabled the O/M to compete with the competitors in term of prices (see label 13, 14 and 15; Table 6-2).

### 6.5.11 Profit planning

The demand for plastic bags usually decreased to its lowest levels during the autumn and winter. In spring, summer, Ramadan and other religious periods the demand usually increased to its highest levels. The O/M stated that based on personal experience, large inventories of the finished products were secured before these seasons and festivals started in order to be able to supply the customers. The P/M stated that during the strong seasons the whole of the production capacity was focused on producing special orders, which the enterprise received when the competitors were busy producing the strong season's products. He stated that by following this strategy, the enterprise had a great opportunity to compete with other competitors in terms of prices and supplying the customer orders. The I/A stated that the O/M's personal experience allowed the enterprise to secure a healthy profit and take a competitive advantage in the plastic bag market.

The O/M determined 30 tons as a break-even point and the O/M and the I/A computed this point based on information obtained from previous months. This information included the average utilities, wages and other expenses paid in the previous months, the cost of one ton of raw materials and revenues from selling one ton of units produced. Therefore, the O/M's target was to produce and sell more than 30 tons of plastic bags each month in order to make reasonable net profits. The O/M stated that the break-even point determination was very important to his business. This is because



several actions would be taken to increase the sales when the enterprise reached its estimated break-even point. The I/A stated that instructions were given to reduce the unit- selling prices and some instructions were given to distribute the products in other regions at low prices. According to O/M, distributing the products in other regions with lower prices would not affect his business and would make a reasonable profit. The I/A stated that by following this strategy, which was based on the O/M's personal experience, the enterprise made healthy profits and took a competitive advantage in the plastic bag market.

The O/M's policy was to reduce the costs in order to increase the profit margin or to keep it unchanged when the prices were reduced. Therefore, he monitored the costs and expenses on a weekly, monthly and yearly basis. The I/A stated that reports regarding the element costs and expenses were requested by the O/M every week, month and year. The O/M compared element costs and expenses between the weeks, months and years in order to identify the elements which rose or sank beneath the normal levels and investigations were made concerning the causal reasons in order for them to be adjusted. In order to evaluate the business plans and how the business was performing, the O/M obtained profit and loss reports every month from the I/A and compared them with those from previous months. He also received monthly reports regarding quantities sold of each type of product, to whom they were sold, in which region and for what prices (see label 16, 17, 18, 19 and 20; Table 6-2).

### 6.5.12 Manufacturing planning

The interruption of the electrical power supply and the machine breakdowns could cause the enterprise to close for a day or even a week. Therefore, the O/M's manufacturing strategy was to keep the production lines operating for 24 hours a day, six days a week in quieter periods in order to secure large inventories of the finished products before the strong selling seasons and festivals started. During these periods the whole production capacity was focused on producing special orders. The I/A stated that by following the O/M's strategy, the enterprise had a great opportunity to compete with its competitors in terms of prices and facing the customer's orders during periods of interrupted production.

Every evening, the O/M checked the inventory in order to identify the items which should be produced during the next day. The P/M also stated that every evening the O/M determined the specific types, sizes and quantities of plastic bags, which would be produced the next day.

Regarding special orders, determination of the delivery time was the O/M's responsibility and this was based on his personal experiences. The O/M stated, "delivering the products to customers at the right time is very important for the reputation of the enterprise". He added that if there were no interruption in production, the ability to deliver the products at the right time was close to a 100 per cent. The P/M stated that in the event that the enterprise received more than one special order, a written schedule was prepared and given to him (see label 21, 22, 23 and 24; Table 6-2).

### 6.5.13 Productivity control

The P/M identified the main causes of the interruption to manufacturing productivity. The first was the long wait for repairs due to the lack of local or national spare parts suppliers as a result of United Nations sanctions. The second was frequent interruption of the electrical power supply.

The manufacturing machines were operated 24 hours a day, six days a week under normal conditions and the manufacturing process was divided into two shifts, each of which worked 12 hours from 8 till 8. The machines were switched on from 8 o'clock on Saturday morning till 8 o'clock Friday morning and sometimes until 8 o'clock Friday evening if there was an urgent order.

The P/M counted the units produced by each shift during the working day and compared this with the estimated normal productivity levels. The P/M was responsible to record in the finished products book the details of the units produced during the day and the shift's code. At the end of each shift, the units produced were inspected and stamped with the shift's code number and the total number of units was compared with the average number of units produced. Reasons for differences were identified and investigated by the O/M or by the P/M.

At the end of each day, the P/M reported to the I/A regarding the quantities of raw materials used in the production processes and the quantities produced in order to update the inventory bin cards. At the end of each day, month and year the O/M, P/M and the I/A compared in written form the quantities produced with the standard and targeted quantities in order to identify and investigate any differences. The P/M noted that the frequent interruption to the electrical power and the machines' technical errors were the main factors affecting the monthly production sizes.

The I/A indicated that the O/M motivating the employees to work to their maximum capacity and he was very concerned about the employee's reprimands and penalties. The O/M stated that he gave each employee three days paid holiday during holy

festivals each year and an extra quarter of a month's salary as a bonus at the end of the year to employees who had not taken any leave. At the same time he added that if any employee came to work more than an hour late or produced faulty products, the whole day would be deducted from his wage and three days would be deducted for each day's absence. Every month the O/M received reports regarding the employees' production rates which would be compared with those from previous months. The O/M explained that all the punishment and motivation regulations were displayed on the notice board and that all employees were aware of them (see label 25, 26 and 27; Table 6-2).

### 6.5.14 Quality control

Quality control was the O/M's primary concern. The P/M stated that the enterprise had a very good business reputation, and the reasons for this were the quality of the products, the production delivery time, the O/M's relationship with the customers and the enterprise's financial procedures. The O/M stated "this enterprise has a good reputation and I always try to maintain this at the same level". According to the I/A customer satisfaction was very important to the O/M and the O/M stated that he always asked the customers for their comments and suggestions in order to obtain feedback which could be used to improve product's quality.

The P/M stated that the fact that the machines were new and the quality control procedures were the main factors which enabled the enterprise to meet the required quality. The P/M stated that quality was the employee's main responsibility and added that written quality standards and examples used as guidance models were displayed on the workshop walls.

At all stages, the quality of the products was monitored and checked through frequent inspection using the random samples method. The O/M pointed out that if customers found defects in their orders and they were returned, the shift responsible for these defects would be determined by identifying the shift's code number which was stamped on the defective units. A penalty would be given to the employee who made the defects in order to minimise problems in the future.

The P/M stated that the details of and reasons for the defects were reported to the O/M and at the end of each month there was a comparison between the defects and waste of the current month with both the estimated amounts and those in previous months.

The O/M added that the frequent interruption to the electrical power and technical errors were the main factors affecting the defect rate (see label 28, 29 and 30; Table 6-2).

## 6.5.15 Cash flow control

The O/M stated that the long-standing customers who had a high credit rating were allowed to pay their balances by cheque whereas the reputation of a new customer was investigated before establishing business with them. If they were deemed unreliable, the O/M requested them to pay their balance in cash. However, most customers paid the full amount in cash and some sales were made on a credit basis. Special order customers were requested to pay one-third from their balances as a deposit and the O/M explained that customers were requested to pay the deposit by cash, whereas other payments could be by cash or cheque. An account would be created in the special order book after the deposit payment was received and table (6-5) shows an example of a customer's account in the special order book.

Table (6-5): A customer account in the special order book	
Mr. ABD EL RAHMAN	
Agreement date: 15/1/2000	Delivery date: 10/2/2000
	<b>LD</b>
<b>Balance</b>	1000.000
<b>Advance payment</b>	330.000
<b>Balance</b>	670.000
<b>Payment</b>	400.000
<b>Balance</b>	270.000
<b>Payment</b>	
<b>Balance</b>	

The cheques and money received from customers were recorded by the I/A in the daily transaction book before being deposited in the bank account by the O/M. An amount of LD 500 was retained as petty cash to meet daily expenses and any raw material offers. Also, the deposit slips were handed to the I/A who compared them with those of the cheques recorded in the book and any differences if found were corrected.

Regarding the issues of cheques, the O/M was responsible for issued cheques and it came under his control. The I/A stated that all cheques for raw materials and other expenses were issued by the O/M and the issued cheque details were recorded in the cheque stubs and daily transaction book. The O/M explained, “ My business has a high reputation, and I will not allow this reputation to be diminished by issuing cheques without a sufficient balance in the bank account”. Therefore, he always checked the bank balance before issuing cheques.

A bank statement was obtained by the O/M every week in the normal cases, and after three days from the cheque's depositing time to become aware of the collected and bounced cheques. The bank balance was reconciled by the I/A and the results were given to the O/M. The customers who had bounced cheques were contacted by the O/M in order to make new agreements.

The O/M received a monthly report regarding the customers debit balances. The customers who had not made payments for a prolonged period were identified in order to contact them to encourage payment. The I/A was instructed to ignore and cancel the future orders of bad debtors until they were able to pay their previous balances. The O/M noted that in order to encourage the old debtors to pay their balances in cash, he waived small amounts from their balances. He added that legal actions were taken against customers who had balances outstanding for more than twelve months. The amount of cash received from debtors was deducted from their balances in the debtor's book.

The O/M noted that although the raw materials were often purchased from local suppliers in cash, sometimes the amount of a purchase was not paid in full and outstanding balances would be recorded in the supplier's book.

The employees' wages and withdrawals were recorded in the employee's book and these were paid in cash. The amount an employee could withdraw was limited to half a month wages. The I/A stated that when an employee requested money during the month, his account in the employee book was checked and compared with the withdrawal limit. If he had exceeded the limit then his request would be denied. At the end of the month the employees wages were paid in cash after deducted their withdrawn. The O/M's withdrawals were also recorded in the employee book.

The O/M noted that after a loan was obtained and the enterprise was established in 1998, a numbers of actions were taken to secure sufficient funds each month in order to repay the loan and its interest and to meet his future growth plans. The O/M noted that, "I have to secure the exact monthly loan repayment by the end of each month in order to avoid any problems with the bank, which would affect the reputation of the business". These actions included firstly, limit personal and family withdrawals. Secondly, reduce the product cost and thirdly, create new markets. However, during each month, the I/A informed the O/M whether the funds in the bank account would be sufficient to meet the loan repayment based on a basic cash flow statement. If it was insufficient, the O/M collected the amount, which would make the bank balance sufficient from debtors or requested further loans from friends.

At the end of the month and at other times, the O/M asked for information regarding the amount of sales and the expenses paid within the period to using them as an indicator to measure who was the business operating (see label 31, 32 and 33; Table 6-2).

### 6.5.16 Inventory control

The O/M was very concerned about the inventory control. The I/A stated that at the end of each week, month and year the O/M counted and checked the inventories and compared these figures with the balances in the inventory bin cards. Differences were identified, investigated and corrected. However, the O/M stated, “sudden physical counts are conducted when doubts occurred”. Determining the correct balances and levels of the inventories was very important for the O/M to identify the following day’s manufacturing production plan. Thus, the O/M always asked the I/A to ensure that all items taken from and added to the inventories were recorded in the bin cards on a daily basis. A bin card was kept for each type and colour of finished product and each item of raw material in the inventory. The bin cards included columns for day and date, quantities added and taken out, colour (to be used in the case of finish products), balances and notes.

The units produced were counted, checked and stamped with the shift’s code number by the P/M or by the O/M before either storing them or updating their bin cards. At the end of each day, information about the quantities of raw materials used in the production processes and the quantities produced were reported to the I/A in order to update the inventory bin cards. In addition, information about balances and levels of raw materials and finished products were reported to the O/M on a daily basis. In event of products being returned from previous sales because of damage or incorrect specifications, the details were transcribed onto the bin cards on the same day.

The O/M stated that each evening, he compared the levels of finished products in the inventory with the normal levels in order to identify the items which would be produced the next day.

Specific minimum levels of raw materials and finished products were kept in the inventory and these levels were determined based on the O/M’s personal experience. The minimum inventory level of raw materials was 4000 kilograms in order to face the shortage and unavailability of raw materials all the time, whereas the minimum inventory level of finished products was 200 kilograms of each colour of each type.

Although larger quantities of raw materials were usually purchased, occasionally the raw material levels reached to or dipped below their reorder point. The O/M noted that

amount of information regarding the inventories, expenses, withdrawals, wages, bank balance and customers and supplier's balances. Therefore the use of some business records and documents was regarded as a major causal condition to the generation and use of accounting information.

The business expansion was regarded as a major causal condition to the generation and use of accounting information because the business activities and the financial transactions increased after the introduction of the new machines. This required a full-time accountant to organize and record the financial transactions and to generate an increased amount of accounting information for planning and control.

The use of an internal accountant (I/A) was also regarded as another major causal factor because he was responsible for the sales function and recording the business and the financial transactions in the business's books. Also, he provided and generated useful information about several aspects of the business on daily, weekly, monthly and yearly bases.

The intense local competition influenced the need to generate and use information concerning the product costing and pricing, quality and delivery time. This also encouraged the O/M to monitor the raw materials prices, competitors' activities, customer satisfaction and also actively seek customers. In addition, the competition forced the O/M to initiate several actions to reduce the cost and expenses. Therefore, the competition was considered as another causal condition.

The use of some of the management accounting techniques such as 'break-even', 'reorder point' and 'inventory level determination' made generating and using the accounting information very important. These techniques encouraged the O/M to gather information regarding the unit cost, total cost, unit price, production size, profit margin, raw materials and finished products types and levels. Therefore, the use of some of the management accounting techniques was regarded as a major causal condition. The reputation of the business was regarded as another causal factor of the main phenomenon because it forced the O/M to maintain the current level of customer satisfaction and to estimate the products delivery time. Furthermore, accounting information related to the cash flow was needed to secure sufficient funds in the bank account to meet the loan repayments.

The application of formal and informal procedures for product costing and pricing, financial, profit and manufacturing planning; productivity, quality, inventory, cash flow control as well as informal procedures for manufacturing planning; capital expenditure control and make or buy decisions had increased the ability of the O/M to generate and

he would buy rolls of the plastic CD covers or macaroni (pasta) plastic bags from local competitors, and then print all the details required, cut and deliver them to the customers. The O/M explained that the purpose of buying these products was to meet customers orders and the business would have time to produce other important items at the same time (see label 23, 41, 42, and 43; Table 6-2).

## 6.6 Summary

In the previous sections, relationships between the labels listed in table (6-2) were identified, and a basis was established for organising the ideas which emerged from the analysis. In the next section the researcher will attempt to relate the labels, based on these relationships, to the main phenomenon.

## 6.7 Results

In order to relate labels to the main phenomenon to begin to develop some related hypotheses, the researcher pieced them together by means of Strauss and Corbin's (1990) paradigm model. According to this model, causal conditions create a phenomenon within a specific context. Action/interaction strategies are implemented to manage the phenomenon having regard to the intervening conditions which influence it and produce desired consequences. However, in order to utilise this model, labels are grouped in terms of causal conditions, context, action/interaction strategies, intervening conditions and consequences.

### 6.7.1 Causal conditions

The O/M's adequate management and accounting skills were regarded as a major causal condition of the main phenomenon (Accounting information for planning and control) because it enabled him to understand and use information for planning and controlling the business activities.

The availability of time by allocating the I/A to be responsible for the accounting and sales function allowed the O/M to have sufficient time to generate and use on a daily basis useful information to plan and control the business aspects. Thus, the availability of time was regarded as a major causal condition to the generation and use of accounting information.

The use of some business records and documents to record and support the financial transactions was a major source of data. This also allowed the generation of a large



when the I/A reminded him about the raw materials which had reached or were below the reorder point, he purchased adequate quantities which would return the items to their normal levels until any special offers appeared when he would again purchase large quantities (see label 23, 34, 35, 36 and 37; Table 6-2).

### 6.5.17 Capital expenditure control

After the enterprise was established in 1998, the O/M recognised there was a need to acquire printing and large cutting machine. The O/M stated, ‘‘under the intense local competition and market conditions when the enterprise was established, I recognised that I had to acquire printing and large cutting machine if I wanted my enterprise to survive and expand’’. To achieve this, two months after the enterprise’s starting date, the O/M planned to acquire these machines by saving a certain amount of money each month. The O/M stated that after 18 months he found it was extremely difficult to secure and collect LD 30,000 from the business savings. Therefore, he obtained additional money from his family.

The I/A stated that an instruction was given by the O/M to prepare a feasibility study to acquire a recycling machine. The O/M stated that based on his personal experience and observation he felt that the acquisition of the recycling machine would reduce the units cost. Also a feasibility study was prepared to acquire an electric generator as a reserve battery in the near future in order to keep the machines running when the electrical power supply was cut, and this was based on the business needs and the O/M’s personal experience (See label 38, 39 and 40: Table 6-2).

### 6.5.18 Make or buy decisions

Occasionally, the O/M decided to buy two types of ready-made plastic bags rather than manufacture them in the enterprise. The first was a plastic cover for a CD, and the second was a plastic bag for macaroni (pasta). Basic calculations were prepared based on the O/M’s personal experiences to determine the financial implications of manufacturing these items in the enterprise rather than buying them from elsewhere. The calculations were performed and stored only in the O/M’s head. The O/M added that no differences were found between the ready-made plastic CD cover and the macaroni (pasta) plastic bags with those which could be produced by the enterprise in terms of cost and quality. Taking into account this result, and the fact that there was a low demand for both types, the O/M stated that when the enterprise received an order,

use accounting information in planning and controlling these aspects. Thus, these procedures were regarded as a causal condition.

### 6.7.2 Intervening conditions

Intervening conditions are general conditions, which affect the O/M's strategies. The small size of the business was regarded as a barrier to using an external accountant and using a computer accounting system to arrange the accounting function in an improved way. Thus, the small size of the business was regarded as a barrier for using a well arranged accounting function in the enterprise.

The government agencies lack of interest in the preparation of income statements and balance sheets was also regarded as an intervening condition.

The lack of formal procedures for capital expenditure control and make or buy decision was a barrier to the generation and use of related accounting information. Thus, the lack of these procedures was regarded as a major intervening condition.

### 6.7.3 Context

The researcher decided that based on the analysis of the data; there were three labels which may be considered as the main context for the main phenomenon. The first was the United Nations sanctions, the second was the frequent interruption of the electrical power supply and the third was the estimated tax method.

### 6.7.4 Action/Interaction strategy

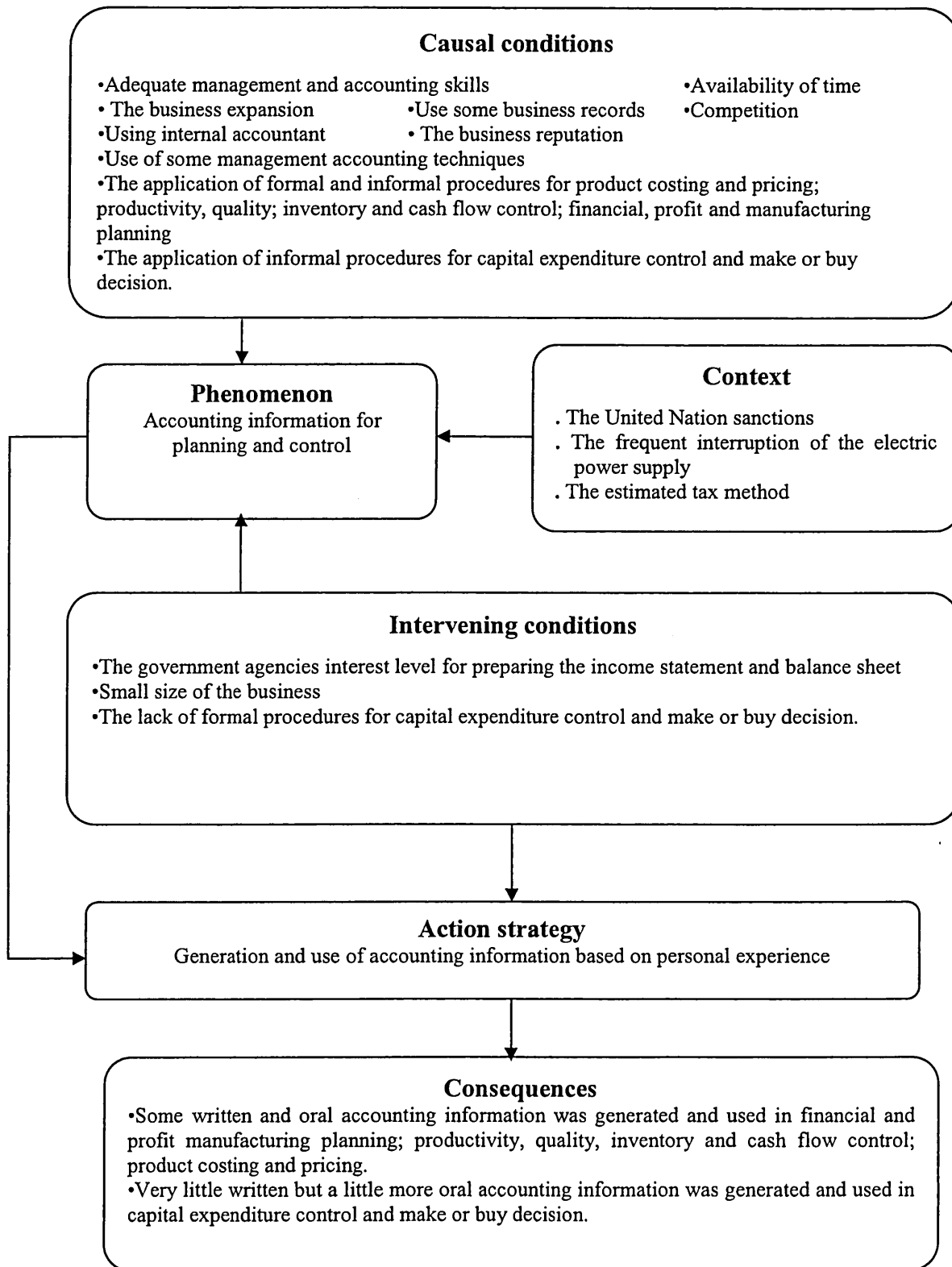
The generation and use written and oral accounting information based on personal experience for planning and controlling business activities was the action strategy followed by the O/M.

### 6.7.5 Consequences

The action strategy to manage the phenomenon was based on the O/M's personal experience of generating and using the accounting information and the researcher identified some consequences of this. Firstly, some written and oral accounting information was generated and used in product costing and pricing, financial and profit manufacturing planning; productivity, quality, cash flow and inventory control. Secondly, very little written but a little more oral accounting information was generated and used in capital expenditure control and make or buy decision. Figure (6-1)

highlights the relationship between the labels in terms of Strauss and Corbin's (1990) paradigm model for Case No.2.

Figure (6-1): The relationship between the labels



### 6.7.6 Substantive hypotheses

This case study was conducted in a micro plastic bags manufacturing enterprise with eight employees and an O/M. It began with a description of the history and background of the enterprise, business records and documents. In-depth discussion and analysis processes were then used to identify the labels which were related to the main phenomenon (Accounting information for planning and control). Following that, the hypothesised relationships between these labels were identified and related to the main phenomenon by using the Strauss and Corbin (1990) paradigm. Several substantive hypotheses related to the accounting information for planning and control in this micro manufacturing enterprise emerged and are listed below:

1. The owner manager's adequate educational level in management and accounting skills is a major factor affecting the generation and use of accounting information. (See section: Adequate education in management and accounting).
2. The availability of time is a major reason for the generation and use of accounting information (see section: Availability of time management).
3. As the enterprise expands the generation and use of accounting information increases. (See section: Upturn of business).
4. The use of business records and documents is a major reason for the generation and use of accounting information in planning and controlling the business activities (see section: Some business records and documents).
5. The size of the business is a major factor affecting the generation and use of accounting information in planning and controlling business activities. (See section: Small size of the business).
6. The government agencies (such as tax authorities and state banks) level of interest in the micro enterprise's financial information is a major factor affecting the generation and use of accounting information (see section: Financial planning).
7. The competition is a major factor affecting the generation and use of accounting information. (See section: Competition).
8. As the concern for the business reputation increases, the generation and use of accounting information increases (see sections: Manufacturing planning quality control; cash flow control).
9. The internal accountant is a major reason for the generation and use of accounting information. (See section: Use of internal accountant and other sections).
10. The use of 'break-even point', 'inventory level' and 'reorder point determination' is a major reason for the generation and use of accounting

information. (See sections: Profit planning and inventory control and other sections).

11. The O/M generates and uses some accounting information based on personal experience in planning some aspects of his business (see sections: Product costing and pricing; profit planning and capital expenditure control and other sections).
12. The application of formal and information procedures for productivity, quality, inventory and cash flow control is a major reason for the generation and use of accounting information (see sections: Productivity control; quality control, inventory control and cash flow control).
13. The application of formal and informal procedures for financial, profit and manufacturing planning is a major reason for the generation and use of accounting information for planning and control (see sections: Financial planning; profit planning and manufacturing planning).
14. The application of formal and informal procedures for product costing and pricing is a major reason for the generation and use of accounting information in planning and control (see section: Product costing and pricing).
15. The application of informal procedures for capital expenditure control is a major reason for the generation and use of accounting information (see section: Capital expenditure control).
16. The application of informal procedures for make or buy a decision is a major reason for the generation and use of accounting information in planning and control (see section: Make or buy decisions).
17. The lack of formal procedures for capital expenditure controls and make or buy decisions is a major barrier to generating and using written, oral and estimated AI for planning and controlling business activities (see sections: Make or buy decisions and capital expenditure control).
18. Some written and oral accounting information is generated and used in productivity, quality, inventory and cash flow control (see section: Productivity control; quality control; inventory control and cash flow control).
19. Some written and oral accounting information is generated and used in financial, profit and manufacturing planning (see sections: Financial planning, profit planning and manufacturing planning).
20. Some written and oral accounting information is generated and used in product costing and pricing (see section: Product costing and pricing).
21. Very little written but a little more oral accounting information is generated and used in capital expenditure control (see section: Capital expenditure control).
22. Very little written but a little more oral accounting information is generated and used in make or buy decisions (see section: Make or buy decision).

## Chapter 7: Case No. 3

### Plastic Manufacturing Enterprise

#### 7.1 Introduction

This case study was conducted in a plastic manufacturing enterprise which produced high quality plastic products. It had a high reputation, which was based on the O/M's extensive experience and technical lathing skills, and the use of the best machines for producing plastic products in Benghazi. There were thirty-one private plastic enterprises and one public plastic manufacturer in Benghazi. The enterprise produces plastic products such as kitchenware, barrels, bottles, toys, lunch bags and any required plastic products. The enterprise distributed its products through local and national markets and the production processes were mostly done mechanically. Four new Italian machines had been imported from the Egyptian market and all the raw materials were purchased from local suppliers.

#### 7.2 The manufacturing background

In October 1996, the plastic manufacturing enterprise was established in Benghazi. The O/M's aim was to have his own business and secure an additional source of family income. The enterprise was founded on an 80 square metre area to produce plastic barrels and bottles. The amount invested at the start up of the business was LD 15000 collected from family and personal savings. In 1999, the O/M moved his business to a new workshop with an area of about 300 square metres with a new additional machine and a second hand lathe. The total acquisition cost of the new and second hand machines was LD 35000, which was sourced from the enterprise and family savings, and loans from friends. The new workshop and the new injection machine allowed the enterprise to expand their production and storage activities. The second hand lathe allowed the O/M to improve and develop new plastic products such as kitchenware, toys, and lunch bags. The enterprise employed in addition to the O/M, seven full time employees, of whom one was a salesman (S/M), one an internal accountant (I/A), another a production manager (P/M) and the remaining four were all production employees. The S/M was 29 years old with a secondary school education and he was responsible for distributing and marketing the products, collecting debts from the customers and inventories. The I/A was 30 years old with a three-year diploma

in accounting and he was responsible for the accounting function and managing the business when the O/M was absent. The P/M who was a son of the O/M was 32 years old and he was given the responsibility for employees and all the production processes. The O/M, S/M and I/A all attended a practical training course to learn how to record the financial transactions using the computer and how best to obtain the information they required.

## 7.3 Primary data and data analysis

### 7.3.1. Primary data

#### 7.3.1.1. The Interviews

Unstructured interviews, observations, and examination of the business documents were carried out over a full-time three-week period. Twelve interviews were conducted with the O/M, I/A, S/M and P/M. All the interviews were conducted between 9 and 12 o'clock in the morning in the I/A's and the S/M's office.

The interviews started with broad questions, and then became more focused according to any points which were relevant and important to the main phenomenon (Accounting information). All the interviews were tape-recorded and the tape recordings of the interviews were later transcribed. Table (7-1) shows the profile and the number of the interviews.

Table (7-1): Profile of the interviewees and number of interviews					
	O/M	P/M	I/A	S/M	Total
Number of interviews	4	2	4	2	12

### 7.3.2. Documentary evidence

The researcher was allowed to examine all the business documents, computer software and printouts. He was also allowed to obtain copies of the business documents, purchase, sales invoices and cash receipts. In addition, the researcher was also given free access to observe the I/A while making the bank balance reconciliation.

## 7.4. Data analysis

A structured set of grounded theory coding procedures were employed to organise the ideas which emerged from the analysis of the primary and documentary evidence. After each interview was analysed, the main points (concepts) were identified,

summarised and compared. Relationships between the concepts were noted and then related concepts were grouped and given a label. All labels were listed and checked to ensure that they had all been considered. Table (7-2) displays all the labels which represent the main points raised by all interviewees and these labels are discussed in the next section.

Table (7-2): Labels represent the main points which were raised by all respondents	
Labels	
1. Lack of education in management and accounting skills	
2. Availability of the Owner manager's time	
3. The business expansion	
4. Use of computer-based accounting software	
5. Some business records and documents	
6. Competition	
7. Use of internal accountant	
8. Inadequate infrastructure	
9. United Nations sanctions.	
10. No formal procedures for product costing and pricing	
11. Informal procedures for product costing and pricing	
12. Very little written but a little more oral accounting information was generated and used in product costing and pricing	
13. No formal procedures financial planning	
14. Informal procedures for financial planning	
15. Very little written but a little more oral accounting information was generated and used in financial planning	
16. Formal procedures for profit planning	
17. Informal procedures for profit planning	
18. Use of break-even technique	
19. Some written and oral accounting information was generated and used in profit planning	
20. No formal procedures for manufacturing planning	
21. Informal procedures for manufacturing planning	
22. Generated and used accounting information based on personal experience	
23. Very little written but a little more oral accounting information was generated and used in manufacturing planning	
24. Formal procedures for productivity control	
25. Informal procedures for productivity control	
26. Some written and oral accounting information was generated and used in productivity control	
27. No formal procedures for quality control	
28. Informal procedures for quality control	
29. Very little written but a little more oral accounting information was generated and used in quality control	
30. Formal procedures for cash flow control	
31. Informal procedures for cash flow control	
32. Some written and oral accounting information was generated and used in cash flow control	
33. No formal procedures for inventory control	
34. Informal procedures for inventory control	
35. Use of reorder point technique	
36. Very little written but a little more oral accounting information was generated and used in inventory control	
37. No formal procedures for capital expenditure control	



<b>Table 7-2 (Continued)</b>	
38.	Informal procedures for capital expenditure control
39.	Very little written but a little more oral accounting information was generated and used in capital expenditure control
40.	No make or buy decisions

## 7.5. Discussion

### 7.5.1 Lack of education in management and accounting skills

The O/M was 52 years old. At the age of 18, the O/M graduated from the Vocational Benghazi Centre, with a three-year diploma in turning and then worked as a turner for five years in a workshop. The O/M stated, "During this five year period, I gained a lot of experience and high technical skills in the craft of turning". He added that he gained very basic management experience through being involved with the business for many years. The S/M stated that although the O/M had a high level of turning skills he was poor in management and accounting techniques and skills. The I/A stated that although the O/M was poorly educated in management and accounting techniques and skills, he was aware of the importance of accounting information (see label 1; Table 7-2).

### 7.5.2 Availability of the O/M's time

The O/M was responsible for all the management activities including marketing, purchasing of raw materials, collecting debts, delivering finished products and supervising the production processes. However, after the business expanded and the financial transactions increased, the O/M realized that some of his responsibilities had to be delegated to other employees if a better standard of management was to be achieved. As a result, one of the production employees became P/M in addition to his main job as a production employee. Also, the O/M employed an I/A to be responsible for the accounting function and bought two personal computers with accounting software. The O/M, I/A and S/M were taught how to record the financial transactions onto the computer and how to obtain the information they required. The O/M stated, "By doing this I became fully devoted to the management function and business and had sufficient time to use the lathe to create shapes for the new products". In addition, the O/M had enough spare time to obtain useful information about various business aspects from the computer and the Internet when needed (see label 2; Table 7-2).

### 7.5.3 The business expansion

Although the O/M had no accounting background, he was responsible for the recording of the financial transactions in addition to his main responsibility. He used a large book to record the financial data on a daily basis according to his own basic method. The S/M stated that after moving to the new workshop and the introduction of the new and second hand machines in 1999, the business expanded and the financial transactions increased to a level which hindered the ability of the O/M to record, organize and classify the details of these transactions. The O/M stated that as a result of the production expansion and the product's improvement, the need for reliable information about the items in the inventory, cost elements, sales and expenses became very important. The S/M stated that the O/M was aware of an accountant's role to record and classify the accounting information. The O/M stated that the need for an internal accountant and computer-based software to arrange and organize the business records, to save time and effort and to generate instant information became increasingly apparent (see label 3; Table 7-2).

### 7.5.4 Some business records and documents

The O/M stated that it was difficult for him to obtain information about the customers' balances, inventory levels, amount of sales and purchase and production processes through using his own method. Therefore, he used an accountant and acquired two personal computers which were linked together and programmed with computer-based accounting software. The O/M and I/A were taught how to record the transactions onto the computers and how to gain the information they required. The software was called in Arabic "EL-KATB" which means in English "THE WRITER". The O/M explained that the software was intelligent and easy to use at the same time and he that this software helped the I/A to generate instant information when needed. The I/A stated that EL-KATB software had several accounting features. It had a complete accounting cycle and provided particular details about the customers, suppliers, inventories (raw materials and finished products), sales, payments, purchases, expenses, debtors, creditors and employees wages and withdrawals.

The I/A was responsible for recording the financial transactions on the computer and obtaining the required information. The O/M stated that by using the computer software, he became able to obtain instant information regarding all aspects of the business.

With the aid of the computer, different types of forms were used to record the business transactions. The first type was the production form, which was used by the P/M to record the details regarding the employee attendance, over time hours, fines and quantities and types produced. The second type was used to record the notes about technical errors and other problems. The third type of form was used by the S/M to record the details concerning amounts of cash or cheques collected from customers. The fourth type was also used by the S/M to record the details of the quantities, types and amounts of products distributed to each customer with the discounts given and amount of returned goods. The fifth type was used by the O/M to record the actual inventory level when he conducted physical counts.

The I/A stated that all the completed forms and all the external documents were handed to him in order to update the business accounts on the computer. Each form was saved by the O/M in order to be used when errors occurred. In addition to the computer forms, several documents from external sources were used to support the enterprise's financial transactions. These documents included purchase bills, telephones bills, electrical bills, and bank statements (see label 4 and 5; Table 7-2).

### 7.5.5 Competition

Regarding the competitive conditions, the O/M stated that there were thirty-one private plastic enterprises and one public plastic manufacture in Benghazi. The O/M stated, 'The product's modern design, price and quality are the most important competitive factors in the plastic products market'. The S/M also explained that there was no real competition with the public manufacture of plastic products because their products were of an old design and fashion with equivalent prices. The O/M stated that there was a high level of competition with foreign products because some people preferred to buy overseas products rather than domestic products. Because of this, the enterprise's details, which printed on each product, were in foreign language (English language).

With regard to the local competitors, the S/M stated that it was very difficult to compete with some in terms of price and quality. The O/M stated that when modern designs and new products were produced, his enterprise took a potential marketing advantage. The S/M stated that the O/M was very concerned about the customer satisfactions and feedback and necessary modifications based on customer suggestions were often made in order to improve designs and frames. The products were usually delivered to the customers on time, but in the event that there was a delay for any reason

such as technical errors or an interpretation of the electrical power, the O/M would contact the customers and arrange two or three additional days for delivery.

The O/M stated that marketing the products was his primary concern during the strong seasons (summer, autumn and spring). The product marketing was ignored during the quieter season (winter) because the enterprise sub-contracted business. He added that the competition among the plastic products sub-contractors was high and many of the local competitors fought for the same contract. The S/M stated that the price was the most important competitive factor for the plastic products sub-contractors and because of this, several actions were taken to reduce the cost and expenses in order to provide lower prices than the competitors (see label 6; Table 7-2).

### 7.5.6 Use of an internal accountant

The O/M stated that initially the business was very small with only two machines and three employees. He added that in addition to the small number of financial transactions, the revenues obtained were insufficient to justify the use of an internal accountant in the business. However, after the business expanded in 1999, the financial transactions increased and became more complicated which made the O/M realise that without an accountant, the accounting function would not be efficient and this might cause a number of problems. For this reason, the O/M purchased computer-based accounting software and used an I/A to be responsible for the accounting function in the enterprise. The I/A stated that when he started at the enterprise there was no real accounting function and the only documents and records were a large unorganised book. The S/M stated that after employing the I/A and the use of computer-based software, the business records and recording method were improved. The O/M stated that the accounting function became well organised and several pieces of information on a daily, weekly and monthly bases were provided. This information included the number of manufactured products in the inventory, costs of the products, purchases, sales, returned products, expenses, waste, debtors and creditors balances and bank balances. In addition, the O/M received on a weekly and monthly basis, reports from the I/A regarding the suppliers' and customers' balances and wages paid. At the end of each month and year, the O/M obtained reports concerning revenues, expenses and profits and he was given a brief explanation of these by the I/A. The income statement and the balance sheet were not prepared in the enterprise. The O/M explained that this was because the income statement and the balance sheet were of less importance than the other reports which he obtained during the year. He added that the other reports

provided information, which keep him aware of how the business was performing and also enabled him to manage the daily business activities. The formal income statement and balance sheet were of a lesser important to him. The I/A added that as a result of preparing the profit reports each month and year, and based on the estimated method which was used by the Tax Office to determine the amount of VAT, the O/M did not request income statements and a balance sheet for the business. The O/M added, "There was no need to prepare such statements because all the government agencies were not interested and did not request them". However, the O/M stated, " The information availability and the improvement in the accounting function in the business made me recognize how important the role of the I/A was for the business (see label 7; Table 7-2).

### 7.5.7 The United Nations sanctions and inadequate infrastructure

The O/M stated," The business was affected by the estimated tax method, lack of any adequate infrastructure, lack of spare parts and lack of financial support". When the machines were inoperable and required spare parts, the enterprise could potentially close for a number of days or even a week. This is because the spare parts need to be imported from Egypt and sometimes from Tunis rather than from local suppliers as a result of the United Sanctions which were imposed against Libya in 1992. The O/M stated that although the purchasing process for spare parts would take a long time and cost more money, he sometimes found defects in the spare parts when they were received, which caused the enterprise to stay closed for longer periods of time. The frequent and unexpected interruption to the electrical power supplies was another reason for the interruption production and product defects. The O/M stated that financial support was very limited and his enterprise lacked to any access to bank loans due his Islamic belief regarding the prohibition of loans with interest and due the bank's complex loan procedures and the required (see label 8 and 9; Table 7-2).

### 3.5.8 Product costing and pricing

The O/M stated that before and after the establishment of the business no feasibility study was undertaken to estimate the product's cost and selling prices. As a result, the determination of the products selling prices was based on his personal experience. The O/M stated that the estimated unit-selling price was located somewhere between the competitors' prices with a reasonable profit margin. However, after the

business expanded in 1999, the I/A computed the estimated total cost of each product and the break-even point through using the computer-based accounting software. The computations were based on relevant data which was provided by the O/M which included five percent waste in addition to all costs and expenses elements involved in manufacturing one unit of the product. The estimation of the wastage rate was based on the O/M's personal experience and by using basic information obtained from the business records. However, the estimated total cost of each product was changeable from month to another due to the difference in the amount of the cost elements and the production size. The I/A stated that the O/M's personal experience was used in estimating the product's selling price. The O/M stated that the estimated unit-selling price would be located between the estimated total cost of each unit produced and the competitor's prices or based on reasonable profit if there was high competition.

The I/A noted that each product produced in the enterprise had its own page in the computer-based accounting software. Each page showed the processes used to calculate the total cost of a unit produced. If there was a new product, and it had never been produced in the enterprise before, the O/M would estimate and provide the relevant data based on his personal experience, and then ask the I/A to compute and record the estimated total cost. At the end of each month, the O/M received reports regarding the amount of each cost and expense element consumed in the produced unit and the weight and cost of raw materials consumed in production during the month (see label 10, 11 and 12; Table 7-2).

### 7.5.9 Financial planning

Although the O/M was very concerned with the planning, there were no plans or objectives written down on paper. The O/M stated that the establishment of the enterprise was based on advice from friends and he added that there were no standard forms for business planning. The I/A stated that the plans were prepared and retained in the O/M's head. He added that a budget was not prepared because the O/M was not familiar with using one and was unable to forecast the demand for the business products. The O/M stated that loans from banks would not be used in financing capital expenditures because the existing banking sector procedures were very complex and requested many guarantees and interests which was prohibited by the Islamic religion. Due to this situation, the S/M stated that in order to cover the daily expenses and financial obligations of the enterprise, the O/M's concern was to sell more units and accumulate more money (see label 13, 14 and 15; Table 7-2).

### 7.5.10 Profit planning

The I/A indicated that the O/M used the average daily sales information and his personal experience to estimate the amount of plastic products the market required on a daily basis. The O/M stated, "The plastic products market is seasonal and the demand always fluctuates". Usually the demand increased to its highest levels in the spring and summer seasons. This is because the majority of consumers preferred to use disposable products for days out and picnics which were popular in the summer and spring seasons. The O/M stated that kitchenware comprised about 70 percent of the enterprise sales in the spring and summer seasons and about 40 percent in other seasons.

The O/M was very concerned about increasing the monthly sales far beyond the break-even point in order to make a reasonable profit. However, because of the estimated total cost of each product was changeable from month to month due to the difference in the amount of the cost elements and the production size, the I/A determined the break-even point on a monthly basis. He computed this figure based on the relevant data recorded in the computer by using Microsoft excel software.

At the end of each month, the O/M received reports regarding to the quantities sold and produced, the amount of cost and expense elements and the net profits. Then the O/M compared these with those in the previous months in order to discover how the business was performing and to evaluate the monthly business plans. The O/M was very concerned about the costs and elements and they were monitored during the month in order that they be kept at the lowest levels and to identify those which increased by more than the normal levels. The O/M stated that several actions were undertaken in order to increase the profits and some of these actions were aimed at increasing the sales, and others aimed at reducing the costs and expenses. The first such action was to offer competitive prices, the second to create new markets and the third to offer sales with flexible terms. Regarding the cost reduction actions, the waste was also monitored in order to minimise it. All the new product's design patterns and frames were produced in the enterprise by the O/M and a production employee was fired (See label 16, 17, 18, 19 and 20; Table 7-2).

### 7.5.11 Manufacturing planning

The O/M stated that the manufacturing machines were operated for 12 hours a day from Saturdays to Wednesdays. Every Thursday before the weekend holiday began (Friday), the machines were inspected and the manufacturing area was cleaned. In case

of an urgent order, overtime hours would be worked on Thursdays. The O/M stated that because the enterprise was sub-contracting business to produce barrels to specific customers, the enterprise policy in the winter was to produce a large quantity of barrels in order to have them ready and available for future demand when the enterprise was busy producing the high sales seasons products. The O/M stated that based on his personal experience, he became familiar with the types, sizes and quantities of plastic products demanded by the customers each week. The demand for plastic products in summer, spring and autumn seasons increased to its highest level and in winter the demand decreased to its lowest level. The P/M stated that based on the information reported to the O/M regarding the actual inventory of finished products and quantities sold from each type and size, the O/M based on his personal experience, determined the types, sizes and quantities which would be produced during the next day and week. However, if the orders were larger than the amounts in the inventory, the O/M would ask the customers for extra time for delivery. The determination of delivery time for new products or orders with special specifications which had never been produced in the enterprise before, was based on the O/M's personal experience. The O/M stated that two days was usually added to the estimated delivery time in order to meet account for unexpected interruptions. The P/M stated that social and family occasions, machine breakdowns and electrical power failures were the main factors affecting the manufacturing plans. The O/M stated that under normal conditions and when there was no interruption to the production processes, products were completed and delivered on time. The O/M clarified that the manufacturing plans and decisions were made based on the number of orders, their types and sizes and the specified delivery time. The P/M stated that the manufacturing plans and decisions were made based on the O/M's personal experience and were displayed on the notice board on the manufacturing area walls (see label 21, 22, 23 and 24; Table 7-2).

### 7.5.12 Productivity control

The P/M stated that in addition to his main job as a production employee, he was responsible for recording the details of the employees' attendance, overtime, fines and quantities and types of product produced by each employee on the production form. He also monitored employees closely during the working day. At the end of the day, he handed the production form to the I/A in order to update the computer records. The O/M stated that when he was not busy creating new frames and he had some spare time he made many inspection tours of the workspace. During these tours he monitored all the



manufacturing stages. Regarding his relationship with the employees, the O/M stated that he maintained a friendly rapport with the employees. The P/M added that the O/M established a strong relationship which extended beyond the enterprise into his employees' personal lives. The O/M stated, "I have to take care for my employees and try to resolve their work and personal problems, and make them more comfortable in order to maximize their abilities". He added that in addition to their wages he gave two days pay during the holy festivals each year. In contrast to these motivations, there were also many behavioural regulations displayed on the notice board on the manufacturing area walls. The P/M stated that if any employee came late to work without a reasonable excuse, the whole day would be deducted from his wage and two days would be deducted for each full day absence.

The O/M stated that machines were switched on from 7am to 7pm everyday except on Thursday which was devoted to the maintenance and testing of machines and cleaning the workshop. The P/M stated that if necessary, extra hours were worked on Thursday for urgent orders. He added, although the machines were maintained and tested regularly, technical faults and the interruption to the electrical power were the main factors responsible for interruptions to production and product defects. Based on completed business forms, which were entered on the computer, the I/A generated information and made these available to the O/M when requested. This information included the finished manufactured products, raw materials used, waste, quantity produced by each employee, hours worked and wages for each employee and machines stoppage hours. Also, a comparisons between the size of production during each day and month with the targeted quantities was provided. The O/M stated that he often met the I/A and the P/M to discuss any unusual levels and differences (see label 25, 26 and 27; Table 7-2).

### 7.5.13 Quality control

The enterprise had a high reputation for product quality, differentiation and innovation. The O/M stated that he used Italian and French plastic-ware catalogues as quality benchmarks. The P/M added that many product shapes which were found in the catalogues and on websites were redesigned in the enterprise in order to meet the consumers tastes. The O/M stated that he was very interested in feedback from the P/M, S/M, employees and the customers regarding new product's designs and frames before manufacturing them.

The P/M stated that the quality of the enterprise products was similar to foreign products and higher than the local competitors products. He explained that the reasons for the high quality of their products were the high quality of the raw materials, the new injection-moulding machine, the new frames which were made in the enterprise and the continual inspection of the product during processing.

Quality control was the P/M and the employee's primary responsibility. The O/M stated that he divided the manufacturing process into steps, which would allow each employee to inspect the work performed by another employee in order to identify and correct mistakes immediately. The P/M added that at the end of each day the O/M inspected the finished products by using a random sample method. The O/M stated that if defects were found, all the finished products that were produced that day were inspected piece by piece. The defects and waste accounts on the computer were updated on a daily basis. The I/A stated that at the end of each month, he provided the O/M with comparisons between the defects and wastes of the current month with the estimated wastage and those in previous months. The P/M and the I/A were then worked together in order to identify and investigate the reasons for any differences in order to control and minimise them (see label 28, 29 and 30; Table 7-2).

### 7.5.15 Cash flow control

When the business was established, the O/M's policy was to accept only cash from the customers. The O/M stated that in order to increase sales, this policy had been changed and other payments methods were accepted under specific terms. Cheques were accepted only from customers who were known to the O/M and sales on credit were only given to customers who had excellent business reputations.

The collection of debts was the responsibility of the S/M. Before the S/M left the enterprise, he obtained a computer printout with details of the debtor customers and these details included the names, debit balances and ages. The outcomes of the S/M's contacts with the debtors were reported to the O/M and instructions were given to the S/M to cease dealing with customers who had a particularly higher debit balance until they were able to pay-off their previous balance.

The cash and cheques received from the customers were usually kept in a drawer in the S/M's office and then forwarded to the I/A with the sales invoices and cash details in order to compare them and update the accounts on the computer. An amount of LD 200 was kept by the S/M to meet any daily expenses. The S/M stated, "I have to justify every penny spent from this amount through evidence such as bills". This evidence had

to be signed by the O/M before he gave them to the I/A to update the accounts on the computer. The cash and cheques were deposited in the bank account on the next day and deposit slip was obtained after each completed deposit process. The deposit slips were handed to the I/A in order to compare them with the details of the deposited cheques recorded on the computer. Any bounced cheques were collected from the bank and handed to the I/A to update the computer records, and were then given to the O/M or S/M in order to contact the customer who had given these cheques and a new payment agreement would be made with them. A bank statement was obtained from the bank every week and handed to the I/A and this was used to monitor the bank balance, which was then reconciled by the I/A with that on the computer. If the bank balance was lower or higher than the normal average level then the reasons would be identified and investigated.

Regarding issued cheques, although the chequebook was kept by the I/A, the O/M was responsible for issuing cheques. The O/M stated that before issuing a cheque he reviewed the final bank balance, which was prepared by the I/A, in order to ensure there was a sufficient balance. However, after issuing the cheques, their details were recorded on the cheque stubs and handed to the I/A to update the accounts on the computer. The I/A stated that since he had come to the enterprise no issued cheques had bounced.

Regarding withdrawals during the month, the employees withdrawals were limited to the extent of half their monthly wages and the employee had to request money from the O/M in written form. If an employee would to withdraw money the employee's personal account balance was checked and compared with their limit by the I/A. Notes by the I/A would then be made on the written form regarding the withdrawals and handed to the O/M who would be responsible for either accepting or denying the employee's withdrawal request. If the O/M accepted, the employee would be given the requested money and the written form would be handed again to the I/A in order to update the personal account on the computer. The O/M stated that by following this withdrawals policy and avoiding the purchase of large quantities of raw materials, this practice had no long-term impact on the cash flow of the business. Although small quantities were purchased each time, the O/M preferred to pay by cheque. The cheques issued to suppliers and the purchase invoices were handed to the I/A to record them on the computer. During the peak seasons, enough cash was usually available to cover all financial obligations and daily expenses. However, when the business slowed down, a number of actions were undertaken to secure sufficient funds to meet the financial obligations of the business such as the friend's loans. The actions included firstly,

limiting withdrawals, secondly, limiting expenses and thirdly, urging existing debtors to pay.

At the end of each month, the O/M obtained a report relating to the quantity of sales during the month and the expenses paid since he used these as indicators about the amount of money the business had generated and spent during particular month. The I/A stated that he never prepared budgets and cash flow statement as a result of the difficulty of forecasting the demand for plastic products (see label 31, 32 and 33; Table 7-2).

## 7.5.16 Inventory control

A specific minimum level of raw materials and a specific maximum level of the finished products were maintained in the inventory and these levels were determined based on the O/M's personal experience. The minimum inventory level of raw materials was 4000 Kilograms, whereas the maximum level of the finished products was two hundred units of each type of product, excepting the subcontracted products which were produced according to the terms and conditions of the contract. The O/M noted that the specific minimum level of raw materials and a specific maximum level of the finished products were affected by the unavailability of raw material all time and the high level of competition.

The O/M stated that the next day's production plan would be based on the average daily sales from each product and the expected demands. An account for each item of raw material and finished product was created on the computer. The I/A stated that by updating the computer on daily a basis, the supplier bills, the production forms, the sales invoices and all items taken from and added to the inventories were recorded. He added that inventories information was available to the O/M who inspected it frequently on the screen and via printouts. The O/M stated that he was able to obtain instant information regarding the balance of any item in the inventory. He added that every month, sudden physical counts were conducted to the inventories and compared with the balances recorded on the computer and any differences were identified, investigated and corrected.

The I/A was responsible for monitoring the products loaded on the delivery truck on a daily basis. He recorded details about products which were loaded on the delivery truck for distribution to retailers and details about returned products from previous sales were recorded immediately on the same day. At the end of each day, the O/M and I/A compared the quantity sold for each type of product with the quantity loaded on the

delivery truck and any differences were identified, investigated and corrected. Regarding raw materials, the O/M received a reminder from the I/A relating to the raw materials which had reached their lower reorder points. Adequate quantities were then purchased which would bring the items to their normal levels. The O/M explained that, "I do not purchase large quantities of raw materials in order to avoid having a large portion of the working capital tied up" (see label 23, 34, 35, 36 and 37; Table 7-2).

### 7.5.17 Capital expenditure control

With regard to capital expenditure control matters the O/M stated, "I prepare my own studies rather than getting a professional opinion from an expert". The enterprise acquired a new injection-moulding machine and a second hand lathe at a total cost of LD 35000. The O/M stated that LD 25,000 was spent to acquire the new injection-moulding machine in order to increase the manufacturing capacity and to produce larger sizes and an improved range of products. The remaining amount (LD 10,000) was used to acquire the second hand lathe, which would generate more revenue through creating new modern frames and reducing the cost of the product. The P/M stated that the acquisition of these machines was based on the O/M's personal experience. The financial position of the enterprise was precarious and did not allow to the acquisition and introduction of additional machines. Also, the option of financing through a bank loan was not considered as a result of the Islamic religion beliefs regarding the loan's interests and due the difficult procedures and required guarantees. Therefore, the financing of the acquisition of the machines was main problem faced by the O/M. However, the total required amount of money was obtained from the enterprise and family savings and loans from friends. The friend's loans were obtained on long-term credit and the O/M stated that the net revenues would be used to cover the premiums. He added that based on his expectations and personal experiences, the net profits would be reasonable enough to cover the total acquisition within 30 months (see label 38, 39 and 40; Table 7-2).

### 7.5.18 Make or buy decisions

The O/M, S/M, P/M and I/A stated that make or buy decisions were not practised in the enterprise. The raw materials and the spare parts purchased were based on business needs. All the new product design patterns and frames were produced by the O/M in the enterprise. The O/M added due to his expertise using a lathe and the availability of the lathes in the enterprise, he designed and produced all the new product

patterns and frames. The I/A stated that the result of manufacturing these frames in the enterprise rather than buying them would save at least LD 200 on each frame produced. The O/M stated that these amounts could be regarded as additional profit or would be used to reduce the cost of the product (see label 41; Table 7-2).

## 7.6 Summary

Relationships between the labels shown in Table (7-2) were identified and a basis was established for organising the ideas which emerged from the analysis. In the next section the researcher will attempt to relate the labels based on these relationships to the main phenomenon.

## 7.7 Results

In order to relate labels to the main phenomenon to begin to develop some related hypotheses, the researcher pieced them together by means of Strauss and Corbin's (1990) paradigm model. According to this model, causal conditions create a phenomenon within a specific context. Action/interaction strategies are implemented to manage the phenomenon having regard to the intervening conditions, which influence it and produce desired consequences. However, in order to utilise this model, labels are grouped in terms of causal conditions, context, action/interaction strategies, intervening conditions and consequences.

### 7.7.1 Causal conditions

The use of accounting based software was regarded as a major causal condition of the main phenomenon (accounting information for planning and control) because the well organised business recorded on the computer enabled the O/M to obtain information relating to the business aspects on a regular basis when needed. Also, the use of some business forms and documents was regarded as another causal condition of the main phenomenon (accounting information for planning and control) because they were a major source of data.

The availability of time by giving some of the responsibilities to other employees allowed the O/M to be devoted to the management function, design new product's frames and obtain useful information regarding all the business aspects on a daily basis. Therefore, the availability of time was regarded as a major causal condition.

The local and foreign competition was regarded as a major causal condition of the main phenomenon (accounting information for planning and control) because it forced the O/M to implement a more flexible selling policy to increase sales and undertake several actions to reduce the selling prices. Also the O/M required information concerning the quality of the products, delivery time and the employee's and customer's feedbacks in order to maintain customer satisfaction.

The increased number of financial transactions after the production expansion and the product's improvement influenced the O/M to replace his own manual records with the computer-based system and use the I/A to be responsible for the accounting function. Thus, The business expansion was regarded as another causal condition of the main phenomenon (accounting information for planning and control).

The use of an internal accountant (I/A) to be responsible for the accounting function in the enterprise was also regarded as another major cause of the main phenomenon because he was responsible for recording the business transactions on the computer. Also he was the general and specific accounting information provider on a daily, weekly, monthly and yearly basis or as and when required.

The implementation of some of the management accounting techniques such as 'reorder point', 'inventory level determination' and 'break-even point' were regarded as a major causal condition because they influenced the need for generating and using the related accounting information.

The application of formal and informal procedures for product costing and pricing; profit and manufacturing planning; productivity, quality and cash flow control as well as informal procedures for financial planning; inventory and capital expenditure control had increased the ability of the O/M to generate and use accounting information in planning and controlling these aspects. Thus, these procedures were regarded as a causal condition.

### 7.7.2 Intervening conditions

As a result of the O/M's weaknesses in his management and accounting education, he used only the accounting information which he was familiar with rather than all available accounting information, which was provided by the I/A to achieve better planning and control of the business activities. Therefore, the lack of education in management and accounting skills was regarded as an intervening condition.

The government agencies lack of interest in the preparation of income statements and balance sheets was also regarded as an intervening condition.

The lack of formal procedures for planning and controlling the financial planning; inventory and capital expenditures control was a barrier to the generation and use of related accounting information. Thus, the lack of these procedures was regarded as a major intervening condition.

### 7.7.3 Context

The researcher identified four labels which may be considered as the main context for the main phenomenon. The first was the United Nations sanctions. This situation caused a lack of raw material and forced the enterprise to close for a number of days when the machines were in need of spare parts as a result of the lack of sparer parts at local and national suppliers. The second was the frequent and unexpected interruption to the electrical power supplies which affected the manufacturing processes. The third was the difficult access to bank loans, which caused the O/M to utilise family savings and obtain loans from friends. The fourth was the estimated tax method.

### 7.7.4 Action/Interaction strategy

The researcher identified two strategies which were used by the O/M to manage the main phenomenon. The first was the generation and use of accounting information on written forms (computer printouts) for planning and controlling the business aspects. The second was the generation and use of accounting information based on personal experience for planning and controlling business activities.

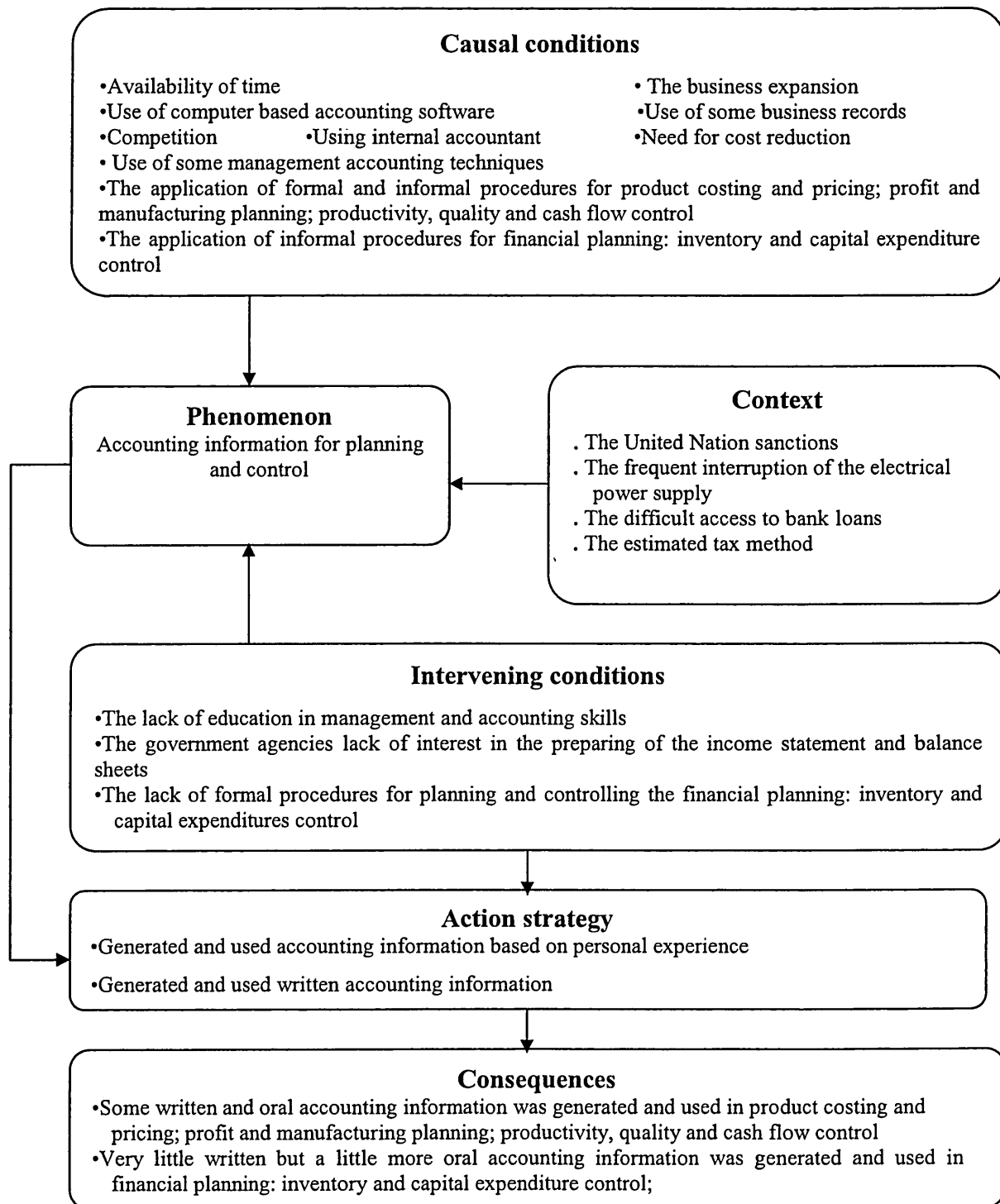
### 7.7.5 Consequences

The action strategy to manage the phenomenon was based on the O/M's personal experience of generating and using the accounting information. The researcher identified some consequences. Firstly, some written and oral accounting information was generated and used in product costing and pricing; profit and manufacturing planning; productivity, quality, and cash flow control. Secondly, very little written but a little more oral accounting information was generated and used in financial planning; inventory and capital expenditure control.

Figure (7-1) shows the relationship between the labels in terms of Strauss and Corbin's (1990) paradigm model for Case No.3.



Figure (7-1): The relationship between the labels



### 7.7.6 Substantive hypotheses

This case study was conducted in a micro plastic manufacturing enterprise with eight employees and an O/M. It started with a description of the history and background of the business, enterprise records and documents. In-depth discussion and analysis processes were then used to identify the labels which were related to the main phenomenon (Accounting information for planning and control). Subsequently, the hypothesised relationships between these labels were identified and related to the main phenomenon by using the Strauss and Corbin (1990) paradigm. Several substantive hypotheses related to the accounting information for planning and control in this micro manufacturing enterprise emerged and are listed below:

1. The owner manager's low level in management education and accounting skills is a major barrier to generating and using accounting information (see section: Lack of education in management and accounting skills).
2. The availability of time is a major reason for the generation and use of accounting information (see section: Availability of time management).
3. The enterprise expansion is a major factor affecting the generation and use of accounting information. (See section: Upturn of business).
4. The use of computer-based accounting software is a major reason for the generation and use of accounting information (see sections: The use internal accountant and computer-based accounting software and some business records and documents and other sections).
5. The use of some business records and documents is a major reason for the generation and use of accounting information in planning and controlling the business activities (see sections: The use internal accountant and computer-based accounting software and some business records and documents).
6. As competition increases the generation and use of accounting information increases (see section: Competition).
7. Having an internal accountant is a major reason for the generation and use of accounting information (see sections: Use of internal accountant and other sections).
8. The lack of interest by government agencies (such as tax authorities and state banks) in the financial statements of micro enterprises is a major barrier to the generation and use of accounting information in planning and controlling business activities in these organisations (see section: Financial planning).
9. The use of 'break-even point', 'inventory level' and 'reorder point determination' is a major reason for the generation and use of accounting

information. (See sections: Profit planning and inventory control and other sections).

10. The O/M generates and uses accounting information based on personal experience in planning some aspects of his business (see sections: Product costing and pricing; profit planning and capital expenditure control and other sections).
11. The application of formal and informal procedures for productivity, quality and cash flow control is a major reason for the generation and use of accounting information (see sections: Productivity control; quality control and cash flow control).
12. The application of formal and informal procedures for profit and manufacturing planning is a major reason for the generation and use of accounting information for planning and control (see sections: Profit planning and manufacturing planning).
13. The application of formal and informal procedures for product costing and pricing is a major reason for the generation and use of accounting information in planning and control (see section: Product costing and pricing).
14. The application of informal procedures for inventory and capital expenditure control is a major reason for the generation and use of accounting information (see sections: Inventory and capital expenditure control).
15. The application of informal procedures for financial planning is a major reason for the generation and use of accounting information for planning and control (see section: Financial planning).
16. The lack of formal procedures for financial planning and capital expenditure control is a barrier to the generation and use of accounting information in planning and controlling business activities (see sections: Financial planning; capital expenditure control).
17. Some written and oral accounting information is generated and used in profit and manufacturing planning (see sections: Profit planning and manufacturing planning).
18. Some written and oral accounting information is generated and used in productivity, quality and cash flow control (see sections: Productivity; quality control; and cash flow control).
19. Some written and oral accounting information is generated and used in product costing and pricing (see section: Product costing and pricing).
20. Very little written but a little more oral accounting information is generated and used in financial planning (see section: Financial planning).
21. Very little written but a little more oral accounting information is generated and used in inventory and capital expenditure control (see sections: Inventory and capital expenditure control).

## Chapter 8: Case No. 4

### Furniture Manufacturing Enterprise

#### 8.1 Introduction

This case study was undertaken in one of the famous furniture manufacturing enterprises in Benghazi. This enterprise was one of the market leaders in Benghazi, where there were more than fifty furniture-manufacturing enterprises. Most of the enterprises worked double shift and each shift was six hours. Very few of them had unlimited product scope. This enterprise had a high level of experience and technical skills and produced a variety of products such as sofas, bedrooms sets, dining room sets, cabinets, cupboards, chairs, desks and other wooden products. All the raw materials (wood - sponge - paint – fabric – glue – nails) were purchased from local suppliers who imported them from Egypt.

#### 8.2 The manufacturing background

The furniture manufacturing enterprise was founded in 1984 in Benghazi on a 300 square meter area to produce furniture products. It consisted of 150 square meters for the workshop area, 20 square meters for the O/M and S/M office and 180 square meters for the show room. The amount invested in the enterprise was LD 30,000 collected from personal and family savings.

The enterprise produced and developed a variety of products but sofas and bedrooms were the enterprise's most significant products. The O/M stated that his enterprise was one of the market leaders in Benghazi in producing sofas and bedrooms.

The enterprise had a production manager (P/M), a salesman (S/M) and five other employees (two carpenters, two tailors and a painter). The P/M was 38 years old with a two year diploma in woodcraft and ten years experience. He was responsible for the employees and all the production processes and he stated that all the employees were highly skilled.

## 8.3 Primary data and data analysis

### 8.3.1 Primary data

#### 8.3.1.1 The Interviews

Unstructured interviews, observations, and examination of the business documents were carried out over a full-time three-week period. Ten interviews were conducted with the owner/manager (O/M), production manager (P/M), salesman (S/M) and two of the employees (E). All the interviews were conducted between 10 and 12 o'clock in the morning in the O/M's / S/M's office.

The interviews started with broad questions, and then became more focused according to any points which were relevant and important to the main phenomenon (Accounting information). All the interviews were tape-recorded and later transcribed. Table (8-1) shows the profile and the number of interviews.

Table (8-1): Profile of the interviewees and number of interviews					
	O/M	P/M	S/M	E	Total
Number of interviews	5	2	2	1	10

#### 8.3.2. Documentary evidence

The researcher examined all business records and documents used by the O/M. The researcher was allowed to obtain copies of the business documents, purchase, sales invoices, and bills and cash receipts. All of the documents were filed in files and kept in the O/M and S/M's office. In addition, the O/M allowed the researcher to see bank statements.

## 8.4. Data analysis

A structured set of grounded theory coding procedures were employed to organise the ideas which emerged from the analysis of the primary and documentary evidence. After each interview was analysed, the main points (concepts) were identified, summarised and compared. Relationships between the concepts were noted and then related concepts were grouped and given a label. All labels were listed and checked to ensure that all the labels had been considered. Table (8-2) shows all the labels that represent the main points raised by all interviewees. These labels are discussed in the next section.

Table (8-2): Labels represent the main points that were raised by all respondents	
Labels	
1. Lack of education in management and accounting skills	
2. Lack of the Owner manager's time	
3. Small size of business	
4. Lack of complete set of business records and documents	
5. Competition	
6. Inadequate infrastructure	
7. United Nations sanctions	
8. The government agencies	
9. No formal procedures for product costing and pricing	
10. Informal procedures for product costing and pricing	
11. Very little written but a little more oral accounting information was generated and used in product costing and pricing	
12. No formal procedures financial planning or budgeting	
13. Informal procedures for financial planning	
14. Very little written but a little more oral accounting information was generated and used in financial planning	
15. No formal procedures for profit planning	
16. Informal procedures for profit planning	
17. Very little written but a little more oral accounting information was generated and used in profit planning	
18. No formal procedures for manufacturing planning	
19. Informal procedures for manufacturing planning	
20. Generated and used accounting information based on personal experience	
21. Very little written but a little more oral accounting information was generated and used in manufacturing planning	
22. No formal procedures for productivity control	
23. Informal procedures for productivity control	
24. Very little written but a little more oral accounting information was generated and used in productivity control	
25. No formal procedures for quality control	
26. Informal procedures for quality control	
27. Very little written but a little more oral accounting information was generated and used in quality control	
28. No formal procedures for cash flow control	
29. Informal procedures for cash flow control	
30. Very little written but a little more oral accounting information was generated and used in cash flow control	
31. No formal procedures for inventory control	
32. No informal procedures for inventory control	
33. Very little written and oral accounting information was generated and used in inventory control	
34. No formal procedures for capital expenditure control	
35. Informal procedures for capital expenditure control	
36. Very little written but a little more oral accounting information was generated and used in capital expenditure control	
37. No formal procedures for make or buy decisions	
38. Informal procedures for make or buy decisions	
39. Very little written but a little more oral accounting information was generated and used in make or buy decisions	

## 8.5. Discussion

### 8.5.1 Lack of education in management and accounting skills

The O/M was 44 years old with a three-year diploma in woodcraft from the Vocational Benghazi Centre and had 26 years work experience. The O/M stated that at the age of 18 he graduated from the Vocational Benghazi Centre and then worked as a carpenter for six years in a carpentry workshop. He then established his own business in 1984. The O/M stated, "Through these years, I gained excellent experience and a high level of technical skills in designing and manufacturing wooden furniture, and also basic management skills". The P/M noted that the O/M was interested in the latest global developments in furniture products and because of he subscribed to a number of furniture magazines. He added, "Despite the fact that the O/M had a high level of technical skills, he still lacks general management and accounting skills". The O/M stated that the method used to record the business transactions was adopted from past experience and the advice of friends. He added that this method was very simple and he was satisfied with it. The S/M noted that the data recorded by the O/M was not well classified because it was based on the O/M's personal method. He added that the O/M's low level of education in management and accounting were the major barrier for better planning of the enterprise's activities (see label 1; Table 8-2).

### 8.5.2 Lack of the O/M's time

The O/M was responsible for all the management activities including the delivery of finished products, collection of debts, purchase of raw materials, and supervision of the production processes and the recording the business transactions. The P/M stated that in addition to the O/M previous responsibilities; he spent one to two hours on a daily basis in his office in order to discover useful information regarding the business from magazines. The S/M stated that the O/M did not have enough time to manage all the business activities and to generate and use information at the same time. The O/M stated that as a result of the lack of time available during the working day, recording the financial transactions into the transaction book was performed at home (see label 2; Table 8-2).

### 8.5.3 Competition

The O/M stated that although there were more than fifty local competitors producing furniture products in Benghazi, very few of them had unlimited scope. The competitor's products and their prices were well known by the O/M and he stated that his product's prices were similar to those of their competitors. He added that the enterprise had an excellent reputation and a well-established position in the furniture market. The P/M indicated that high qualities of design and product finish and delivery time were the most important factors which influenced their reputation and this gave the enterprise a competitive advantage. The O/M added that although the enterprise's products were of a high quality and usually delivered on time, competition with foreign and some local competitors was intense. He added it was difficult to compete with Egyptian furniture business as a result of their lower prices and adequate quality. With regard to the local competitors, the P/M noted that it was also difficult to compete with a number of them in terms of prices.

The O/M stated, "The higher quality and the product's differentiation gave the enterprise an excellent reputation and kept it in a good competitive position". The P/M stated that although their product prices were sometimes higher or similar to the local competitor's prices, the enterprise's products were of a higher quality and better design. He also added that in order to enhance the enterprise's reputation and their competitive advantage, the O/M offered a six-month guarantee for all his products (see label 5; Table 8-2).

### 8.5.4 Lack of a complete set of business records and documents

The business used three books to record the business transactions. The first one was a notebook used by the O/M to record all the details regarding the customer and supplier transactions, employee percentages and wages, bank balances and any other important notes. The O/M stated that he always carried this notebook with him wherever he went. He added, "I am satisfied with the use of this book, because it keeps me informed about the customers and suppliers outstanding balances and give me information about the bank balance on a daily basis". The second book was used to record the details of orders received from customers. These details included the customer's name, the required product type and model, quantities, received deposits from customers, unit selling price, estimated total cost, order/delivery time and the



expired guarantee date. The customer's final balance would also be transferred to the notebook (first book). The third book was used to record the details of daily transactions (purchase, expenses, employee's withdrawals and sales). Table (8-3) shows a typical example of a page created in the daily transaction book.

Table (8-3): A page of the daily transaction book		
Wednesday 28/04/2004		
Descriptions	Expenses	Revenue
	LD	LD
Balance from the previous page	300.000	
Sofa (sales)		950.000
Electric bill	90.000	
Raw material (wood)	651.000	
Total	1,041.000	950.000

The O/M noted that all the details relating to the sales transactions were recorded in the copies of the sales invoices which were kept in the sales invoice file.

Several documents originated and used by the enterprise included purchasing invoices, cash receipts and electricity and phone bills and all of these documents were kept in separate files. At the end of each month, these files and other books were checked and audited in order to determine the net profit (see label 4; Table 8-2).

### 8.5.5 Small size of the business

The O/M was responsible for recording the business transactions. He explained that the business was small and its financial transactions were very limited so accounting for them was straightforward. Also, government agencies and the financial institutions were not interested in and did not request formal income statements and balance sheets. Because of this, the O/M stated that the idea of using an internal or external accountant was never considered. In support of the O/M's statement above the P/M indicated that the O/M never felt that using an accountant would be of any benefit to his business (see label 3; Table 8-2).

### 8.5.6 General business environment

The O/M stated, "The general business environment including the frequent and unexpected interruption to the electric power supply, United Nations sanctions, estimated tax method and the lack of access to financial support are affecting the performance of all the micro enterprises generally and this business particularly".

The United Nations imposed sanctions against Libya in 1992 and these sanction-restricted trades between Libya and the rest of world. As a result the movement of goods from and to Libya was restricted. The raw material and machine spare part suppliers were forced to import their items from Egypt rather than their original sources.

Financial support was very limited and the enterprise-lacked access to bank loans due to prohibition of the Islamic religion to the loans with interest and due the difficult and complex procedures and the stringiest guarantees required. The O/M stated, "The banks are not responsive to the financial needs of micro enterprises and it is difficult to find source of finance". He added that the acquisition of the new advanced machine would produce the complex shapes and attract new orders. However, The funds required to finance this acquisition were not available through the banks and financial agencies.

The frequent and unexpected interruption to the electrical power supplies was regarded as a major reason for the interruption to production and delays in the delivery time. The P/M noted, "The interruptions to the electric power are sudden and frequent".

Additionally, the O/M stated that the tax office sometimes imposed an artificially high tax rate as a result of using an estimated method to determine the amount of tax (see label 6, 7 and 8; Table 8-2).

### 8.5.7 Product costing and pricing

The O/M used his personal experience to estimate the cost and the selling prices of the regular products and the O/M stated that he knew all the regular enterprise's products. He stated, "I use my experience to determine the manufacturing time and the raw material types and quantities which would be needed to produce the se products". The S/M added that the determination of the products cost and price of the regular products was much easier than with new products, because information pertaining to the regular products and their costs and prices were known and retained in the O/M's head. The O/M noted that if there was a new product or model and it had never been produced before, he would meet and discussed with the P/M and other employees (carpenter-tailors) in order to determine the manufacturing time, raw material types and quantities and the employee's percentages. All the cost and price calculations were performed on pieces of paper and were discarded after the results were obtained and had been recorded in the order book.

The estimated total cost of raw materials might include the cost of wood, nails, screws, glasses, paint, sponge, fabric, glue and five per cent added for other expenses. The P/M

indicated that the raw material types and quantities and the manufacturing time differed according to the product type and model. The O/M stated that after a new product was completed, its actual total cost was compared with the estimated cost in order to learn whether the estimated price was reasonable or needed modification. The P/M stated that the O/M was unable to determine the exact product cost, and there were no books kept to record the cost details.

The percentage profit requested by the enterprise was twenty per cent of the manufacturing costs. The O/M stated, "This percentage was determined based on personal experience, and it is changeable upon the competitor's prices and the number of units required of the same product or model" (see label 9, 10, and 11; Table 8-2).

### 8.5.8 Financial planning

The S/M stated that the enterprise did not have standard form of business plans or objectives written down on paper. The O/M was not aware of the need for a business plan as a management tool to control the business activities as well as a tool for raising funds. In addition, the O/M did not prepare budgets and he was unable to write any financial plans and to use some of the management accounting techniques. The P/M stated that this lack of management and accounting skills might be the main factor affecting the O/M's knowledge of the management accounting techniques, financial plans and their uses in planning and controlling the business activities. The O/M stated that the enterprise's marketing planning and production decisions were considered and retained in his head. He also, noted, "I do not know and I cannot understand why my enterprise has survived and is successful". He added, "I am very satisfied with the method which I use to run my business activities". The S/M added that when the business slowed down, the O/M offered lower prices in order to generate revenues, which helped the enterprise to survive.

The O/M refused many orders, as they required complex shapes which the enterprise could not guarantee. He stated however that he did not wish to refuse these orders in terms of profitability and reputation. The P/M noted that there was a need to acquire a new advanced machine that would be able to create and produce new and complex shapes. Additionally, the O/M was also considering improving the enterprise's ability to produce these complex shapes but the O/M stated that the enterprise's financial position could not allow the acquisition of such a machine. In addition the option of financing the acquisition through bank loans was not considered because the banking sector did not cater for the needs of micro enterprises. He added that it was very difficult to secure

funds from internal or external sources for the acquisition of a new advanced machine. Therefore, the financing of this acquisition was the main current problem facing the enterprise (see label 12, 13 and 14; Table 8-2).

### 8.5.9 Profit planning

The S/M stated that forecasting demand for the products was very difficult because the demand was very unpredictable. However, the O/M's personal experience had enabled him to identify the seasons, when the demand for the products would be higher or lower.

The O/M and S/M stated that although demand usually decreased to its lowest level during the winter seasons, the sales in November were very low. The O/M noted that by using the sales information recorded in the sales invoices, he could determine the total sales for each month. In addition, he determined the products which had the highest sale levels. The S/M added that sofas and bedrooms were about sixty percent of the total sales.

The O/M stated that the net profit was computed every month and year. He added, "I rely upon my personal experience and the advice from friends regarding how to manage the business and how to calculate the net profit". The O/M computed the net profit by deducting the total sales from the total estimated costs incurred during the month/year. The total sales were obtained from the sales invoices. The total estimated cost of raw materials used in the sold products during the month/year were determined and computed based on the O/M's personal experience and estimation and the monthly expenses were obtained and computed from the transaction book. The employee's percentages and wages were calculated based on the information recorded in the notebook and the net profit calculations were performed on pieces of paper that were discarded after the results were obtained and committed to the O/M's memory. However, income statements and balance sheets were not prepared because the tax office, banks and financial agencies did not request them.

The S/M stated, "The sales revenues of recent years indicated that the demand for the enterprise's products was higher than in the previous years". The O/M stated that a number of actions were undertaken in order to increase the sales. The first was to make the cupboard and cabinet doors outside the enterprise in order to reduce the manufacturing process time and to be ready to meet other demands in the peak seasons. The second action was to implement flexible payment terms. The third was to offer a

six-month guarantee for all to the enterprise's products (see label 15, 16 and 17; Table 8-2).

### 8.5.10 Manufacturing planning

The O/M stated, "The demand during the wedding seasons (summer and spring) increases and become higher than the available manufacturing capacity whereas in winter the demand decreases to its lowest level".

A typical order might contain several products (sofa – bedroom - dining room) and the O/M would determine the product's delivery time based on his experience and sometimes discuss the situation with employees before establishing the manufacturing processes. The O/M depended predominantly on personal experience in managing the daily business activities. The P/M noted that the O/M's personal experience was used to estimate the delivery time, raw material and work force required. The O/M stated, "The enterprise often meets the product delivery time, when there is no interruption to the production processes". The P/M added that the interruption to the electrical power supply, lack of spare parts and the employee's high absence rate were the main factors which affected the production processes.

In case the demand was higher than the enterprise's capacity or there was an interruption to the production processes, instructions were given by the O/M to keep the manufacturing operations running until late every day seven days a week, and also in addition more employees would be hired on a temporary basis.

The O/M also stated that the manufacturing plans and decisions were made based on the number and types of product, and the agreed delivery time (see label 18, 19, 20 and 21; Table 8-2).

### 8.5.11 Productivity control

The P/M stated, "The amount the business produced depended mainly on the types and models of the products ordered". The enterprise was able to produce for example, four sofas, three cabinets, four bedrooms and three dining rooms each month.

The business was well equipped with a range of traditional furniture working equipment and all the machines were bought second hand from local suppliers. The equipment included a saw machine, wood cutting machine, air compressor, two electric sewing machines, two drills and other necessary workshop tools. The manufacturing process was divided into two shifts and each shift worked six hours from 8a.m. to 2p.m. and from 3p.m. to 9p.m. The O/M noted that in case there was an urgent order, two extra

shifts would be added on Fridays which was the weekend holy day. The P/M stated that manufacturing stages was divided into four stages which included designing, cutting, assembling, trimming and finishing. The finished products were displayed in the showroom and the O/M added, “The workshop is adequate for both manufacturing and display activities”.

The O/M and the P/M were responsible to assign jobs to the employees based on their skills and the O/M indicated that employees were selected and hired based upon their professional skills.

The O/M and the P/M observed and supervised the employees while they worked and if mistakes were discovered the employees were asked to correct them. The P/M stated that the O/M was very concerned about motivating the employees to work to their maximum capacity in order to complete the orders and deliver them on time. The employees took a specific percentage from their completed works and these percentages were determined before they started work and based on the O/M’s personal experience. The O/M stated that he was very concerned about paying the employee’s percentages on time and if there was a shortage of money, it was covered by friend’s loans. The P/M stated that the O/M established a strong relationship with the employees which was based upon honesty and a shared moral code. In fact, the O/M sometimes gave the employees their whole percentages before they started their specific work. He added that there were no records reflecting details of employee’s working hours and absences. Delivering the products to the customers on time was the O/M’S main concern. The O/M stated that the enterprise sometimes could not meet the product delivery time as a result of several reasons. Firstly, there was a frequent and unexpected interruption to the electrical power supply. Secondly, the longer machine repair time due to the lack of local or national machine spare parts suppliers. Thirdly, there were shortages in specific raw materials. The fourth reason was the high absence rate of employees due to social and family occasions. However, in case there was an unexpected delay, the O/M or the S/M would contact the customer to arrange another delivery time (see label 22, 23, and 24; Table 8-2).

### 8.5.12 Quality control

Testing and assessing the quality of the products was the O/M’s main responsibility and it was based on his personal experience. The O/M stated, “To maintain customer satisfaction, improve the enterprise’s reputation and to achieve a better competitive position over the competitors, the products should be produced

according to the required specifications and descriptions”. He added, “if the products are not produced according to the required specifications and descriptions or there were any problems with the products, the customers might return the purchased product and this may put the enterprise’s reputation at risk, and also may reduce the profit”. However, the P/M stated that as a result of having high skilled employees the percentage errors was very low.

The O/M stated that achieving the right balance between the required quality standards and the favourable prices for customers was the most difficult situation faced by the enterprise. He added the customers often requested high quality standards and asked for lower prices. The P/M noted that the customers almost always received the products with the standard of quality they expected. He added that the product designs, high quality of raw materials and the employee’s high level of skills were the main factors which enabled the enterprise to meet the required quality and the satisfy customers.

With regard to the quality of the product design the P/M noted, “The O/M receives catalogues and magazines on a regular base in order to update himself with new product models and designs”. The O/M added that he was very interested in getting feedback from the employees regarding new models in order to improve them.

Generally speaking, there was no formal quality control system in the enterprise and the O/M indicated that all the business activities were done based upon trust, honesty and simple frequent inspections (see label 25, 26 and 27; Table 8-2).

### 8.5.13 Cash flow control

Most sales were paid for with cash. The O/M stated that in order to increase sales, more flexible payment terms were offered to the customers. The customers with excellent reputations and others who were known by the O/M or by an employee were requested to pay 25 per cent of their balance as a deposit. Other customers were requested to pay 50 per cent of their balances instead of 75 per cent as a deposit. The O/M stated that all customers were requested to pay the deposits in cash in order to buy the required raw materials. After the products were completed, the customers would be requested to pay the rest of their balance in cash or by cheque. After the deposit payment was received, it would be noted in the notebook and the amount would be recorded in the transaction book. Any further payment received from customers would be deducted from the customer’s balance in the notebook and recorded in the transaction book. The cash and cheques from customers were usually received by the S/M and would be handed to the O/M at the end of each day. Depositing the cheques in

the bank was the O/M's responsibility. Four days after the cheques had been deposited the O/M obtained a bank statement in order to see whether cheques had been cleared or had bounced. The customers whose cheques bounced would be contacted by the O/M or S/M in order to collect the amount directly or to make new agreements. The products would be delivered to customers who had high reputations and to those who were known by the O/M or the employees, and after that the rest of the balance was received either in cash or by cheque. Other customers were requested to pay the rest of their balance in cash.

The O/M preferred to pay expenses and purchase raw materials on a cash basis and he noted, "Because the cash is not always available in the enterprise, I have had to use cheques to cover the business obligations". Any issued cheques were recorded on the cheque's stubs and in the transaction book. The O/M stated that before issuing cheques, he checked the bank balance in order to prevent cheques from bouncing and he obtained a bank statement every month. The O/M noted that the details of the cheques received or issued were recorded both in the notebook and in the transaction book for monitoring purposes.

By the end of each month and sometimes during the month the O/M made comparisons between the details of cheques recorded in the notebook and the cheque stubs with the bank statement in order to verify that the balance shown on the bank statement agree with the balance shown in the notebook

The O/M stated that the purchases would be made on credit if there was shortage of cash or the bank account was insufficient. The details shown in the purchase invoices would be recorded in the transaction book and the supplier's details would be recorded in the notebook and also retained in the O/M's head. The O/M indicated that he had a good memory which helped him to retain the information regarding supplier's credit balances and customer's outstanding balances without referring to the notebook. When money became available, the long-standing balances would be paid first.

The employee's percentages and withdrawals were recorded in both the transaction book and notebook for monitoring purposes. The employee's withdrawals were limited to the extent of their percentages. An account in the notebook was created to record the O/M's family withdrawals and he stated that withdrawals for family use were unlimited and uncontrolled.

The O/M indicated that there was usually a cash shortage to meet the enterprise's obligations and the main factors affecting these cash shortages were:

1. The enterprise's deposit payment policy.



2. The employee's withdrawal policy.
3. The unlimited family withdrawal (see label 28, 29 and 30; Table 8-2).

### 8.5.14 Inventory control

All raw materials were bought from local suppliers who imported most of them from Egyptian suppliers. Based on the O/M's personal experience, the enterprise kept small quantities of specific raw materials which were used regularly. Other items were purchased when needed. The O/M stated, "I do not keep items of raw materials which are not regularly used in the manufacturing processes". He added that this strategy was followed because the local suppliers could deliver any quantity and type of the raw materials as and when requested, and to avoid keeping large levels of raw materials in order to save space to the show room area and save working capital. Therefore, there were no large quantities of wood and fabric kept in the enterprise's inventory.

The P/M stated that the required product types and models were the main factors affecting the raw materials' quantity and types. The O/M stated, "The quantities of wood and fabric are identified and acquired after the commissions were obtained from customers". Adequate inventory levels of nails, screws and glues were always kept in stock and the O/M stated that these levels were determined based on personal estimation rather than information obtained from business records. There were no specific records kept to record the inventory details, and no recording procedure was performed on the items taken from or added to the inventory. The only record kept by the business was the purchase invoice copy file. The P/M noted that because the working relationship was based upon honesty, the entire inventory was stored in the work place and was available to everyone in the enterprise. The employees are allowed to take and use the inventory items without any permission.

The O/M did not perform regular counts of the items in the inventory and the value of finished products and raw materials in the inventory were estimated by using the O/M's personal experience (see label 31, 32 and 33; Table 8-2).

### 8.5.15 Capital expenditure control

The O/M stated that all the tools, equipment and some machines were acquired based on business needs irrespective of the cost. Also, some machines were acquired based on the O/M's personal experience and the availability of cash. The O/M noted that cash availability was a major barrier to acquiring the new advanced machine which would make and produce the complex shapes which some customers required. The P/M

noted that the implementation of the O/M's decision to acquire the new advanced machine was carried out based on the O/M's personal experience rather than preparing a feasibility study (see label 34, 35 and 36; Table 8-2).

### 8.5.16 Make or buy decisions

The cupboard and cabinet doors were the two items which the O/M decided to buy rather than make in the enterprise. The decision to subcontract these specific parts was due to the lack of available time during the peak seasons. The P/M stated that by following this strategy the enterprise would save an effort of time and be able to concentrate on producing other Products. The O/M stated, "In the peak seasons, reducing the manufacturing process time was my main concern in order to be ready to meet other demands and orders".

The O/M used his personal experience to perform basic calculations in order to compute the financial implications of buying these parts rather than manufacturing them in the enterprise. The information used in the computation was the estimated cost of labour and raw materials and the subcontractor's prices. The calculations were performed on pieces of paper, which were then discarded.

However, the O/M stated that there were no major differences in terms of quality and cost between the ready-made cupboards and cabinet doors with those which would be produced in the enterprise. All the subcontractor's financial transaction details were recorded in the notebook which was kept by the O/M (see label 37, 38 and 39; Table 8-2).

## 8.6 Summary

Relationships between the labels shown in Table (8-2) were identified and a basis was established for organising the ideas which emerged from the analysis. In the next section the researcher will attempt to relate the labels based on these relationships to the main phenomenon.

## 8.7 Results

In order to relate labels to the main phenomenon to begin to develop some related hypotheses, the researcher pieced them together by means of Strauss and Corbin's (1990) paradigm model. According to this model, causal conditions create a phenomenon within a specific context. Action/interaction strategies are implemented to manage the phenomenon having regard to the intervening conditions which influence it

and produce desired consequences. However, in order to utilise this model, labels are grouped in terms of causal conditions, context, action/interaction strategies, intervening conditions and consequences.

### 8.7.1 Causal conditions

The local and foreign competition was regarded as a major causal condition of the main phenomenon (accounting information for planning and control) because it caused the O/M some concern regarding the quality of the products and forced him to monitor the competitor's products and prices and to implement a more flexible selling policy in order to increase sales. In addition, the competition encouraged the O/M to maintain the customer satisfaction by offering six months as a guarantee for all enterprise's products.

The reputation of the enterprise was also regarded as another major causal condition of the main phenomenon (accounting information for planning and control) because information was needed to maintain customer and supplier satisfactions. Therefore, management accounting information about the quality specification and descriptions requested by the customers was needed. Also management accounting information was needed in order to estimate the product delivery time. Further, accounting information concerning the bank balances was needed before issuing cheques.

The O/M sought advice how to manage the business, how to record the business's transactions and how to calculate the net profit from experienced friends. Thus, the use of experienced friends as provides of advice was regarded as another causal condition.

The need for higher sales was also regarded as another major causal condition because this forced the O/M to buy the cupboards and cabinet doors rather than manufacturing them in the enterprise in order to save time and be ready to meet other demands and orders. Also, it forced the O/M to obtain information about the competitor's products and prices.

The application of informal procedures for product costing and pricing, cash flow, quality and productivity control; financial, profit and manufacturing planning and make or buy decisions increased the ability to generate and use accounting information in planning and controlling these aspects. Thus, the existence of these procedures was regarded as a causal condition.

### 8.7.2 Intervening conditions

The O/M's lack of management and accounting skills was regarded as an intervening condition because he was not equipped with the skills and techniques to allow him to generate and use useful accounting information and management accounting techniques. In addition, it was a barrier to producing long and short-term business plans. Therefore, the O/M was unaware of the need for business plans as a management tool to plan and control aspects of the business.

Because the Owner manager (O/M) was responsible for most management activities, obtaining enough time to generate and use accounting information to manage the daily business activity and develop short and long-term plans was very difficult. Therefore, the lack of time for the Owner manager was regarded as an intervening condition.

The income statement and balance sheets were not prepared since government agencies did not request and were not interested in them. Because of this, the O/M did not generate and use the related accounting information. Therefore, the government agencies lack of interest in preparing the income statement and balance sheets was also regarded as an intervening condition.

Some of the management accounting techniques such as budgeting, break-even and reorder point and inventory levels determination were not used as a result of the O/M's lack of management and accounting education and skills and his lack of awareness of their role as a tool for planning and controlling business activities. Therefore, the lack of use of some management accounting techniques as tools for planning and controlling business activities was regarded as an intervening condition.

The lack of a complete set of business documents and records was regarded as another intervening condition because this was a barrier to record the details of all the business transactions and made it difficult to organize and to classify transaction details. Therefore the O/M was unable to generate and use accounting information to improve his management.

The small size of the enterprise was a barrier for hiring an internal or external accountant to be responsible for the accounting function. Thus, the absence of the internal or external accountant role in the enterprise limited the generation and use of accounting information in planning and controlling business activities. Therefore, the small size of the enterprise and the lack of a well arranged accounting function limited the generation and use of accounting information in planning and controlling the business activities.

The lack of formal and informal procedures for inventory and capital expenditure control as well as formal procedures for product costing and pricing; manufacturing, financial, profits planning; quality, productivity and cash flow control and make or buy decision was a barrier to the generation and use of related accounting information. Thus, the lack of these procedures was regarded as a major intervening condition.

### 8.7.3 Context

Based on the analysis of the data, several characteristics were regarded as context for the main phenomenon. The first was the frequent and unexpected interruption to the electricity supply, which interrupted the manufacturing processes. The second was the United Nations sanctions, which caused increases in the cost of raw materials cost and a lack of availability of the machines spare parts in the local and national suppliers. The third was the lack of access to financial supports which affected the enterprise's performance. The fourth was the estimated tax method.

### 8.7.4 Action/Interaction strategy

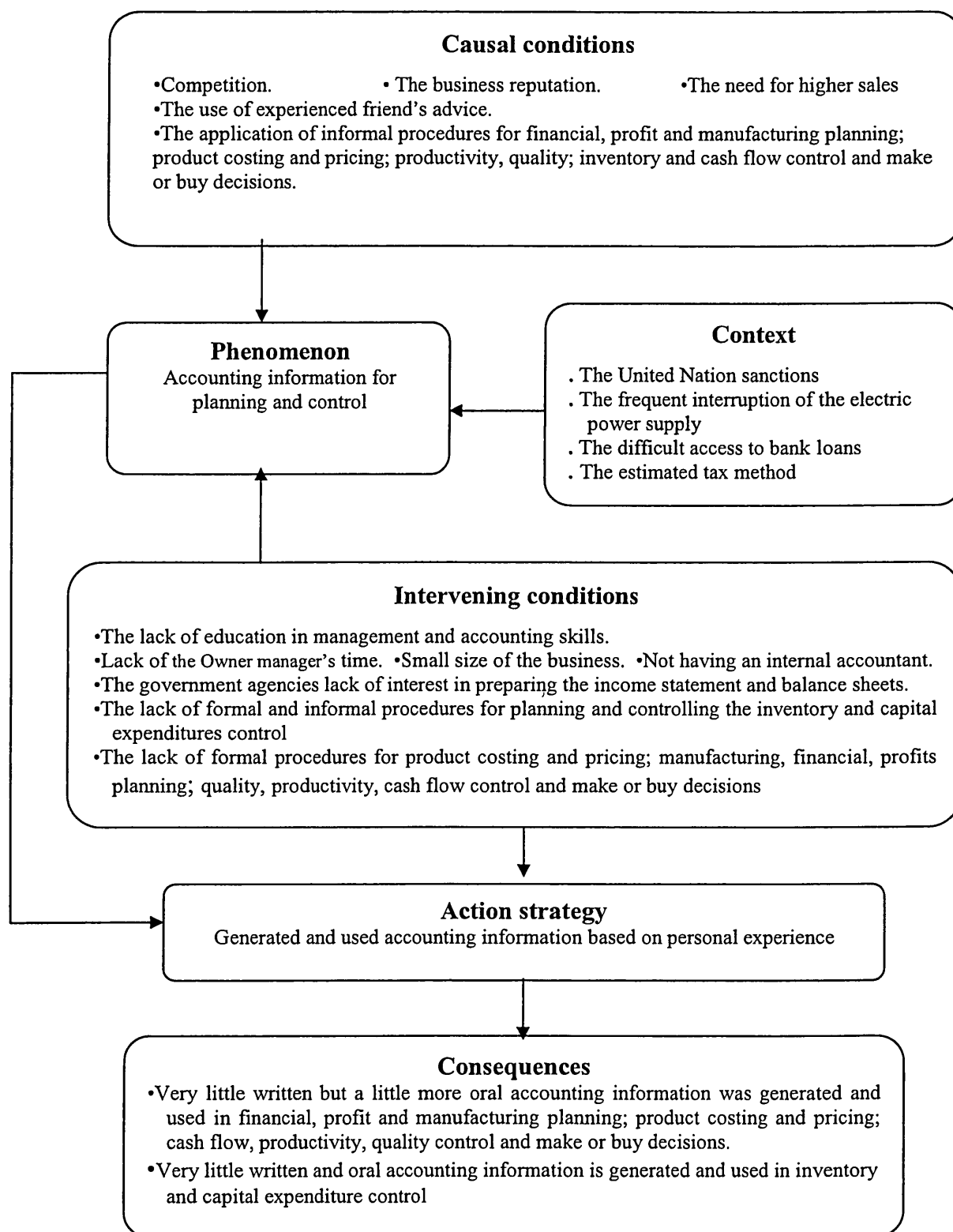
The researcher identified that the strategy which the O/M used to manage the main phenomenon (accounting information for planning and controlling) was that he generated and used accounting information based on personal experience for planning and controlling business activities.

### 8.7.5 Consequences

The strategy of generating and using accounting information based on personal experience for planning and controlling business activities produced the following consequences. Firstly, very little written but a little more oral accounting information was generated and used in financial, profit and manufacturing planning; product costing and pricing; cash flow, productivity and quality control and make or buy decisions. Secondly, very little written and oral accounting information is generated and used in inventory and capital expenditure control.

Figure (8-1) shows the relationship between the labels in terms of Strauss and Corbin's (1990) paradigm model for Case No.4.

Figure (8-1): The relationship between the labels



### 8.7.6 Substantive hypotheses

This case study was conducted in a micro furniture manufacturing enterprise with less than ten employees and one O/M. It started with a description of the history of the business and background, business records and documents. In-depth discussion and analysis processes were then used to identify the labels which were related to the main phenomenon (accounting information for planning and control). Finally, the hypothesised relationships between these labels were identified and related to the main phenomenon by using the Strauss and Corbin (1990) paradigm. Several substantive hypotheses related to the accounting information for planning and control in this micro manufacturing enterprise emerged and are listed below:

1. The owner manager's lack of education in management and accounting skills is a major barrier to generating and using accounting information (see section: Lack of education in management and accounting skills).
2. As the owner manager becomes more involved in managing all aspects of the business and other activities (such as social occasions and visits), the lack of Owner manager's time increases. (See section: Lack of time).
3. The lack of the owner manager's time is a major barrier to the generation and use of accounting information (See section: Lack of time).
4. Lack of complete sets of business records and documents is a major barrier to the generation and use of accounting information in planning and controlling business activities (see section: Lack of complete sets of business records and documents).
5. The small size of the business is a major barrier to the generation and use of accounting information in planning and controlling business activities (see section: Small size of the business).
6. Not having an internal accountant is a barrier to the generation and use of accounting information in planning and controlling business activities (see section: Small size of the business).
7. The owner manager and government agencies (such as tax authorities and state banks) level of interest in the micro enterprise's financial information is a major factor affecting the generation and use of accounting information.(see section: Financial planning).
8. The competition is a major factor affecting the generation and use of some accounting information. (See section: Competition).

9. As the need for higher sales increases, the need to generate and use of accounting information increases (see section: Competition and profit planning).
10. Experienced friends and relatives are used as a source of accounting information (see section: Profit planning).
11. As the concern for the high business reputation increases, the generation and use of accounting information increases (see section: Competition).
12. The owner manager generates and uses accounting information based on personal experience in planning some aspects of his business (see sections: Profit planning and capital expenditure control and other sections).
13. The application of informal procedures for financial, profit and manufacturing planning is a major reason for the generation and use of accounting information for planning and control (see sections: Financial planning; profit planning; and manufacturing planning).
14. The application of informal procedures for quality, productivity, cash flow and capital expenditure control is a major reason for the generation and use of accounting information in planning and control (see sections: Quality control; cash flow control; productivity control).
15. The application of informal procedures for product costing and pricing is a major reason for the generation and use of accounting information in planning and control (see section: Product costing and pricing).
16. The application of informal procedures for make or buy decisions is a major reason for the generation and use of accounting information in planning and control (see section: Make or buy decisions).
17. The lack of formal procedures for financial, profit and manufacturing planning; productivity, quality and cash flow control; product costing and pricing and make or buy decisions is a barrier to the generation and use of accounting information in planning and controlling business activities (see sections: Financial planning; profit planning; manufacturing planning; quality control; productivity control; cash flow control; capital expenditure control; product costing and pricing and make or buy decisions).
18. The lack of formal or informal procedures for inventory and capital expenditure control is a major barrier to the generation and use of accounting information in planning and controlling business activities (see sections: Inventory control; capital expenditure control).
19. Very little written but a little more oral accounting information is generated and used in productivity, quality and cash flow control (see section: Productivity control; quality control; cash flow control).
20. Very little written and oral accounting information is generated and used in inventory and capital expenditure control (see sections: Inventory control; capital expenditure control).



21. Very little written but a little more oral accounting information is generated and used in financial, profit and manufacturing planning (see sections: Financial planning, profit planning and manufacturing planning).
22. Very little written but a little more oral accounting information is generated and used in product costing and pricing (see section: Product costing and pricing).
23. Very little written but a little more oral accounting information is generated and used in make or buy decisions (see section: Make or buy decisions).

## Chapter 9: Case No. 5

### Clothing Manufacturing Enterprise

#### 9.1 Introduction

This case study was conducted in a clothing manufacturing enterprise in Benghazi. There are thirty such enterprises and most are family owned. Nine of them have unlimited product scope. This enterprise had a high level of experience and produced a variety of men's clothes such as trousers, shirts, suits and traditional Libyan clothes. The production lines consisted of six single and three double needle machines, a serge machine and a leather machine. All the machines were acquired from Italy. All the raw materials (fabric - sponge - threads - preen) were purchased from local suppliers who imported from Egypt and India.

#### 9.2 The manufacturing background

The enterprise was established in 1983 on a 150 square meter site in Benghazi city centre. The main objective in establishing this enterprise was for the owner to have his own business and to secure an additional source of income for the family. The amount invested in the enterprise was LD 25,000 collected from personal and family savings.

The enterprise had seven employees, all of whom were high skilled men. Four of the employees were sons of the O/M with one currently working as production manager (P/M). The P/M was 35 years old with a three-year diploma in clothing craft and ten years experience. He was responsible for the employees, scheduling the production processes, monitoring the employees and inspecting their work. In addition to these responsibilities he worked on a machine and managed the business when the O/M was absent.

There were no written contracts between the O/M and the employees. However, the enterprise had subcontracting agreements with many customers. The contractors selected the O/M's enterprise based on its reputation, ability to produce high quality products and deliver them on time. The subcontracting work consisted mostly of company uniforms.

## 9.3 Primary data and data analysis

### 9.3.1. Primary data

#### 9.3.1.1. The Interviews.

A total of twelve interviews were conducted over a three-week period with the owner/manager (O/M), production manager (P/M) and one of the employees (E). All the interviews were conducted between 12a.m. and 2p.m. in the O/M's office. The interviews started with broad questions, and then became more focused according to any points which were relevant and important to the main phenomenon (Accounting information). All the interviews were tape-recorded and later transcribed. Table (9-1) shows the profile and the number of interviews.

Table (9-1): Profile of the interviewees and number of interviews				
	O/M	P/M	E	Total
Number of interviews	6	4	2	12

### 9.3.2. Documentary evidence

The researcher examined all business records and documents used by the O/M and was allowed to obtain copies of the business documents, purchase, sales invoices, bills and cash receipts. All of the documents were filed in files in the O/M's office. The O/M also allowed the researcher to see the bank statements.

## 9.4. Data analysis

A structured set of grounded theory coding procedures were employed to organise the ideas which emerged from the analysis of the primary and documentary evidence. After each interview was analysed, the main points (concepts) were identified, summarised and compared. Relationships between the concepts were noted and then related concepts were grouped and given a label. All labels were listed and checked to make sure that all the labels had been considered. Table (9-2) shows all the labels that represent the main points raised by all interviewees. These labels are discussed in the next section.

Table (9-2): Labels represent the main points that were raised by all respondents	
Labels	
1. Lack of education in management and accounting skills	
2. Lack of the Owner manager's time	
3. Small size of business	
4. Lack of complete set of business records and documents	
5. Competition	
6. Inadequate infrastructure	
7. The government agencies	
8. No formal procedures for product costing and pricing	
9. Informal procedures for product costing and pricing	
10. Use of break-even technique	
11. Very little written but a little more oral accounting information was generated and used in product costing and pricing	
12. No formal procedures for financial planning	
13. Informal procedures for financial planning	
14. Very little written but a little more oral accounting information was generated and used in financial planning	
15. No formal procedures for profit planning	
16. Informal procedures for profit planning	
17. Very little written but a little more oral accounting information was generated and used in profit planning	
18. No formal procedures for manufacturing planning	
19. Informal procedures for manufacturing planning	
20. Generated and used accounting information based on personal experience	
21. Very little written but a little more oral accounting information was generated and used in manufacturing planning	
22. No formal procedures for productivity control	
23. Informal procedures for productivity control	
24. Very little written but a little more oral accounting information was generated and used in productivity control	
25. No formal procedures for quality control	
26. Informal procedures for quality control	
27. Very little written but a little more oral accounting information was generated and used in quality control	
28. No formal procedures for cash flow control	
29. Informal procedures for cash flow control	
30. Very little written but a little more oral accounting information was generated and used in cash flow control	
31. No formal procedures for inventory control	
32. No informal procedures for inventory control	
33. Very little written and oral accounting information was generated and used in inventory control	
34. No formal procedures for capital expenditure control	
35. Informal procedures for capital expenditure control	
36. Very little written but a little more oral accounting information was generated and used in capital expenditure control	
37. No formal procedures for make or buy decisions	
38. Informal procedures for make or buy decisions	
39. Very little written but a little more oral accounting information was generated and used in make or buy decisions	

## 9.5. Discussion

### 9.5.1 Lack of education in management and accounting skills

The O/M was 65 years old with a primary school education, five courses in garment craft from the Vocational Centre in Italy and 50 years experience. The O/M stated that at the age of 15 he trained for two years in an Italian clothing manufacture in Benghazi. Subsequently, he worked as a tailor for three years in a garment factory. In 1957 he attended his first garment course in Italy and attended other courses in 1958, 1968, 1971 and 1990. During these years he was working as a designer and stated that through these time he gained excellent experience and a high level of technical skills in designing and manufacturing clothes. The P/M stated that although the O/M had high technical skills, his knowledge about business and financial plans was limited. The O/M noted that he gained basic management experience through practising his job for many years. He added that the method he used to record business transactions was very simple and was the only method he was familiar with. This method was adopted from his experience. The P/M noted, "Managing the daily business activities depended mainly on the O/M's personal experience". The O/M also subscribed to some specialised Italian journals and magazines (see label 1; Table 9-2).

### 9.5.2 Lack of the O/M's time

The O/M was responsible for most of the management activities including design of the products, preparation of the patterns, cutting the fabric, preparing product samples, making agreements with the contractors, negotiating prices and delivery time, collecting debts, purchasing raw materials, supervision of the production processes and recording the business transactions. The O/M stated that in addition to his previous responsibilities, he spent two to three hours on a daily basis studying the specialised journals and magazines.

He added, "As I am the head of my clan (family), frequent social occasions and visits during working hours are the main factors interrupting the management function". As a result of this, the management function was divided between himself and his son who was the P/M. The P/M noted that the O/M's time was insufficient to undertake production planning because he was always busy with management activities and our family problems" (see label 2; Table 9-2).

### 9.5.3 Small Size of Business

The O/M had been responsible for recording the financial transactions of the business since the enterprise was established. He stated that the financial transactions were very small and the related accounting for them was very simple. The P/M stated that the size of the enterprise and its financial transactions were too small to justify using either an internal or external accountant and the O/M never felt that using an accountant would be useful for his business. Therefore, the O/M was personally for recording the business transactions and he used his own method (see label 3; Table 9-2).

### 9.5.4 Competition

The O/M stated that because the enterprise was a subcontracting business, the marketing was not of any concern to him. He added that the personal relationships and the reputation of enterprises were the important factors which affected whether or not the enterprise gained orders. The P/M stated that the main factors which affected the reputation were the product quality and delivery time. The P/M stated that the O/M was very concerned about the product's quality and the delivery time. He added, "The O/M is very concerned about the customer satisfaction and their feedback. He always visits the customers and old and existing contractors". The O/M noted "I have to produce the products according to the required specifications if I want to keep my position in the market". Therefore, many actions were undertaken by the O/M and P/M to ensure the products would be produced according to the required specifications and descriptions and be delivered on time.

The O/M stated that sometimes he reduced the selling price in order to increase the sales or to obtain a specific order from contractor.

The O/M identified thirty local enterprises producing clothes in Benghazi and the P/M regarded nine of them as serious competitors. They were well-equipped workshops using a high level of technical skills and there was intense competition between these businesses and themselves in terms of prices. The O/M noted that the prices they charged were usually higher than those of the competitor's prices because of a higher standard of quality. The P/M indicated that the quality of design, finishing and on time delivery were the main reasons which gave the business their competitive advantage. The O/M noted that although the enterprise was very competitive in terms of quality and delivery time, competition with the Egyptian and local competitors in terms of price were extremely difficult. However, the O/M's main concern was to obtain an increased

number of orders from the contractors and to perform the job as quickly as possible (see label 5; Table 9-2).

### 9.5.5 Lack of a complete set of business records and documents

The enterprise used a number of books to record the business transactions. The first one was a notebook used by the O/M to record all the details of customer and supplier accounts, product delivery times and other important notes. The second book was the measurements book, which was used to record customer details. Each page of this book was divided into three parts: The first part was used to record general customer details, the second part to record the customer's measurements and the third one was used to record the financial transactions. Table (9-3) shows a typical example of a page created in the measurements book.

The third book was the contractor's book used by the O/M to record on separate pages the details of orders received from each contractor. These details included the contractor's name, required types and quantities, colours, special options, selling prices, date of ordering and delivery time and deposits received. Both the O/M and the contractors signed this page. After the contractor's balance was paid and the product was delivered to the contractor, the O/M would sign the page to indicate that the transaction was completed. The fourth book was kept for recording the details about the employee absence, wages, and withdrawals. In addition a number of documents were used by the enterprise to support its transactions including electricity and phone bills, purchase invoices; cash receipts and deposit slips from the bank. All these documents were kept in separate files (see label 4; Table 9-2)

Table (9-3): A page of the measurements book

Part One: Customer Information	
Date	<input type="text"/>
Customer Name:	<input type="text"/>
Delivery time	<input type="text"/>
Product description	<input type="text"/>
Phone	<input type="text"/>
Sample of the fabric	<input type="text"/>

Part Two: Customer Measurement					
Shoulder	Arm		Leg		Waist
	In	Out	In	Out	
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Special needs	<input type="text"/>				

Part Three: Financial Transaction		
Price	Deposit	Balance
<input type="text"/>	<input type="text"/>	<input type="text"/>

The O/M signature: \_\_\_\_\_ The Customer signature: \_\_\_\_\_



### 9.5.6 Product costing and pricing

The O/M stated that by the time the business was established he already had considerable experience which allowed him to estimate the prices that would be charged for any produced item. He estimated the cost and price of the products before starting the actual manufacturing processes. He also stated that the costing and pricing of products which had been produced by the enterprise before was much easier than products which had never been produced before. He explained that if the enterprise received an order and the enterprise had manufactured similar products before, then the new products were given prices modified based on similar products which had been produced before. These modifications were based on the O/M's personal experience. Also, if the product had never been produced before the O/M would manufacture one test sample before pricing the new product and he determined the new product price based on personal evaluation of three factors: The first was the number of units which would be produced per day, the second was the average total daily expenses and the third was a reasonable profit margin.

The daily expenses were computed by dividing the average total expenses during the month by thirty days. The daily expenses included raw materials costs, designing cost, electricity and phone bills, wages and other expenses. The estimated raw materials cost would include fabrics, threads, cotton, sponge, buttons, filling, pins and waste. By dividing the total estimated average daily expenses by the number of units that would be produced per day, the total estimated cost per unit would be determined. The O/M would add a reasonable profit to the estimated total cost in order to finalise the unit price. The P/M noted that all the cost and price calculations were performed paper and kept in the O/M's head. The computed unit price was then negotiated with the customers in order to reach the agreed price. The O/M stated, "I take into my consideration of the estimated total cost the market conditions and the competitors reactions while I negotiate the prices with the customers".

Therefore, the O/M was able to determine the price that would enable him to cover the daily expenses of the business make a reasonable profit. However, the O/M implemented the 'break-even technique' in its simplest form without understanding exactly how to use this technique. The O/M stated that he did not know what is the 'break-even point' mean and what it is used for (see label 8, 9, 10, and 11; Table 9-2).

### 9.5.7 Financial planning

Before establishing the enterprise there was no feasibility study. After the business was established there were also no start up business plans or general formal business plans and objectives written down on paper. In addition, no budgets or other financial statements were prepared and the O/M never considered this necessity. The O/M stated that he was not aware of the need for business plans as a management tool. The P/M stated that the lack of the O/M's management and accounting education made him to be unfamiliar with management and accounting techniques and plans. According to the O/M, "The short term planning and production decisions were prepared and considered based on my experience and retained in my mind". He added, "If I want my enterprise to survive, I have to obtain more orders from the contractors and collect more money" (see label 12, 13 and 14; Table 9-2).

### 9.5.8 Profit planning

The P/M noted that although the O/M had a large amount of experience which would enable him to identify the product types and models demanded by customers in each season, he was unable to forecast the quantities. The O/M stated that each season had its own type of product; in the winter, the demand increased to its highest levels with suits whereas in the summer the demand would shift towards Libyan traditional clothes.

The O/M primary concern was to obtain more orders from the contractors in order to make a reasonable profit. The P/M indicated that the individual orders received from the regular customers did not make reasonable profits, therefore the O/M was continually visiting the customers and contractors to obtain more orders. The O/M's strategy was to wear the new clothes models himself when he visited the customers as a form of advertising.

The O/M stated, "If I want to obtain more orders, I have to maintain the high reputation of the business by producing high quality products and delivering them on time". The P/M stated that if the O/M's contacts with the contractors were successful, he would develop the facilities and increase the manufacturing capacity in order to meet the expansion in demand. The O/M stated that evaluating the financial and technical implications would be based in his own experience.

As a result, the O/M was unaware of the importance of an income statement and balance sheet and as they were never requested, he never prepared them. The O/M stated that if

there were more than one owner of the enterprise, the preparation and use of these statements would become necessary but he added that no one was interested in preparing and using these statements including the banks and tax office. The existing banking sector demanded complex procedures and required high guarantees in order to give loans and requested paying interest which was prohibited by the Islamic religion. The tax office used an estimated method to determine the amount of V.A.T.

The P/M indicated that the O/M relied upon his personal experience to manage the business activities and to evaluate how the business was performing. The O/M stated that in order to discover how the business was performing, he used personal experience to compute the net profits every month and year. Expenses and revenue items, which were obtained from the business books and documents, were then grouped together under selective titles which included cash and cheque received bills, machines repairs and maintenance, wages and raw materials. The cost of raw materials used during the month was estimated based on the O/M's personal experience and the total costs and expenses were subtracted from the revenues in order to obtain the net profit. The O/M noted that these computations were usually done on paper, which would then be discarded after the results were obtained and recorded in the profits file. The net profit was compared with that of the previous months and years (see label 7, 15, 16 and 17; Table 9-2).

### 9.5.9 Manufacturing planning

The P/M stated that the working hours under normal capacity were from 8am to 1pm and from 4pm to 9pm every day except Fridays, which was the weekend holy day. If the demand increased or there were urgent orders, instructions were given by the O/M to keep the manufacturing operations running twelve hours a day seven day a week, and extra employees would be hired on a temporary basis. The O/M stated that if the demand became higher than the enterprise capacity, agreements with other businesses would be made to produce the required products in their workshops under the P/M's supervision. The P/M noted that if this situation occurred, the O/M became responsible for the production processes in the enterprise and he became responsible for the production processes in the other enterprises.

The manufacturing scheduling decisions were made based on the O/M's personal experience which took into consideration the types and numbers of orders received from the customers and contractors and the agreed delivery time. The O/M stated, "I use my experience to estimate the delivery time taking in account the local interruptions, which

could cause delays in the delivery of the finished products to the customers or contractors". The P/M noted that the O/M usually added an extra period of time to the estimated delivery time in order to anticipate the unexpected interruptions. The O/M stated that the electrical power failure, employee absence and social occasions were the main factors which would affect the production processes.

When the enterprise received any contract, the O/M and P/M would prepare a basic scheduling plan, which would enable the enterprise to achieve the daily target production size. The E noted that under this situation the production processes would be divided into several successive steps and each employee would work on the step which best suited his skills. The O/M stated, "The manufacturing schedules are formulated in my head, and suitable actions which would allow the completion and delivery of the products on time are always undertaken" (see label 6, 18, 19, 20 and 21; Table 9-2).

### 9.5.10 Productivity control

There were a number of circumstances under which the enterprise had to reduce its full capacity. Firstly, there was a high employee absence rate due to social and family occasions and secondly, there were frequent interruptions to the electrical power supply. The O/M and P/M recorded the attendance, working hours and the cash withdrawals of each employee. At the end of each month, the O/M computed the total and net wages of each employee and paid them in cash.

The O/M noted that based on personal experience, he was aware of the production capacity of each employee and their professional skills, which made him able to estimate the average number of units which they could produce for any type of product per day.

An employee stated that the O/M was very friendly towards them; sometimes meals, tea and coffee were taken together, he listened to their problems, visited them in their homes and covered their hospitalisation and medical costs.

The O/M stated that he did not record employee productivity because the manufacturing stages were divided into processes and these processes were a complete cycle in which each process was depended on the previous one.

After a new order was received, the O/M would design the new product, prepare the sample and then negotiate prices and a payment method with the customer. After the agreement was finished the O/M would prepare the patterns and cut the fabrics. Then he would meet with the P/M to discuss the numbers which would be produced every day in

order to meet the agreed delivery time. After this, employees completed the sewing, attached accessories and assembled the parts.

No books were kept in order to record the cost element details. The O/M stated, “The details regarding the quantities of raw material used in production were not recorded”. He added that a comparison between the actual and planned production was made every day and the reasons underlying any differences were identified and investigated. At the end of each day, each employee was responsible for cleaning his own machine (see label 6, 22, 23, and 24; Table 9-2).

### 9.5.11 Quality control

The O/M stated, “The quality of the products and the delivery time are the two main factors which affect customer satisfaction and the reputation of the enterprise”. The P/M added that in order to achieve a better competitive position and receive more orders, the products should be produced according to the required specifications. The O/M noted that if the products were not produced according to the required specifications or if there were any mistakes or products were not delivered on time the contractors would refuse to pay for rectification of mistakes or pay the agreed prices. Because of this, the O/M was very concerned with the quality of products and the delivery time in order to avoid any problems with customers which would affect the business reputation and potentially affect future orders.

With regard to the quality of raw materials (fabric), testing and assessing the quality of the fabric were the O/M’s main responsibility and it was based on his personal experience. The O/M stated that specialised journals, magazines and other information were received regularly from suppliers and manufacturers which kept him update on new raw materials and modern machine relating to the business.

Sometimes the customers and contractors provided the fabrics, so testing and assessing the quality of the fabric was not his responsibility. However, he was responsible for ensuring the products would be produced according to the required specifications and descriptions.

The P/M stated, “By dividing the production processes into steps, each employee will take the job that matches his skills. This will allow each employee to inspect the another employees work before he starts his part in order to identify and correct any mistakes immediately”. The O/M stated that before the production processes would start he would prepare a sample as a guide for the production employees.

Monitoring and inspecting the employees and their work was carried out by the O/M and P/M and mistakes were identified and corrected immediately. The P/M noted that at the end of each day he and the O/M inspected the finished products piece by piece before they were sent to the customers and products with mistakes were identified and corrected the next day. The O/M stated, "The business inspection procedures should allow any mistakes to be discovered". The employee stated that the O/M's personal experience and the enterprise's quality procedures enabled it to meet the quality standards required by the customers and thus achieve very good reputation (see label 25, 26 and 27; Table 9-2).

### 9.5.12 Cash flow control

The customer's credibility was neither checked before or after commissioning. This is because the O/M asked the customers to pay in cash or by cheque. The O/M stated that after the customers agreed upon the selling prices, payment method, terms, and delivery time, they were required to sign their account pages in the measurements book or in the contractor's book and pay one-third of their balance as a deposit. All deposits were made in cash, whereas other payments were accepted in cash or by cheques. Details concerning the amounts received and remaining balances were recorded in the measurements or contractors book and the remaining balances were also recorded in the notebook.

The O/M noted that the cash received was kept in hand and used to pay for the daily expenses and any required raw material. The cheques received were deposited in the bank account for collection. Only after the deposits were received, the O/M started the manufacturing process on the customer's orders. The customer's outstanding balance should be received in cash or cheque after the products were completed and before the delivery time. After this, the O/M would sign the customer's page in the measurements, contractors and notebooks as completed.

Although the O/M or P/M obtained a deposit slip from the bank after each deposit transaction, no recording was performed in the business records to indicate the deposit transaction. The O/M stated that the deposit slips were kept in a separate file in order to compare them at the end of month with the bank statement. He added that among all the cheques which had been received from customers, no cheque was ever bounced.

The O/M preferred to make purchases of raw materials and pay all the business expenses in cash, and cashed cheques up to the expense amounts to himself or to the P/M. The O/M stated, "Paying in cash is the easiest way to get special offers and

discounts“. Although the raw materials were often purchased in cash, sometimes purchases were not paid in full and the remaining balances were recorded in the notebook. Additionally, all the purchase invoices and expenses bills were kept in separate files.

Regarding withdrawals made during a month for personal and family purposes, the O/M noted that these were made in cash and were unlimited and details of these payments were recorded in the notebook and cheque stubs. However, the employee's withdrawals were recorded in the employee's book and they were limited to an amount equal to their monthly wages (see label 28, 29 and 30; Table 9-2).

### 9.5.13 Inventory control

All raw materials were purchased from local suppliers who bought most of them from Egyptian and Indian suppliers. The O/M stated “Since the enterprise is located in Benghazi and there are many local raw materials' suppliers, the business stores keeps small quantities of specific raw materials which are used regularly in the manufacturing processes. Other items were purchased as and when necessary”. He added that the local suppliers were able to immediately deliver any type or quantity of raw materials when requested. The P/M stated, “By not storing large amounts of raw material in the enterprise, there is more free space in the enterprise, and this practice also avoids freezing money in the inventory and reduces risks associated the changeable nature of customer's tastes”. Therefore, there were no large quantities of fabrics stored in the enterprise, But based on the O/M's personal experience they retained a large inventory of different colour thread.

If suppliers were unable to provide or deliver the necessary raw materials, these would be borrowed from other clothing manufactures which whom the O/M had a good working relationship. The lender's name and the cost of the raw materials would be recorded in the notebook.

The O/M stated that no records were kept of the inventory and no recording was performed concerning items removed from or added to the inventory. The only records stored in the enterprise were the copies of purchase invoices. All the raw material items were on shelves in the work place and were available to anyone in the enterprise. However, the employee noted that sometimes-specific items from the fabric inventory ran out without being noticed by the O/M or P/M. The O/M explained, “Since the enterprise is located close to the suppliers, procedures for the purchase of raw materials will be made when the need becomes apparent”. He added that after commissioning

with the customers was completed and the deposit received, he examined the raw material inventory in order to identify the types and quantities that would need to be ordered to bring the inventory to the level which would enable the enterprise to manufacture the specific products. These levels were determined based on the O/M's personal experience. Orders were then requested and obtained from the local suppliers within one hour. No regular physical count of the items in the raw material inventory was performed.

The O/M was aware of the necessity that certain actions were needed such as the use more records for a better control, but he did not feel that this was urgent. He added that he built strong relationships with his employees based on honesty (see label 31, 32 and 33; Table 9-2).

### 9.5.14 Capital expenditure control

The decisions to acquire sewing machines and tools were based primarily on business need and acquiring specific sewing machines models was based on the O/M's personal experience. The O/M stated that all the machines and tools were acquired with cash and most were more than 20 years old. Based on his personal experience and general information obtained from Italian suppliers regarding the new machines, the O/M also planned to buy new machines. The O/M stated that acquiring the new machines would reduce the manufacturing time and increases the profitability. The P/M noted that the total amount needed for financing the new machines was LD 60.000 but the O/M stated that the amount of cash available was not sufficient to support these new acquisitions. Also, the banks refused on repeated occasions to finance the acquisition and therefore this the O/M planned to acquire the machines from local suppliers on a long-term credit basis and repay the amounts by using the net revenues which would be generated from the increased production capacity of the new machines.

The P/M stated that no market or feasibility studies were undertaken to estimate the demand and financial consequences of buying the new machines (see label 34, 35 and 36; Table 9-2).

### 9.5.15 Make or buy decisions

Based on personal experience there were only two situations when the O/M would decide to buy products from competitors rather than manufacture them in the enterprise: the first when the demand became higher than the capacity of the enterprise and the second when the enterprise received an urgent order whilst it was busy to produce other



products. In both situations the O/M designed the products, prepared the patterns, cut the fabric and then sent these to the competitors for sewing and attaching accessories and assembling the parts. After completion the units were brought back to the enterprise for packaging before being forwarded to the customers. The P/M explained that the purpose of this action was to meet the high demand and increased sales. The O/M stated that he was very concerned with meeting the customers needs regardless of whether profits would be made or not (see label 37, 38 and 39; Table 9-2).

## 9.6 Summary

In the previous section relationships between the labels listed in table (9-2) were identified and a basis was established for organising the ideas which emerged from the analysis. In the next section, the researcher will attempt to relate the labels based on these relationships to the main phenomenon.

## 9.7 Results

In order to relate labels to the main phenomenon to begin to develop some related hypotheses, the researcher pieced them together by means of Strauss and Corbin's (1990) paradigm model. According to this model, causal conditions create a phenomenon within a specific context. Action/interaction strategies are implemented to manage the phenomenon having regard to the intervening conditions which influence it and produce desired consequences. However, in order to utilise this model, labels are grouped in terms of causal conditions, context, action/interaction strategies, intervening conditions and consequences.

### 9.7.1 Causal conditions

The competition was regarded as a major causal condition of the main phenomenon (accounting information for planning and control) because it made the O/M concerned with the quality of the products and the delivery time. It also forced him to maintain the customer satisfaction and obtain their feedback, reduce the product-selling price in order to increase sales or to win specific orders. Therefore, it was necessary for the O/M to generate and use information regarding the quality of the products and feedback from customers in order to maintain the customers' satisfaction. Therefore, the competition was regarded as a causal condition for the generation and use of accounting information.

The implementation of the 'break-even point technique' was regarded as another causal condition because they influenced the need for generation and use of related accounting information.

The reputation of the enterprise was also regarded as another major causal condition of the main phenomenon (accounting information for planning and control) because information was needed to maintain customer and supplier satisfaction. Therefore, management accounting information regarding the quality specification and product descriptions requested by customers was needed. Also, management accounting information was needed before estimating the product delivery time.

The need for higher sales was also regarded as another major causal condition because this sometimes forced the O/M to reduce the selling price and to buy certain products from other enterprises when the demand became higher than the capacity of the enterprise or when there was an urgent order. Therefore, it was necessary to obtain information regarding the manufacturing and total costs and the average prices of competitors' products.

The application of informal procedures for product costing and pricing, cash flow, quality, productivity and capital expenditures control; financial, profit and manufacturing planning increased the ability to generate and use accounting information in planning and controlling these aspects. Thus, the existence of these procedures was regarded as a causal condition.

### 9.7.2 Intervening conditions

The lack of education in management and accounting skills was regarded as an intervening condition because it was a barrier for developing formal long and short-term plans and led to the O/M using his own method to manage the daily business activities. The O/M was unaware of the need for business plans as a management tool for planning and controlling the business activities. Hence, the absence of formal methods and plans might limit the extent to which the accounting information was generated and used in the business.

The lack of the O/M's time was regarded as an intervening condition because he was involved in the management and production functions, and problems and issues relating to his family. Therefore, the O/M had limited amount of time for effective management. Under these conditions, the generation and use of accounting information would be very limited.

The small size of the enterprise in terms of the number of employees and financial transactions was a barrier to hiring an internal accountant or using a computer-based accounting system to better arrange the accounting function of the business. Therefore, the small size of the enterprise and the lack of a well arranged accounting function limited the generation and use of accounting information in planning and controlling the business activities.

Some of the management accounting techniques such as 'reorder point' and 'inventory levels determination' is not used as a result of the O/M's lack of management and accounting education. Therefore, the lack of the use of some management accounting techniques as tools for planning and controlling the business activities was regarded as an intervening condition.

The lack of a complete set of business documents and records was regarded as another intervening condition because this would not allow the recording of all details of every financial transactions made in the business. Because such data did not exist, the O/M was unable to generate and use the related information for better management. Thus, the lack of a complete set of business records and documents was regarded as an intervening condition.

The income statement and balance sheets were not prepared since government agencies did not ask, request or show any interest in receiving these documentation. Because of this the O/M could avoid generating and using the related accounting information. Therefore, the government agencies lack of interest in preparation of the income statement and balance sheets was also regarded as an intervening condition.

The lack of formal and informal procedures for inventory control and make or buy decisions as well as formal procedures for product costing and pricing; manufacturing, financial, profits planning; quality, productivity, cash flow and capital expenditures control was a barrier to the generation and use of related accounting information. Thus, the lack of these procedures was regarded as a major intervening condition.

### 9.7.3 Context

Based on the analysis of the data, several characteristics were regarded as context for the main phenomenon. The first was the frequent and unexpected interruption to the electricity supply, which influenced the interruption of the manufacturing processes. The second was the lack of access to financial support which affecting the performance of the business and the third was the estimated tax method.

### 9.7.4 Action/Interaction strategy

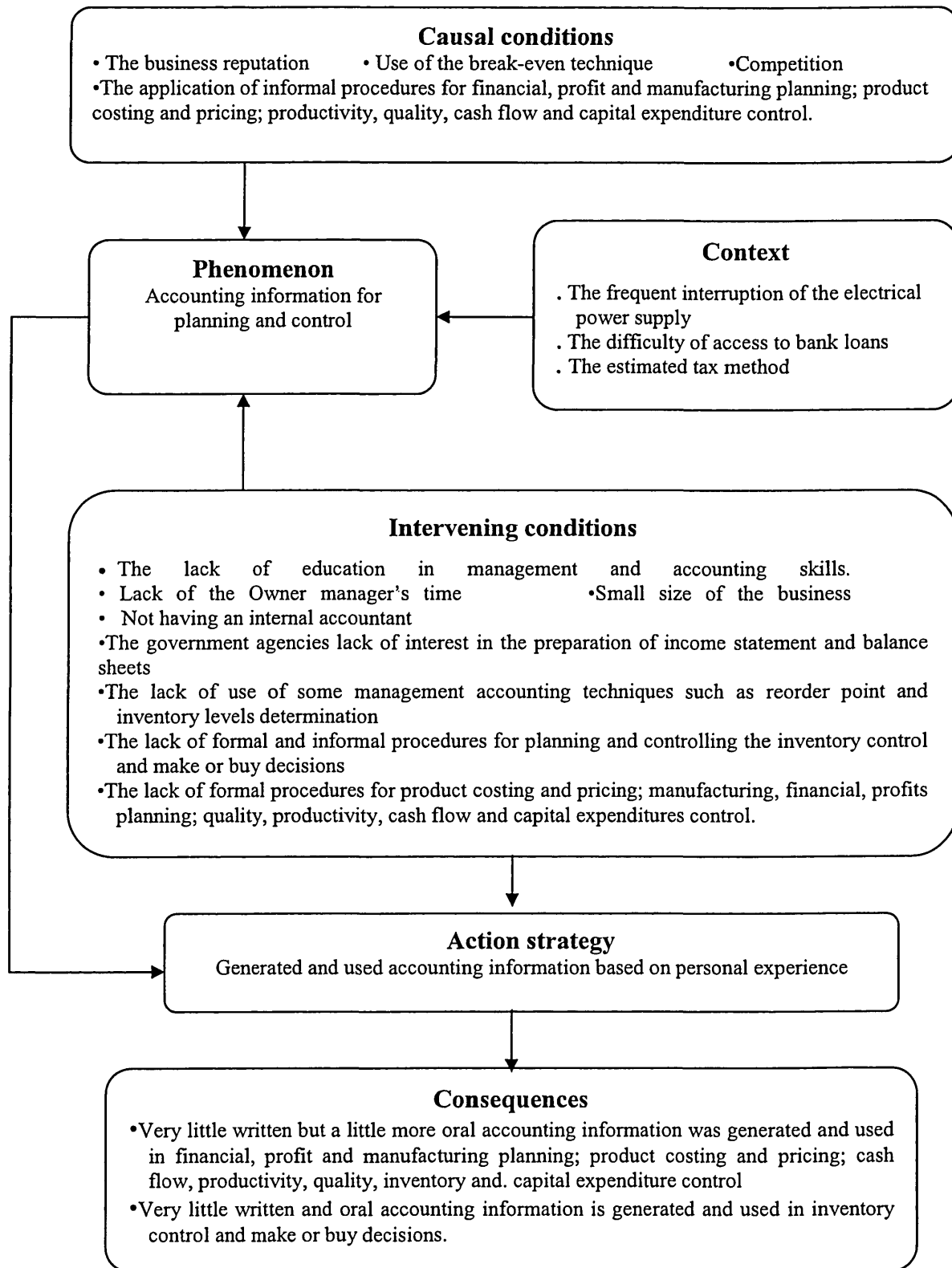
The researcher identified the strategy which the O/M used to manage the main phenomenon (accounting information for planning and controlling) was that he tended to generate and use accounting information based on his personal experience for planning and controlling business activities.

### 9.7.5 Consequences

The strategy of generating and using accounting information based on personal experience for planning and controlling business activities produced the following consequences. Firstly, very little written but a little more oral accounting information was generated and used in financial, profit and manufacturing planning; product costing and pricing; cash flow, productivity, quality, inventory and. capital expenditure control and make or buy decisions. Secondly, very little written and oral accounting information is generated and used in inventory control and make or buy decisions.

Figure (9-1) shows the relationship between the labels in terms of Strauss and Corbin's (1990) paradigm model for Case No.5.

Figure (9-1): The relationship between the labels



### 9.7.6 Substantive hypotheses

This case study was conducted in a micro clothing manufacturing enterprise with less than ten employees and one O/M. It started with a description of the history and background of the business, business records and documents. In-depth discussion and analysis processes were then used to identify the labels which were related to the main phenomenon (accounting information for planning and control). Following that, the hypothesised relationships between these labels were identified and related to the main phenomenon by using the Strauss and Corbin (1990) paradigm. Several substantive hypotheses related to the accounting information for planning and control in this micro manufacturing enterprise emerged and are listed below:

1. The O/M's lack of education in management and accounting skills is a major barrier to generating and using accounting information (see section: Lack of education in management and accounting skills).
2. As the O/M becomes more involved in managing all the business aspects and in other activities such as social occasions and visits, the lack of the owner manager's time increases. (See section: Lack of time).
3. The lack of the O/M's is a major barrier to the generation and use of accounting information (see section: Lack of time).
4. The lack of complete set of business records and documents is a major barrier to the generation and use of accounting information in planning and controlling business activities (see section: Lack of a complete set of business records and documents).
5. The small size of the business is a major barrier to the generation and use of accounting information in planning and controlling business activities (see section: Small size of the business).
6. Not having an internal accountant is a barrier to the generation and use of accounting information in planning and controlling business activities (see section: Small size of the business).
7. The O/M and government agencies (such as tax authorities and state banks) level of interest in the micro enterprise's financial information is a major factor affecting the generation and use of accounting information. (See section: Financial planning).
8. The competition is a major factor affecting the generation and use of some accounting information. (See section: Competition).

9. As the need for higher sales increases the need to generate and use accounting information increases (see section: Profit planning).
10. The use of 'break-even point' is a major reason for the generation and use of accounting information. (See sections Product costing and pricing).
11. The application of informal procedures for financial, profit and manufacturing planning is a major reason for the generation and use of accounting information for planning and control (see sections: Financial planning; profit planning; and manufacturing planning).
12. The application of informal procedures for quality, productivity, cash flow and capital expenditure control is a major reason for the generation and use of accounting information in planning and control (see sections: Quality control; cash flow control; productivity control and capital expenditure control).
13. The application of informal procedures for product costing and pricing is a major reason for the generation and use of accounting information in planning and control (see section: Product costing and pricing).
14. The lack of formal procedures for financial, profit and manufacturing planning; productivity, quality, cash flow and capital expenditure control; product costing and pricing and make or buy decisions is a barrier to the generation and use of accounting information in planning and controlling business activities (see sections: Financial planning; profit planning; manufacturing planning; quality control; productivity control; cash flow control; capital expenditure control; product costing and pricing and make or buy decisions).
15. The lack of formal or informal procedures for inventory control is a major barrier to the generation and use of accounting information in planning and controlling business activities (see section: Inventory control).
16. The lack of formal or informal procedures for make or buy decisions is a major barrier to the generation and use of accounting information in planning and controlling business activities (see section: Make or buy decisions).
17. The O/M generates and uses accounting information based on personal experience in planning some aspects of his business (see sections: Profit planning and capital expenditure control and other sections).
18. Very little written but a little more oral accounting information is generated and used in productivity, quality, cash flow and capital expenditure control (see sections: Productivity control; quality control; cash flow control; capital expenditure control).
19. Very little written and oral accounting information is generated and used in inventory control (see section: Inventory control).
20. Very little written but a little more oral accounting information is generated and used in financial, profit and manufacturing planning (see sections: Financial planning, profit planning and manufacturing planning).

21. Very little written but a little more oral accounting information is generated and used in product costing and pricing (see section: Product costing and pricing).
22. Very little written and oral accounting information is generated and used in make or buy decisions (see section: Make or buy decisions).

## 9.8 Main findings from the five cases

A structured set of coding procedures from Strauss and Corbin's (1990) grounded theory approach were followed in order to analyse the data. This approach allowed 110 substantive hypotheses to emerge from the five case studies. These substantive hypotheses were clearly related to two groups. The first group namely, the impacts of the owner manager, enterprise and environmental features on the generation and use of accounting information. The second namely, the applied procedures (formal and informal) and the extent of written and oral accounting information generated and used for the business aspects.

The next chapter will provide a basis for the development of the formal hypotheses and will contains two related sections. The first provides an overview of the five cases in terms of the profile of interviewees and number of interviews conducted, and the background of the enterprises and owner manager's background. The second describes the processes by which the formal hypotheses were developed.



# **Chapter 10: CROSS-CASE ANALYSIS:**

## **Development of the findings**

### **10.1 Introduction**

The preceding chapters from 5 to 9 inclusive presented the analysis of the five case studies using the grounded theory approach described by Strauss and Corbin (1990). The use of grounded theory and case studies in this research study allowed the researcher to enter into the research site without any hypothesis in mind and offers the researcher a more flexible method to understand the phenomenon under study and to explain why particular practices occur.

In each of the preceding chapters (5 to 9), each case study was analysed individually according to a structured set of grounded theory coding procedures, and relevant hypotheses were allowed to emerge from the data of each case study. According to Strauss and Corbin (1990), these hypotheses were regarded as substantive hypotheses. Therefore, in this chapter the researcher will attempt to formulate more formal hypotheses which can then be tested in future research. Thus, in this chapter a cross case analysis of the five case studies is undertaken to seek insights into the development of a theory by comparing the similarities and differences of the findings of the five case studies. Yin (1994, p.34) regarded the development of consistent findings over multiple cases as a very robust finding. The term 'formal' is used to identify the hypotheses which emerge from the cross-case analysis (Strauss and Corbin, 1998).

This chapter provides the basis for the development of the formal hypotheses and it contains two related sections. The first provides an overview of the five cases in terms of the profile of interviewees and number of interviews conducted, and the background of the enterprises and owner manager's background. The second describes the processes by which the formal hypotheses were developed and also identified and discussed the supporting evidence and arguments for the development of these hypotheses.

### **10.2 Section one: Overview of the five cases**

#### **10.2.1 Profile of interviewees and number of interviews**

The interviews were conducted over a period of four months during which fifty-seven interviews were completed. More than three weeks full time was spent on each of

the five cases. Some interviews lasted at least 30 minutes and others lasted more than one hour. The interviews started with broad questions and then became more focused according to any points which were relevant and important to the main phenomenon (Accounting information). All the interviews were tape-recorded and then later transcribed.

Interviews were selected to include owner/manager (O/M), production manager (P/M), internal accountant (I/A), salesman (S/M) and employees (E). Table (10-1) gives information regarding the interviews and interviewees. This information includes the period of time spent at the site, the interviewees position, number of interviews, the average time of each interview. In addition to these interviews, there was observation and examination of a large number of documents and reports. The case studies, namely **Pasta Manufacturing Enterprise; Plastic Bags and Printing Manufacturing Enterprise; Plastic Manufacturing Enterprise; Furniture Manufacturing Enterprise and Clothing Manufacturing Enterprise** will be referred to as cases 1, 2, 3, 4 and 5 respectively.

Table (10-1): Profile of the interviewees and number of interviews conducted in the five cases

## 10.2.2 Enterprises and owner/managers background features

The features of the five enterprises included date of establishment, number of employees, primary products and amount of investment. These features are presented in Table (10-2).

Table (10-2): Enterprises' background				
Subject Cases	Establishment date	Number of employees	Products	Amount of investment
				LD*
Case 1	1999	7	Pasta	45,000
Case 2	1998	8	Plastic bags	53000
Case 3	1996	7	Plastic products	50,000
Case 4	1984	7	Furniture	30,000
Case 5	1983	7	Clothes	25,000
LD*: Libyan dinars				

The features of the owner managers in each of the five cases are shown in Table (10-3) these features include sex, age, formal education, management and accounting skills, and business goals.

Table (10-3): Owner manager's background					
Subject Cases	Sex	Age (Years)	Formal education	Management and accounting skills	Business goal
Case 1	Male	52	Two year diploma in engineering	None	• Make profit
Case 2	Male	54	Three year diploma in accounting and finance	Adequate	• Additional source of family income
Case 3	Male	32	Three year diploma in turning craft	None	• Have own business • Additional source of family income
Case 4	Male	44	Three year diploma in wood craft	None	• A source of family income
Case 5	Male	65	Vocational	None	• Have own business • Additional source of family income

## 10.3 Section two: Development processes of the formal hypotheses

In order to develop formal hypotheses from the substantive hypotheses which emerged from the data in each of the five cases, this section is devoted to identify the similarities and differences between the substantive hypotheses. The formal hypotheses were developed mainly from at least three or more similar substantive hypotheses. The formal hypotheses developed were categorised into two groups. The first contained the owner manager's, business and environmental features. The formal hypotheses on this group were related to the impact of the owner manager's, enterprises and environmental features on the generation and use of accounting information for planning and controlling the business aspects. The second group contained the applied procedures and the accounting information generated and used for the business aspects (product costing and pricing, financial, profit and manufacturing planning; productivity, inventory, quality, cash flow and capital expenditure control and make or buy decisions). With this second group the formal hypotheses were related to the impact of the formal or informal procedures on the generation and use of accounting information for planning and controlling the business aspects and the extent of written and oral accounting information generated and used for planning and controlling the business aspects.

The next sections will develop the formal hypotheses and discuss the supporting evidence and arguments for the first group formal hypotheses (owner manager's, business and environmental features).

### 10.3.1 Owner/Manager's, Enterprise's & Environmental Features

In order to develop the formal hypotheses for the first group (the impact of the owner manager's, enterprises and environmental features on the generation and use of accounting information), tables from (10-4) to (10-13) were created to highlight the similarities and differences between the substantive hypotheses from the five cases in order to develop the formal hypotheses. Based on this comparison, ten formal hypotheses were developed for the first group and are in separate column in tables (10-4) to (10-13). All the formal hypotheses were developed based on three or more similar substantive hypotheses.

### 10.3.1.1 The O/M's education level in management and accounting skills

Table (10-4): Comparison between the substantive hypotheses which are related to the impact of the owner/manager's, enterprise's and environmental features on the generation and use of accounting information		
<i>The O/M's education level in management and accounting skills</i>		
Hypotheses Cases	Substantive hypotheses	Formal hypotheses
<b>Case 1</b>	The owner manager's lack of education in management and accounting skills is a major barrier to generating and using accounting information	<b>1. The owner manager's level of management and accounting skills influences the generation and use of accounting information.</b>
<b>Case 2</b>	The owner manager's adequate educational level in management and accounting skills is a major factor affecting the generation and use of accounting information.	
<b>Case 3</b>	The owner manager's low level in management education and accounting skills is a major barrier to generating and using accounting information	
<b>Case 4</b>	The O/M's lack of education in management and accounting skills is a major barrier to generating and using accounting information	
<b>Case 5</b>	The owner manager's lack of education in management and accounting skills is a major barrier to generating and using accounting information	

Table (10-4) shows that cases 1, 3, 4 and 5 indicated the O/M's lack of education in management accounting skills was a barrier to the generation and use of accounting information. However, case 2 indicated that the O/M's adequate education in accounting and management was a major factor affecting the generation and use of accounting information. In the following paragraphs, the researcher will identify and discuss the supporting evidence in the five case studies for the formal hypothesis development.

In *case1, Pasta Manufacturing Enterprise* (see section: Lack of education in management and accounting skills) the O/M had a two-year diploma in engineering and no financial and management background at all and he used a very simple method to record the business transactions. The I/A stated that the accounting function in this enterprise was poor and there were not any sets of documents and business records. The salesman (S/M) stated that although the O/M has learned from his previous mistakes, he was still poor in accounting and management skills. The I/A pointed out that the O/M should attend any short-term accounting and management courses which could help him run his business more efficiently.

In *case 2, Plastic Bags and Printing Manufacturing Enterprise* (see section: *Adequate education in Accounting and Management*) the O/M had a three year diploma in accounting and management administration. When the enterprise was established, the O/M was responsible for recording the business transactions. The I/A stated that he believed that although the O/M did not have enough experience, he had some adequate accounting and management skills which enabled him to generate and use relevant accounting information to make informed decisions.

In *case 3, Plastic Manufacturing Enterprise* (see section: *Lack of education in management and accounting skills*) the O/M had a three-year diploma in turning. He worked as a turner for a five-year period in a workshop and gained experience and a high level of technical skills in the craft of turning in these years. The O/M stated that he gained very basic management experience through being involved with the business for many years. The S/M stated that although the O/M had a high level of turning skills, he was poor in management and accounting techniques and skills. The I/A stated that although the O/M was poorly educated in management and accounting techniques and skills, he was aware of the importance of accounting information.

In *case 4, Furniture Manufacturing Enterprise* (see section: *Lack of education in management and accounting skills*) the O/M had a three-year diploma in woodcraft. He had 26 years of work experience and a high level of technical skills in designing and manufacturing wooden furniture, and basic management skills. The P/M noted, “Despite the fact that the O/M had a high level of technical skills, he still lacks general management and accounting skills”. The O/M mentioned that the method used to record the business transactions was adopted from past experience and the advice of friends. He added that this method was very simple and he was satisfied with it. The S/M noted that the data recorded by the O/M was not well classified because it was based on the O/M’s personal method. He added that the O/M’s basic level of education in management and accounting were the major barrier for better planning of the enterprise’s activities

In *case 5, Clothing Manufacturing Enterprise* (see section: *Lack of education in management and accounting skills*) the O/M attended five courses in garment craft at the Vocational Centre in Italy in 1957, 1958, 1968, 1971 and 1990. During these years he was working as a designer and he gained excellent experience and a high level of technical skills in designing and manufacturing clothes. The O/M gained basic management experience through practising his job for many years. The method which was used to record business transactions was very simple and was the only method the O/M was familiar with. This method was adopted from his experience. The P/M stated that although the

O/M had a high level of technical skills, his knowledge of business and financial planning was limited. He noted, "Managing the daily business activities depended mainly on the O/M's personal experience".

In summary, the above evidence from the five cases indicated that the O/M's education level in management and accounting skills affected the generation and use of accounting information for planning and controlling business aspects. Therefore, the formal hypothesis is:

***H1. The owner manager's level of management and accounting skills influences the generation and use of accounting information.***

### 10.3.1.2 The O/M's personal experience

Table (10-5): Comparison between the substantive hypotheses which are related to the impact of the owner/manager's, enterprise's and environmental features on the generation and use of accounting information		
<b><i>The O/M's personal experience</i></b>		
<b>Hypotheses</b> <b>Cases</b>	<b>Substantive hypotheses</b>	<b>Formal hypotheses</b>
<b>Case 1</b>	The owner manager generates and uses accounting information based on personal experience for planning and controlling some aspects of the business.	<b><i>2. The owner manager personal experience influences the generation and use of accounting information.</i></b>
<b>Case 2</b>	The owner manager generates and uses some accounting information based on personal experience for planning and controlling some aspects of the business.	
<b>Case 3</b>	The owner manager generates and uses accounting information based on personal experience for planning and controlling some aspects of the business.	
<b>Case 4</b>	The owner manager generates and uses accounting information based on personal experience for planning and controlling some aspects of the business.	
<b>Case 5</b>	The owner manager generates and uses accounting information based on personal experience for planning and controlling some aspects of the business.	

Table (10-5) indicates that in all the five cases the O/M's personal experience was important in the generation and use of accounting information for planning and controlling the business aspects. The supporting evidence for the development of the formal hypothesis is identified in these cases and discussed in the following paragraphs:

In *case 1, Pasta Manufacturing Enterprise* (see section *Product costing and pricing, profit planning, capital expenditure control and Inventory control*) the relevant data used to compute the estimated total cost of producing one kilo of pasta was provided by the O/M and they were based on his personal estimations. The O/M stated that he determined the estimated unit-selling price based on the estimated total cost of each unit produced, marketing conditions competitor's prices and reasonable profit margin and that this would be



determined based on his personal experience. The O/M used his personal experience to determine the type and a quantity of pasta's which would be demanded by the customers every day.

The inventory of raw materials (flour, semolina, salt, food colouring and yeast) kept in the enterprise should be sufficient to supply three days of production and these inventory levels were estimated based on the O/M's personal experience. In addition, the determinations of the minimum and maximum levels of finished products kept in the inventory were based on the O/M's personal experience. Furthermore, based on personal experience, the O/M estimated the required amount and utilisation of the production capacity and stated that any quantities which did not meet the required standards (defects) were sold to specific customers for cheaper prices than perfect units. The defect's unit prices were also determined based on the O/M's personal experience. The P/M and the S/M noted that the information used in the short term planning, marketing and production's decisions were based on the O/M's personal experience. The decision to acquire additional second hand machines to produce the other three food categories (short pasta, soup and cous-cous) was based upon the O/M's personal experiences and businesses needs. The O/M stated that from basic information obtained from experts and personal observation, he realised that acquiring other machines to produce different types of the pasta products would increase the enterprise sales and profits.

In *case 2, Plastic Bags and Printing Manufacturing Enterprise* (see section *Product costing and pricing, profit planning, Inventory control capital, expenditure control and make or buy decisions*) although the O/M did not have enough experience to estimate the product costing and pricing when the enterprise was established, his personal experience has improved in the recent years, which made him able to recomputed the estimated total cost without the I/A's assistance. The relevant data, which was used in the estimated total cost calculation, was provided based on the O/M's personal estimation. The personal experience of the O/M and the market conditions had taught him to purchase raw materials offers, which appeared from time to time. Obtaining the raw materials offers enabled the O/M to compete with competitors in term of prices. As a result, the O/M used his personal experience to project the trend of raw materials prices and the period when they would either be increased or decreased

The decisions to waive small amounts from the customers with longstanding debit balances and gie discounts were primarily made based on the O/M's personal experience. The O/M stated that based on personal experience large inventories of the

finished products were secured before the strong seasons and festivals started in order to be able to service customer orders. The P/M pointed out that by following this strategy, the enterprise had a good opportunity to compete with the other competitors in terms of price and servicing customer orders. The decision to reduce the unit-selling prices and to distribute the products in other regions with lower prices in order to increase the sales were based on the O/M's personal experience.

The determination of delivery time was the O/M's responsibility and based on his personal experiences. Moreover, the specific minimum levels of raw materials and finished products kept in the inventory were also determined based on his personal experiences.

The O/M was interested in acquiring a recycling machine and an electric generator as a standby battery and the I/A stated that an instruction was given by the O/M to prepare a feasibility study to acquire a recycling machine. The O/M stated that based on his personal experience and observation, he felt that the acquisition of the recycling machine would reduce unit cost. A feasibility study was also prepared to acquire the electric generator as a standby battery in order to keep the machines running when the electric power supply was interrupted was based on the business needs and the O/M's personal experiences.

A basic calculation was prepared based on the O/M personal experiences to determine the financial implications of making the CD's plastic cover and the macaroni's (pasta) packaging in the enterprise rather than buying them from another manufacturer.

However, the I/A stated that the O/M's personal experience allowed the enterprise to make a healthy profit and take a competitive advantage in the plastic bags market.

In *case 3, Plastic Manufacturing Enterprise* (see section *Product costing and pricing, profit planning, Inventory control and capital expenditure control*) when the business was established, the determination of the product selling prices was based on the O/M's personal experience. After the business expanded in 1999, the I/A computed the estimated total cost of each product and the break-even point by using the computer-based accounting software. However, if there was a new product and it had never before been produced in the enterprise, the O/M would estimate and provide the relevant data based on his personal experience and ask the I/A to compute the estimated total cost. These data included a five percent waste cost in addition to all cost and expense elements involved in manufacturing a unit of the product. The estimation of the wastage rate was made based on the O/M's personal experience by using basic information obtained from the business records. The I/A stated that the O/M's personal experience was used in estimating the

product's selling price. The O/M pointed out that a determination of the estimated unit-selling price would be located between the estimated total cost of each unit produced and the competitor's prices, or based on reasonable profit if there was high competition. The I/A indicated that the O/M used the average daily sales information and his personal experience to estimate what the plastic products need on a daily basis. The O/M stated that he became familiar with the types, sizes and quantities of plastic products demanded by the customers every week.

The determination of delivery time of new products or orders with special specifications, which had never been produced in the enterprise, was based on the O/M's personal experience. Personal experience also was used in estimating the specific minimum level of the raw materials and specific maximum level of the finished products kept in the inventory. The P/M stated that acquiring the new injection machine and the second hand lathe machine was also based on the O/M's personal experience. The manufacturing plans and decisions were made based on the O/M personal experience and not committed to paper.

In **case 4, Furniture Manufacturing Enterprise** (see section Product costing and pricing, profit planning, Inventory control capital, expenditure control and make or buy decisions) the O/M depended primarily on personal experience in managing the daily business activities. He added, "I rely upon my personal experience and friend's advice how to manage the business aspects and how to calculate the net profit". The method, which was used to record the business transactions, was adopted from the O/M's personal experience and friend's advice. The O/M used personal experience to estimate the cost and the selling prices to the regular and familiar products. He stated, "I use my experience to determine the manufacturing time and the types and quantities of raw material's which would be used to produce the regular and familiar products". The P/M noted that the O/M's personal experience was used in estimating the delivery time, raw materials and required work force.

The total estimated cost of raw materials used for the sold products during the month/year were determined and computed based on the O/M's personal experience and estimation. Also, the O/M's personal experience had enabled him to identify the seasons when the demand on the products would be higher or lower.

The percentage profit requested by the enterprise was 20 per cent of the manufacturing costs. The O/M stated, "This percentage was determined based on personal experience".

The employees took a specific percentage from their finished work and these percentages were determined before they started their work based on the O/M's personal experience.

Testing and assessing the quality of the products was the O/M's main responsibility and it was based on his personal experience. The adequate inventory levels from nails, screws and glues were determined based on personal estimation rather than information obtained from the business records. Furthermore, all the tools, equipment and a number of machines were acquired based on the O/M's personal experience and business needs. The decision to acquire the new advanced machine was made based on the O/M's personal experience rather than preparing a feasibility study.

The O/M used his personal experience to perform basic calculations in order to compute the financial implications of purchasing the cupboard and cabinet doors rather than manufacturing them in the enterprise.

In *case 5, Clothing Manufacturing Enterprise* (see section Product costing and pricing, profit planning, Inventory control capital, expenditure control and make or buy decisions) the method used to record the business transactions was adopted from the O/M's personal experience. The O/M used his extensive personal experience to estimate the cost and the selling prices of the familiar and new products. He stated that the familiar products were given similar prices to those given to similar products which had been produced in the enterprise before. The new product prices were determined based on personal evaluation of three factors: Firstly, the number of units that would be produced per day. Secondly, the averages total daily expenses and thirdly, the reasonable profit.

The O/M stated, "The short term planning and production decisions were prepared and considered based on my experience and retained in my mind". The manufacturing scheduling decisions were made based on the O/M's personal experience which took into consideration the types and numbers of orders received from the customers and contractors, and the agreed delivery time. Also, the decision to develop the facilities and increase the manufacturing capacity in order to meet the expansion in demand was based in the O/M's experience.

Acquiring specific sewing machines models was based on the O/M's personal experience. The O/M planned, based on personal experience and general information obtained from Italian suppliers, to acquire new machines that would reduce the manufacturing time and increase the profitability.

The P/M noted that the O/M's high level of experience had enabled him to identify the product types and models demanded by the customers during each season. He also

indicated that the O/M was relying upon his personal experience to manage the business activities and evaluate how the business was performing. The O/M stated that in order to find out how the business was performing, he used personal experience to compute the net profits each month. The O/M stated, "I use my experience to estimate the delivery time, taking in account the local interruptions which can cause delay in the delivery of the finished products to the customers or contractors". He also noted that, based on personal experience, he was aware of the production capacity of each employee and their professional skills, which made him able to estimate the average number of units that they could produce for any type of product per day. An employee stated that the O/M's personal experience and the enterprise's quality procedures enabled the enterprise to meet the quality standards required by the customers, and therefore achieve customer satisfaction, and built a good reputation.

With regard to the raw material quality (fabric), testing and assessing the quality of the fabric was the O/M's main responsibility and this was based on his personal experience. Based on the O/M's personal experience the enterprise kept a large thread inventory of different colours. His personal experience was used in order to identify the raw material types and quantities that would raise the inventory to the level that would enable the enterprise to manufacture the specific products.

The decision to buy various products from competitors rather than manufacture them in the enterprise was based on the O/M's personal experience.

In summary, the above evidence verified that in all five cases the generation and use of accounting information for planning and controlling aspects of the business was based on the O/M's personal experience. Therefore, the formal hypothesis from the five cases is:

***H2. The owner manager personal experience influences the generation and use of accounting information.***

## 10.3.1.3 Expansion of the business

Table (10-6): Comparison between the substantive hypotheses which are related to the impact of the owner/manager's, enterprise's and environmental features on the generation and use of accounting information		
<i>Expansion of the business</i>		
Hypotheses Cases	Substantive hypotheses	Formal hypotheses
Case 1	The enterprise expansion is a major factor affecting the generation and use of accounting information.	3. <i>The enterprise expansion influences the generation and use of accounting information.</i>
Case 2	As the enterprise expands, the generation and use of accounting information increases.	
Case 3	The enterprise expansion is a major factor affecting the generation and use of accounting information.	
Case 4		
Case 5		

Table (10-6) indicated that cases 1, 2, and 3 verify that the upturn of the business and the enterprise's expansion was a major reason for the generation and use of accounting information. There was no hypothesis related to the influence of the upturn of the business and the in cases 4 and 5. The supporting evidence for the development of the formal hypothesis that related to the affect of the upturn of the business and the expansion of the enterprises on the generation and use of accounting information were identified in cases 1, 2, and 3 and discussed in more detail in the following paragraphs.

In *case 1, Pasta Manufacturing Enterprise* (see section: The business expansion) from 1999 to 2000 there was no recording of the financial transactions except for the money cash flow. The S/M stated that after the introduction of the second, third and fourth categories in 2001, the financial transactions of the business increased to a level which made it difficult to organize and to classify the details of these transactions. The O/M pointed out that the need for an accountant to tackle this problem became very important.

In *case 2, Plastic Bags and Printing Manufacturing Enterprise* (see section: The business expansion) since the business was established in 1998 until July 1999, the O/M was responsible for the management of the enterprise and the accounting function at the same time. The P/M stated that the O/M was responsible for recording all the details of the business transactions in a yearbook using his personal method. The O/M indicated that the number of business transactions was very limited, and the financial transactions were few and less complicated to use any other books. The P/M stated that after the

introduction of the new lines in June 1999, the size of the business grew and the business transactions increased to a level that made it difficult for the O/M to remain responsible for the management and the accounting functions at the same time. It also became problematic to use the same recording method. The O/M stated that the business had improved and the numbers of the financial transactions had increased to a level that made the need for an accountant to arrange the accounting and the sales function very important.

In *case 3, Plastic Manufacturing Enterprise* (see section: The business expansion) the O/M was responsible for the recording of the financial transactions in addition to his main responsibility. He used a large size book to record the financial data on a daily basis according to his own basic method. The S/M stated that after moving to the new workshop and the introduction of the new and second hand machines in 1999, the size of the business grew and the financial transactions increased to a level that made the O/M unable to record, organize and classify the details of these transactions. The O/M stated that as a result of the production expansion and product improvement, the need for real information about the items in the inventory, cost elements, sales and expenses became very important. The S/M pointed out that the O/M was aware of the accountant role to record and classify the accounting information. The O/M stated that the need for an internal accountant and computer-based software to arrange and organize the business records, save time and effort and generate instant information became increasingly apparent.

In summary, the above argument indicated that in three out of the five cases the upturn of the business and the enterprise's expansion was a major reason for the generation and use of accounting information for planning and controlling business activities. Thus the formal hypothesis is:

***H3. The enterprise expansion influences the generation and use of accounting information.***

## 10.3.1.4 The business Size

Table (10-7): Comparison between the substantive hypotheses which are related to the impact of the owner/manager's, enterprise's and environmental features on the generation and use of accounting information		
<i>Size of the business</i>		
Hypotheses Cases	Substantive hypotheses	Formal hypotheses
Case 1	The small size of the business is a major barrier to the generation and use of accounting information in planning and controlling business activities.	<b>4. <i>The size of the business influences the generation and use of accounting information.</i></b>
Case 2	The size of the business is a major factor affecting the generation and use of accounting information in planning and controlling business activities.	
Case 3		
Case 4	The small size of the enterprise is a major barrier to the generation and use of accounting information in planning and controlling business activities.	
Case 5	The small size of the business is a major barrier to the generation and use of accounting information in planning and controlling business activities.	

Table (10-7) shows that cases 1, 2, 4 and 5 verify that the limited size of the business affected the generation and use of accounting information for planning and controlling the business activities. The supporting evidence for the development of the formal hypothesis that related to the effect of the small size of the business on the generation and use of accounting information was identified in cases 1, 2, 4 and 5 and discussed in more detail in the following paragraphs.

In *case 1, Pasta Manufacturing Enterprise* (see section: *Small size of the business*) the O/M pointed out that as a result of having a small enterprise, the amount of information generated and used in the enterprise was relatively small compared to larger enterprises. In supporting the O/Ms statement, the I/A stated that the size of the enterprise (with only eight employees) and the number of financial transactions were too small to use either an external accountant or computer accounting software.

In *case 2, Plastic Bags and Printing Manufacturing Enterprise* (see section: *Small size of the business*) because the business was very small with only two machines, and three employees and the business transactions were limited, the accounting for them was very simple. The P/M stated that although the financial transactions dramatically increased after the introduction of the new lines, the O/M did not feel that there was a need for an expert accountant or external accountant to be responsible for the accounting and sale functions.



In *case 4, Furniture Manufacturing Enterprise* (see section: *Small size of the business*) the O/M was responsible for recording the business transactions. He explained that the business was small in size and its financial transactions were very limited and so accounting for them was straightforward. Also, government agencies and financial institutions were not interested in and did not request formal income statements and balance sheets. Because of this, the O/M stated that the idea of using an internal or external accountant was never considered. In support of the O/M's statement above, the P/M indicated that the O/M never felt that using an accountant would be of any benefit to his business.

In *case 5, Clothing Manufacturing Enterprise* (see section: *Small size of the business*) the O/M had been responsible for recording the financial transactions of the business since the enterprise was established. The financial transactions were very limited and the related accounting very simple. The P/M stated that the size of the enterprise and its financial transactions were too small to justify using either an internal or external accountant, and the O/M never felt that using an accountant would be useful for his business. Therefore, the O/M personally recorded the business transactions and used his own method.

In summary, the above evidence verified that in four out of the five cases the small size of the business was a major barrier to the generation and use of accounting information for planning and controlling the business activities. Thus the formal hypothesis is:

***H4. The size of the business influences the generation and use of accounting information.***

## 10.3.1.5 Competition

Table (10-8): Comparison between the substantive hypotheses which are related to the impact of the owner/manager's, enterprise's and environmental features on the generation and use of accounting information		
<i>Competition</i>		
Hypotheses Cases	Substantive hypotheses	Formal hypotheses
Case 1	The competition is a major factor affecting the generation and use of some accounting information.	5. <i>The competition influences the generation and use of accounting information.</i>
Case 2	The competition is a major factor affecting the generation and use of accounting information.	
Case 3	As competition increases, the generation and use of accounting information increases	
Case 4	The competition is a major factor affecting the generation and use of some accounting information.	
Case 5	The competition is a major factor affecting the generation and use of some accounting information.	

Table (10-8) shows that all the five cases indicated competition had affected the generation and use of accounting information. The supporting evidence for the development of the formal hypothesis is identified in these cases and discussed in the following paragraphs.

In *case 1, Pasta Manufacturing Enterprise* (see section: *Competition, Product costing and pricing and profit planning*) the S/M identified twenty five local competitors producing pasta in Benghazi and its outskirts and the O/M noted ten of them as serious competitors. He added that his enterprise was very competitive in terms of quality, delivering on time and unit price. The I/A stated that there was high competition especially from Egyptian products. However, the P/M stated that the competition with foreign and local pasta manufacturers in terms of price and quality was the most significant problem facing this business. The salesman explained that it was difficult to compete with Italian pasta manufacturing because of the higher quality of Italian products. He also added that it was difficult to compete with Egyptian pasta manufacturing because of the lower prices as a result of reduced lower labour wages and their lower quality of raw materials. Also, it was not difficult to compete with the local competitors in terms of prices and quality because they all worked under the same conditions. The O/M took into his consideration the local competitors prices when the profit margin was determined. The higher competition made the O/M realise that he must increase investment to improve the product quality and to reduce the cost elements. The O/M stated that under the highly

competitive conditions, several actions were taken to reduce the cost and the expenses. He added that the profit margin was influenced by the local competitors' prices.

*In case 2, Plastic Bags and Printing Manufacturing Enterprise (see section: Competition, Product costing and pricing and profit planning)* there were sixty-two local competitors producing plastic bags in Benghazi and the O/M regarded seven of them as serious competitors. The P/M stated that there was a high level of competition between his enterprise and the other seven serious competitors in terms of quality, delivery time and unit price. The O/M stated that the enterprise's product prices were similar and sometimes cost less than the competitors' product prices. The I/A pointed that by taking into account the competitor prices and the total cost of each unit produced, the O/M priced the products with a reasonable profit margin. The O/M's policy to reduce the costs in order to increase the profit margin or to keep it unchanged when the prices were reduced. Therefore, he monitored the costs and expenses on a weekly, monthly and yearly basis. The I/A noted that the O/M spent more than two hours every day outside the enterprise in order to monitor raw materials prices, competitor activities, customer satisfaction and seek new customers.

The O/M pointed out that under the high level of competition, one had to be intelligent in purchasing raw materials. The O/M's personal experience and the market conditions had taught him to purchase the offers on raw materials, which appeared from time to time. Obtaining some of the raw material offers enabled the O/M to compete with the competitors in term of prices. The high level of competition forced the O/M to secure large inventories of the finished products before the high sales seasons and festivals started in order to be able to service the customer orders. The P/M pointed out that by following this strategy, the enterprise had a good opportunity to compete with the competitors in terms of prices and completing customer orders. The I/A noted that under this competitive situation several actions were taken to reduce the cost and expenses in order to maintain their enterprise product prices similar or less than the competitor's products prices. The O/M stated that the estimated unit price would be located between the estimated total cost of the unit and competitor prices. In order to increase the sales, discounts were given to the customers from LD 0.10 to LD 0.15 LD for each kilogram above 400 kilograms, and other discounts were given to specific named customers.

*In case 3, Plastic Manufacturing Enterprise (see section: Competition and Product costing and pricing)* the O/M stated the product's modern design, price and quality were the most important competitive factors in the plastic products market. However, there were thirty-one private plastic enterprises and one public plastic manufacturer in Benghazi.

The S/M pointed out that there was no real competition with the public manufacturer of plastic products because their products were of an old fashioned design with equivalent prices. The O/M stated that there was a high level of competition with foreign products because some people preferred to buy overseas products rather than domestic products. Because of this, the business details were printed on each product in the English language.

Whit regard to the local competitors, the S/M stated that it was very difficult to compete with some in terms of price and quality. The O/M stated that the modern designs and new products, which were offered by the enterprise, gave it a potential market advantage. The marketing of the products was the main concern of the O/M during strong sales seasons (summer, autumn and spring) but the product marketing was ignored during the quieter season (winter) because the enterprise sub-contracted business. The O/M added that the competition among the plastic products sub-contractors was high and many of the local competitors fought for the same contract. The S/M pointed out that the price was the most important competitive factor for the plastic products sub-contractors and because of this, several actions were taken to reduce the cost and expenses in order to provide lower prices than the competitors. The O/M stated that the estimated unit-selling price would be located between the estimated total cost of each unit produced and the competitor prices, or based on a reasonable profit margin if there was high competition.

In *case 4, Furniture Manufacturing Enterprise* (see section: *Competition*) there were more than fifty local competitors producing furniture products in Benghazi, but very few of them had unlimited scope. The competitor's products and their prices were known by the O/M and he stated that his product's prices were similar to those of their competitors. The P/M stated that although their prices were similar to the local competitor's prices, their products were of a higher quality and superior design. He indicated that the high quality of product design and finish and the delivery time were the most important factors which influenced their reputation, and this gave the enterprise a competitive advantage. The O/M added that although the enterprise's products were of a high quality and usually delivered on time, competition with foreign and some local competitors was intense. He added it was difficult to compete with Egyptian furniture business as a result of their lower prices and adequate quality. The P/M noted that it was also difficult to compete with some of the local competitors in terms of prices and quality. The O/M stated that the higher quality and the product's differentiation kept the enterprise in a good competitive position. However, in order to

enhance the reputation of the enterprise and their competitive advantage, the O/M offered a six-month guarantee for all his products.

In *case 5, Clothing Manufacturing Enterprise* (see section: *Competition, Product costing and pricing and profit planning*) the O/M stated that because the enterprise was a subcontracting business, the marketing was not of any concern to him. The enterprise's reputation and personal relationships were the important factors which affected whether or not the enterprise gained orders. The main factors which affected the reputation were the product quality and delivery time. The O/M was very concerned about the product quality, delivery time, customer satisfaction and customer feedback. The O/M noted "I have to produce the products according to the required specifications if I want to keep my position in the market". Therefore, many actions were undertaken by the O/M and P/M to ensure the products would be produced according to the required specifications and descriptions and be delivered on time. However, there were thirty local enterprises producing clothes in Benghazi and the P/M regarded nine of them as serious competitors. There was intense competition between these businesses and themselves in terms of prices and the enterprise's prices were usually higher than those of the competitors because of a higher standard of quality. The qualities of design, finishing and on time delivery were the main factors which gave the business their competitive advantage. The O/M noted that although the enterprise was very competitive in terms of quality and delivery time, competition with the Egyptian and local competitors in terms of price was extremely difficult. However, the O/M's main concern was to obtain an increased number of orders from the contractors and to perform the job as quickly as possible.

In summary, the above arguments from the five cases verified the impact of competition on the generation and use of accounting information for planning and controlling business aspects. Therefore, the formal hypothesis from the five cases is:

***H5. The competition influences the generation and use of accounting information.***

## 10.3.1.6 Business records and documents

Table (10-9): Comparison between the substantive hypotheses which are related to the impact of the owner/manager's, enterprise's and environmental features on the generation and use of accounting information		
<i>Business records and documents</i>		
Hypotheses Cases	Substantive hypotheses	Formal hypotheses
Case 1	The use of some business records and documents is a major reason for the generation and use of accounting information in planning and controlling the business activities.	<b>6. <i>The number of business records and documents influences the generation and use of accounting information.</i></b>
Case 2	The use of business records and documents is a major reason for the generation and use of accounting information in planning and controlling the business activities.	
Case 3	The use of some business records and documents is a major reason for the generation and use of accounting information in planning and controlling the business activities.	
Case 4	Lack of complete sets of business records and documents was a major barrier to the generation and use of accounting information in planning and controlling the business activities.	
Case 5	Lack of complete sets of business records and documents was a major barrier to the generation and use of accounting information in planning and controlling the business activities.	

Table (10-9) shows that cases 1, 2 and 3 verify that the use of some business records and documents was a major reason for the generation and use of accounting information. However, cases 4 and 5 verified that the lack of business records and documents was a major barrier to the generation and use of accounting information. The supporting evidence for the development of a formal hypothesis is identified in these cases and discussed in the following paragraphs. The first paragraphs focus on evidence from cases 1, 2 and 3 and the remaining paragraphs focus on evidence from cases 4 and 5.

In *case 1, Pasta Manufacturing Enterprise* (see section: *some business records and documents*) five books were used to record the financial transactions. The first book was the daily transaction book, which was used by the I/A. This book was divided into two parts. The first was used to record the details of the daily expense transactions: purchase of raw materials, suppliers and payments of other expenses. The second part was used to record the details of the daily revenue transactions. The second book was kept for customers and suppliers accounts, which was also used by the I/A. The third was the employee's book, which was used by the P/M to record the employee's daily working hours (regular and over-time). The fourth was also an employee's book which was used by the I/A to record all the employee's financial transactions. The fifth was the inventory book used by the I/A to record the details relating to the inventory. This book was divided into two

parts. The first for recording the details of the finished products and the second for recording the details of the raw material items. This book was designed as an inventory bin card. Each item of the raw materials and finished products had a page in this book and each page included columns for day, date quantities added and taken, balance and notes. The I/A stated that by using this book he was able to provide information for the O/M on any item in the inventory.

In addition to the books, there were several documents designed and used in the enterprise including cash receipts and sales and purchasing invoice bills.

In *case 2, Plastic Bags and Printing Manufacturing Enterprise* (see section: some business records and documents) a number of books were used for recording the financial transactions. The first was the daily transactions book used by the I/A to record all the financial transactions which occurred during the business day: purchase, suppliers, other expenses, employee wages and withdrawal payments and sales. The second book was the debtor and creditor book which was also used by the I/A. This book was divided into two parts. The first to record the details of the debtors and the second to record the details of the creditors. The third book was the employee's book which was used to record details regarding employee attendance, overtime hours, fines, withdrawals, and net salaries and wages. The fourth book was the finished products book, which was used by the P/M to record all the details of the finished products: types, quantities and the shift number. The fifth was the special order book which was used to record customer deposits and payments. In addition to these books there were many files: sales invoices, purchases bills, inventories bin cards, electricity bills and telephone bills.

In *case 3, Plastic Manufacturing Enterprise* (see section: some business records and documents) there were two personal computers which were linked together and programmed with computer-based accounting software. The O/M and I/A were taught how to record the transactions on the computers and how to access the information they required. The software was called in Arabic "EL-KATB" which means in English "THE WRITER". The I/A stated that EL-KATB software had several accounting features: It had a complete accounting cycle and provided particular details about the customers, suppliers, inventories (raw materials and finished products), sales, payments; purchases, expenses, debtors, creditors and employees wages and withdrawals. The O/M stated that by using the computer software, he was able to obtain instant information regarding all aspects of the business. With the aid of the computer, different types of forms were used to record the business transactions.

The first type was the production form which was used by the P/M to record details regarding employee attendance, over time hours, fines and quantities and types of products produced. The second type of form was used to record the notes regarding technical errors and other problems. The third form was used by the S/M to record details about amounts of cash or cheques collected from customers. The fourth type was also used by the S/M to record the details of the quantities, types and amounts of products distributed to each customer with the discounts given and amount of returned goods. The fifth type was used by the O/M to record the actual inventory level when he conducted physical counts.

The I/A stated that all the completed forms and all the external documents that supported the enterprise's financial transactions such as purchase bills, telephone and electric bills, and bank statement were handed to him in order to update the business accounts on the computer. Each form was saved by the O/M in order to be consulted when errors occurred.

In *case 4, Furniture Manufacturing Enterprise* (see section: 4.3 Lack of complete set of business records and documents) the enterprise kept and used three books to record the business transactions. The first one was a notebook used by the O/M to record all the details of the customer and supplier transactions, employee percentages and wages, bank balances and any other important notes. This pocket notebook was always carried by the O/M to keep him informed about customers' payments and remaining balances, as well as the amounts paid to suppliers and their balances. The second book was used to record the details of orders received from customers. These details included the customer's name, the required product type and model, quantities, deposits received from customers, unit selling price, estimated total cost and order/delivery time. The third book was used to record the details of daily transactions: purchase, expenses, employee's withdrawals and sale.

The O/M noted that all the details relating to sales transactions were recorded in the copies of the sales invoices, which were kept in the sales invoice file.

Several documents designed and used by the enterprise included purchasing invoices, cash receipts and electricity and phone bills, and all of these documents were kept in separate files.

In *case 5, Clothing Manufacturing Enterprise* (see section: 4.3 Lack of complete set of business records and documents) the enterprise used a number of books to record the business transactions. The first one was a notebook used by the O/M to record all the details of customer and supplier accounts, product delivery times and other important notes. The



second book was the measurements book, which was used to record customer details. Each page of this book was divided into three parts: The first part was used to record general customer details, the second part to record the customer's measurements and the third to record the financial transactions. The third book was the contractor's book used by the O/M to record on separate pages the details of orders received from each contractor. These details included the contractor's name, required types and quantities, colours, special options, selling prices, date of ordering and delivery time and deposits received. The fourth book was kept for recording the details employee absence, wages, and withdrawals. In addition a number of documents were used by the enterprise to support its transactions including electricity and phone bills, purchase invoices, cash receipts and deposit slips from the bank. All these documents were kept in separate files.

In summary, the above evidence verify that in all the five cases the number of business records and documents affected the generation and use of accounting information for planning and controlling the business aspects. Therefore, the formal hypothesis is:

***H6. The number of business records and documents influences the generation and use of accounting information.***

## 10.3.1.7 The use of an internal accountant

Table (10-10): Comparison between the substantive hypotheses which are related to the impact of the owner/manager's, enterprise's and environmental features on the generation and use of accounting information		
<i>The use of an internal accountant</i>		
Hypotheses Cases	Substantive hypotheses	Formal hypotheses
<b>Case 1</b>	The internal accountant is a major reason for the generation and use of accounting information.	<b>7. <i>The use of internal accountant influences the generation and use of accounting information.</i></b>
<b>Case 2</b>	The internal accountant is a major reason for the generation and use of accounting information.	
<b>Case 3</b>	Having an internal accountant is a major reason for the generation and use of accounting information.	
<b>Case 4</b>	Not having an internal accountant is a barrier to the generation and use of accounting information in planning and controlling business activities.	
<b>Case 5</b>	Not having an internal accountant is a barrier to the generation and use of accounting information in planning and controlling business activities.	

Table (10-10) shows that cases 1, 2 and 3 verify that the use of an I/A influenced the generation and use of accounting information for planning and controlling business activities. In cases 4 and 5 no I/A was used by the enterprises for the accounting function of the business. The supporting evidence for the development of the formal hypothesis that related to the I/A were identified in cases 1, 2 and 3 and discussed in more detail in the following paragraphs.

In *case 1, Pasta Manufacturing Enterprise* (see section: *Use of an internal accountant and profit planning*) because of the lack of the O/M's time and his lack of accounting and management education, the O/M employed a full time accountant to be responsible for recording the financial transactions and to provide information on a daily basis. The O/M stated that he met the I/A frequently in order to discuss accounting issues. The I/A stated that, "The accounting function in this enterprise was poor and there were not any sets of documents and business records". In support of this opinion the O/M stated that, "After the I/A was employed, the accounting function became well arranged, financial transactions were fulfilled and recorded and more useful information was generated". The I/A recomputed the estimated total cost of producing one kilo of each category and computed the estimated break-even point and unit selling prices.

At the end of each month, the O/M received reports regarding the expense and revenue details. Furthermore, the I/A reported to the O/M on a daily basis the inventories levels, returned products from previous sales, collections, waste, and amounts of sales. On a

weekly basis, information about the bank balance and reports about the customer's debit accounts was given to the O/M. In addition, the O/M received an informal income statement at the end of each month and year.

In *case 2, Plastic Bags and Printing Manufacturing Enterprise* (see section: *Use of an internal accountant and profit planning*) the O/M stated he used a full-time I/A to be responsible for recording the business financial transactions and the sales function at the same time. In addition, the I/A was responsible for managing the business when the O/M was absent. The I/A stated that he recorded the financial transactions in new books which were created by himself. The P/M pointed out that since employing the I/A, the business records and recording methods had improved. In support of this opinion the O/M stated that employing the I/A made it easier for him to obtain information that enabled him to manage the daily business activities for the next day, week and month.

At the end of each month and year, the I/A prepared an informal income statement, and in addition, a basic cash flow statement during the month. Furthermore, the I/A generated several other reports on a daily, weekly, monthly and yearly basis. These included quantities and amounts of sales, element costs and expenses, inventory levels, raw materials used, debtors and bank balances.

In *case 3, Plastic Manufacturing Enterprise* (see section: *Use of an internal accountant and profit planning*) after the business was expanded and the financial transactions increased, the O/M purchased computer-based accounting software and used a full-time I/A to be responsible for the accounting function in the enterprise. The I/A stated that when he started at the enterprise there was no real accounting function and the only documents and records were a large unorganised book. The S/M pointed out that after employing the I/A and using computer-based software, the business records and recording method were improved. The O/M stated that the accounting function became well organised and several pieces of information on a daily, weekly and monthly bases were provided. This information included the number of manufactured products in the inventory, costs of the products, purchases, sales, returned products, expenses, amount of collection, waste, debtors and creditors balances and bank balance. In addition, the O/M received on a weekly and monthly basis, reports from the I/A concerning the suppliers and customers' balances and wages paid. At the end of each month and year, the O/M obtained reports dealing with revenues, expenses and profits and was given a brief explanation of these by the I/A. The O/M stated that the availability of information and the improvement in the accounting function in the business made him recognize how important the role of the I/A was for the business.

In summary, the above evidence verified that in three out of the five cases the use of an I/A was a major reason for the generation and use of accounting information for planning and controlling the business activities. Thus the formal hypothesis is:

***H7. The use of internal accountant influences the generation and use of accounting information.***

### 10.3.1.8 The O/M's availability time

Table (10-11): Comparison between the substantive hypotheses which are related to the impact of the owner/manager's, enterprise's and environmental features on the generation and use of accounting information				
<i>The O/M's availability time</i>				
Hypotheses Cases	Substantive hypotheses			Formal hypotheses
Case 1	As the Owner manager becomes more involved in managing all aspects of the business the lack of Owner manager's time increases.	As the Owner manager becomes more involved in other activities (such as social occasions and visits), the lack of Owner manager's time increases.	The lack of time is a major barrier to the generation and use of accounting information.	<b>8. The owner manager's availability of time influences the generation and use of accounting information.</b>
Case 2			The availability of time is a major factor affecting the generation and use of accounting information.	
Case 3			The availability of time is a major factor affecting the generation and use of accounting information.	
Case 4	As the Owner manager becomes more involved in managing all aspects of the business the lack of Owner manager's time increases.		The lack of time is a major barrier to the generation and use of accounting information.	
Case 5	As the Owner manager becomes more involved in managing all aspects of the business the lack of Owner manager's time increases.	As the Owner manager becomes more involved in other activities (such as social occasions and visits), the lack of Owner manager's time increases.	The lack of time is a major barrier to the generation and use of accounting information.	

Table (10-11) indicates that in cases 1, 4 and 5 the lack of the O/M's time was a major barrier to the generation and use of accounting information. However, cases 2 and

3 indicated that the availability of the O/M time was a major reason for the generation and use of accounting information. In the following paragraphs, the researcher will identify and discuss the supporting evidence in the five case studies for the formal hypothesis development. The first paragraphs focus on evidence from cases 1, 4 and 5 and the remaining paragraphs focus on evidence from cases 2 and 3.

In *case 1, Pasta Manufacturing Enterprise* (see section: *Lack of the O/M's time*) because the O/M was an engineering adviser in a Public Company, he was always out of the enterprise in the morning. In the afternoon, he was responsible for most of the management activities such as purchasing raw materials, delivering finished products and collecting debts. The P/M stated that, "In addition to the management responsibilities of all aspects of the business, the O/M inspected the machines every day". In addition, the O/M indicated that the frequent social occasions and visits during working hours interrupted the management function. The I/A noted that the O/M did not have enough time to manage all the business aspects.

In *case 4, Furniture Manufacturing Enterprise* (see section: *Lack of the O/M's time*) the O/M was responsible for all the management activities including the delivery of finished products, collection of debts, purchase of raw materials, supervision of the production processes and the recording the business transactions. The P/M stated that in addition to the O/M's responsibilities, he spent one to two hours on a daily basis in his office reading trade magazines in order to discover useful information regarding the business. The S/M stated that the O/M did not have enough time to manage all the business activities and to generate and use information at the same time. The O/M stated that as a result of the lack of time available during the working day, recording the financial transactions into the transaction book was performed at home.

In *case 5, Clothing Manufacturing Enterprise* (see section: *Lack of the O/M's time*) the O/M was responsible for most of the management activities including design of the products, preparation of the patterns, cutting the fabric, preparing product samples, making agreements with the contractors, negotiating prices and delivery time, collecting debts, purchasing raw materials, supervision of the production processes and recording the business transactions. The O/M stated that in addition to the above responsibilities, he spent two to three hours on a daily basis studying specialized journals and magazines. He added that the frequent social occasions and visits during working hours were the main factors interrupting the management function.

In *case 2, Plastic Bags and Printing Manufacturing Enterprise* (see section: *availability of the O/M's time*) the O/M used an I/A to be responsible for the accounting function and sales

functions, and a P/M to be responsible for the employees and all the production processes. The O/M stated that after starting to use the I/A and P/M, he became fully devoted to the management function and had enough time to manage the daily business activities and therefore useful information was generated and used.

In *case 3, Plastic Manufacturing Enterprise* (see section: availability of the O/M's time) the O/M was responsible for all the management activities but he realized that some of his responsibilities had to be delegated to other employees. As a result, one of the production employees became P/M. In addition, he hired an I/A to be responsible for the accounting function and an S/M for the sales function. The O/M stated, "By doing this I became fully devoted to the management function and business, had sufficient time to use the lathe machine to create shapes for the new products, and obtain useful information about various business aspects from the computer and the Internet when needed".

In summary, the above evidence pointed out that three out of the five cases verified the impact of the Owner manager's lack of time on the generation and use of accounting information. Therefore, the formal hypothesis is:

***H8. The owner manager's availability of time influences the generation and use of accounting information.***

### 10.3.1.9 The use of management accounting techniques

Table (10-12): Comparison between the substantive hypotheses which are related to the impact of the owner/manager's, enterprise's and environmental features on the generation and use of accounting information		
<i>The use of management accounting techniques</i>		
Hypotheses Cases	Substantive hypotheses	Formal hypotheses
Case 1	The use of break-even point, inventory level and reorder point determination is a major reason for the generation and use of accounting information.	<b><i>9. The use of some management accounting techniques influences the generation and use of accounting information.</i></b>
Case 2	The use of break-even point, inventory level and reorder point determination is a major reason for the generation and use of accounting information.	
Case 3	The use of break-even point, inventory level and reorder point determination is a major reason for the generation and use of accounting information.	
Case 4		
Case 5	The use of break-even point is a major reason for the generation and use of accounting information.	

Table (10-12) shows that some management accounting techniques, namely, break-even analysis, and inventory level and reorder point determination were used in

cases 1, 2, 3, and 5. It also indicated that this usage was a major reason for the generation and use of accounting information for planning and controlling the business activities in these four cases. The supporting evidence for the development of the formal hypothesis that related to the affect of using management accounting techniques on the generation and use of accounting information were identified in cases 1, 2, 3 and 5 and discussed in more detail in the following paragraphs.

In *case 1, Pasta Manufacturing Enterprise* (see sections: *Use of an internal accountant, Product costing and pricing, profit planning and inventory control*) the I/A computed the estimated break-even point and the unit selling prices and sales volume at which the enterprise made neither a profit nor a loss. The I/A stated that 100 tons of pasta products had to be sold during each month in order to recover the total monthly costs. Therefore, to sell more than 100 tons of pasta products was the O/M's main concern in order to make a reasonable net profit. The S/M pointed out that after the pasta manufacturing reached its estimated monthly break-even point, instructions were some times given to reduce the unit-selling prices to increase the sales. In addition, the inventory of raw materials (flour, semolina, salt, food colouring, and yeast) kept in the enterprise should be sufficient to supply three days of production. The O/M was informed of the current balance of each item in the finished products and raw materials inventory on a daily basis, and about the items that had reached their reorder points. There was a predetermined minimum and maximum levels of finished products kept in the inventory. The minimum inventory level of finished products was two tons, whereas the maximum level was 4 tons of each type of product. These levels were determined based on the O/M's personal experience in order to service unexpected orders.

In *case 2, Plastic Bags and Printing Manufacturing Enterprise* (see sections: *Product costing and pricing, profit planning and inventory control*) the O/M determined 30 tons as a break-even point and the O/M and the IA computed this point based on information obtained from previous months. This information included the average utilities, wages and other expenses paid in the previous months, cost of one ton of raw materials and revenues from selling one ton of units produced. However, The I/A pointed out that as a result of changing cost elements from month to another, the O/M always requested him to regularly update the estimated total cost of the unit produced and to recomputed the break-even point. Therefore, the O/M's target was to produce and sell more than the break-even point in each month in order to make reasonable net profits. The O/M pointed out that the break-even point determination was very important to his business, because several actions would be taken to increases the sales when the enterprise

reached its estimated break-even point. The I/A stated that instructions were given to reduce the unit- selling prices and occasionally to distribute the products in other regions with lower prices.

With regard to the inventory, there were specific minimum levels of raw materials and finished products kept in the inventory. These levels were determined based on the O/M's personal experiences. The minimum inventory level of raw materials was 2500 kilograms, whereas the minimum inventory level of finished products was 300 kilograms of each type of each colour in order to meet unexpected demands. The O/M noted that when the I/A reminded him of the raw materials which had reached or were below the reorder point, he would purchase adequate quantities that would return the items to their normal levels until any offers appeared at which time he would purchase larger quantities.

In *case 3, Plastic Manufacturing Enterprise* (see sections: *Profit planning and inventory control*) the I/A computed the estimated total cost of each product and the break-even point by using computer-based accounting software. The computations were based on estimated relevant data, which were provided by the O/M. These data included all costs and expense elements involved in manufacturing a unit of the product: raw materials, electricity, wages, depreciation expenses, other expenses and five percent waste. The O/M was very concerned about increasing the monthly sales far beyond the break-even point in order to make reasonable profit. However, because the estimated total cost of each product was changeable from month to month due to differences in the amount of the cost elements and the production size, the I/A determined the break-even point on a monthly basis.

With regard to the inventory, there were specific minimum levels of the raw materials and specific maximum levels of the finished products kept in the inventory. These levels were determined based on the O/M's personal experience. The minimum inventory level of the raw materials was 2000 Kilograms, whereas the maximum level of the finished products was two hundred units of each type of products, except for the subcontracted products which were produced according to the terms and conditions of the contract.

Regarding the raw materials inventory, the O/M received a reminder from the I/A when the raw materials reached their reorder points. Adequate quantities that would bring the items to their normal levels were usually purchased. The O/M explained that, "As a result of the availability of the raw materials at all times, I do not purchase large



quantities of raw materials in order to avoid having a large portion of the working capital tied up".

In *case 5, Clothing Manufacturing Enterprise* (see sections: *Profit planning and inventory control*) the O/M determined the new product prices based on personal evaluation of three factors. The first was the number of units that would be produced per day. The second was the average total daily expenses and the third was the reasonable profit. The daily expenses were computed by dividing the average total expenses during the month by thirty days. By dividing the total estimated average daily expenses by the number of units that would be produced per day, the total estimated cost per unit would be determined. The O/M would add a reasonable profit to the estimated total cost in order to decide the unit price. Therefore, the O/M was able to determine the price that would enable him to cover the daily expenses of the business, and the price that would make reasonable profit while he negotiates prices with the customers. However, the O/M implemented the break-even technique in its simplest form without fully understanding the technique. The O/M stated that he did not know what the break-even point meant and what it was used for.

In summary, the above evidence indicated that four out of the five cases verified the impact of using some management accounting techniques on the generation and use of accounting information for planning and controlling the business activities. Therefore the formal hypothesis is:

***H9. The use of some management accounting techniques influences the generation and use of accounting information.***

### 10.3.1.10 The government agencies level of interest in the financial information

Table (10-13): Comparison between the substantive hypotheses which are related to the impact of the owner/manager's, enterprise's and environmental features on the generation and use of accounting information		
<i>The government agencies level of interest in the financial information</i>		
Hypotheses Cases	Substantive hypotheses	Formal hypotheses
Case 1	The owner manager and government agencies (such as tax authorities and state banks) level of interest in the micro enterprise's financial information is a major factor affecting the generation and use of accounting information.	<i>10. The owner manager and government agencies level of interest in the micro enterprise's financial information influence the generation and use of accounting information.</i>
Case 2	The government agencies (such as tax authorities and state banks) level of interest in the micro enterprise's financial information is a major factor affecting the generation and use of accounting information	
Case 3	The government agencies (such as tax authorities and state banks) level of interest in the micro enterprise's financial information is a major factor affecting the generation and use of accounting information.	
Case 4	The owner manager and government agencies (such as tax authorities and state banks) level of interest in the micro enterprise's financial information is a major factor affecting the generation and use of accounting information.	
Case 5	The owner manager and government agencies (such as tax authorities and state banks) level of interest in the micro enterprise's financial information is a major factor affecting the generation and use of accounting information.	

Table (10-13) shows that in all the five cases the lack of interest by government agencies in the financial statements influenced the generation and use of accounting information. The supporting evidence for the development of the formal hypothesis is identified in these cases and discussed in the following paragraphs.

In *case 1, Pasta Manufacturing Enterprise* (see section: *Use of an internal accountant, Non-supportive role of the government agencies and inadequate infrastructure, Financial planning and profit planning*) the O/M received the net profit or loss reports at the end of each month and year. The I/A indicted that the formal income statement and balance sheet were not prepared at the end of each year. The O/M noted that there was no need and that it is waste of time to prepare such formal statements because no one would request them. The government agencies were not interested and never requested them. For example the tax office used an estimated method to determine the amount of VAT, and the commercial banks were

not interested in financing the micro enterprises sector. However, the I/A prepared informal net profit or loss reports for internal use.

In **case 2, *Plastic Bags and Printing Manufacturing Enterprise*** (see section: *Use of an internal accountant, Financial planning and profit planning*) at the end of each month and year, the I/A prepared informal net profit or loss reports and a basic cash flow statement during each month. The I/A stated, "he was willing to prepare formal reports if requested such as income statements and balance sheets". The O/M pointed out that the government agencies were not interested and did not request formal income statements and balance sheets. The I/A stated that the existing banking sector procedures and the tax office estimated method to define the VAT was a major barrier to prepare formal income statements and balance sheets. The O/M added that all the reports were created solely for internal use.

In **case 3, *Plastic Manufacturing Enterprise*** (see section: *Use of an internal accountant, Financial planning and profit planning*) at the end of each month and year the O/M obtained reports regarding revenues, expenses and profits and he was given a general brief explanation by the I/A. The income statement and the balance sheet were not prepared in the enterprise and the O/M pointed out that the income statement and the balance sheet were of less importance than the other reports that he obtained during the year. He explained that the other reports provide information which keeps him aware of how the business is performing and enable him to manage the daily business activities. The formal income statement and balance sheet were of little importance to him. The I/A explained that as a result of preparing the profits reports each month and year, and based on the Tax Office's estimated method and complex existing banking sector procedures which were used for the VAT determination and loans, the O/M did not ask or request income statements and a balance sheet for the business. The O/M added, "There was no need to prepare such statements, because all the government agencies were not interested and did not request them".

In **case 4, *Furniture Manufacturing Enterprise*** (see section: *General business environment, Financial planning and profit planning*) because of the government agencies and financial institutions were not interested and did not request formal income statements and balance sheets, they were not prepared in the enterprise. Financial support was very limited and the enterprise-lacked access to bank loans due to the difficult and complex procedures and the high guarantees required. The O/M stated, "The banks are not responsive to the financial needs of micro enterprises and it is difficult to find finance".

He added that the tax office occasionally imposed a higher tax rate as a result of using an estimated method to determine the amount of tax.

In case 5, *Clothing Manufacturing Enterprise* (see section: *General business environment, Financial planning and profit planning*) the O/M stated that in order to discover how the business was performing, he computed the net profits every month using his own method. He did not prepare budgets and other financial statements and he never considered doing this.

The O/M pointed out that if there were more than one owner of the enterprise, the preparation and use of these statements would become necessary. He added no one was interested in preparing and using these statements including the banks and the tax office. The existing banking sector request complex procedures and required high guarantees in order to supply loans. The tax office used an estimated method to determine the amount of VAT.

In summary, the above evidence indicated that in all five cases the lack of interest by the government agencies in the financial statements was a major barrier to the generation and use of accounting information. Thus the formal hypothesis is:

***H10. The owner manager and government agencies level of interest in the micro enterprise's financial information influence the generation and use of accounting information.***

The next sections will develop the formal hypotheses and discusses the supporting evidence and arguments for the second group formal hypotheses (the applied procedures and accounting information generated and used).

### 10.3.2 The applied procedures and the accounting information

In order to develop the formal hypotheses for the second group (the applied procedures and accounting information generated and used for product costing and pricing, financial, profit and manufacturing planning; productivity, inventory, quality, cash flow and capital expenditure control and make or buy decisions), Table (10-14) to Table (10-23) were created to highlight the similarities and differences between the substantive hypotheses from the five cases which pertain to the above business aspects. Each of these tables was devoted to one of the above aspects of the business. They list the five cases and indicate whether or not there were formal or informal procedures, and the level of written and oral accounting information generated and used for the business aspect in each of the five cases.

## 10.3.2.1 Product costing and pricing

Table (10-14): Comparison between the substantive hypotheses which are related to the applied procedures ( <i>formal or informal</i> ) and the extent of <i>written and oral</i> accounting information generated and used in product costing and pricing for the five cases								
Subjects			Case 1	Case 2	Case 3	Case 4	Case 5	Formal hypotheses
The applied procedures	Formal		Yes	Yes	Yes	No	No	Application of formal procedures.
	Informal		Yes	Yes	Yes	Yes	Yes	Application of informal procedures.
The extent of written and oral accounting information generated and used	Written	Some	Yes	Yes	Yes	---	---	Some written and oral accounting information.
		Little	---	---	---	---	---	
		Very little	---	---	---	Yes	Yes	
	Oral	Some	Yes	Yes	Yes	---	---	
		Little	---	---	---	Yes	Yes	
		Very little	---	---	---	---	---	

Table (10-14) highlighted that three out of the five cases applied formal procedures, whereas all five cases applied informal procedures for product costing and pricing. Also, three out of the five cases generated and used some written and oral accounting information for product costing and pricing. The supporting evidence for the development of the formal hypothesis is identified in these cases and discussed in the following paragraphs.

In *case1 Pasta Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for product costing and pricing were as follows:

An external accountant computed the estimated total cost of producing one kilo of pasta (the first category- long pasta) before the business was established. After the other three categories (short pasta, soup and cous-cous) were added, the I/A computed the estimated total cost of producing one kilo of each category. The determination of the selling prices was based on the estimated total cost of each unit produced, marketing conditions, competitor prices and a reasonable profit margin.

With regard to the accounting information generated and used for product costing and pricing, the O/M generated information regarding the relevant data that was provided to the external and internal accountant (I/A). He also generated and used information about the average price of local competitive products, estimated total costs

and expenses. He also determined the targeted profit margin for each produced unit. The O/M used the generated information in the determination of the estimated total cost of a produced unit and unit-selling price. He also used the generated accounting information to compare the estimated costs and expenses of the current month and year with those in the previous months and years in order to identify the cost and expense elements which had increased more than the normal levels.

The above evidence revealed that there was application of *formal and informal* procedures for product costing and pricing and that there was some *written and oral* accounting information generated and used in product costing and pricing.

In *case2 Plastic Bags and Printing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for product costing and pricing were as follows:

The O/M and the I/A computed the estimated total cost of producing one kilogram of bags. The calculation of the estimated total cost was performed on paper, based on relevant data. As a result of the changing cost elements from month to another, the I/A was asked to update the estimated total cost of each unit produced and to re-compute the break-even point every month. The estimated unit price would be somewhere between the estimated total cost of the unit and the competitors' prices, with a reasonable profit margin.

With regard to the accounting information generated and used for product costing and pricing, the O/M generated information concerning the average price of competitors' products. He also generated information regarding the cost of raw materials, cost of electrical power, wages and other expenses in order to monitor them on a weekly, monthly and yearly basis. The O/M generated and used the related accounting information in computing the amount of each cost element consumed in the products. He also used the related accounting information in computing the break-even point every month and the total cost of a produced unit. (one kilogram).

The above evidence showed that there was application of *formal and informal* procedures for product costing and pricing, and that there was some *written and oral* accounting information generated and used in product costing and pricing.

In *case 3 Plastic Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for product costing and pricing were as follows:

The I/A computed the estimated total cost of each product and the break-even point through using computer-based accounting software. The pricing of the product

was based and located between the estimated total cost of each unit produced and the competitor's prices, or based on a reasonable profit if there was high competition.

With regard to the accounting information generated and used for product costing and pricing, the O/M generated information concerning the relevant data which was then used to determine the total cost of each product, wastage rate and the break-even point. He also used the generated accounting information recorded in the computer concerning the amount of each cost and expense elements consumed in a produced unit, and the weight and cost of raw materials consumed in production during the month.

The above evidence showed that there was application of *formal and informal* procedures for product costing and pricing, and that there was some *written and oral* accounting information generated and used in product costing and pricing.

In *case 4 Furniture Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for product costing and pricing were as follows:

The O/M relied upon his personal experience for generating estimated information that was used to determine the estimated total cost and the selling prices of the regular and familiar products. If there was a new product or model and it had never been produced before, the O/M would meet and discuss the with P/M and other employees (carpenter-tailors) in order to determine the manufacturing time, raw material types and quantities and the employee's percentages. All the cost and price calculations were performed on pieces of paper and were discarded after the results were obtained and had been recorded in the order book. The P/M stated that the O/M was unable to determine the exact product cost, and there were no books kept to record the cost details. The product's prices were influenced by competitor prices and the number of units required of the same product or model.

With regard to the accounting information generated and used for product costing and pricing, the O/M generated information regarding the relevant data, which was then used to determine the total cost. The O/M generated and used information about the manufacturing time and raw material types and quantities, and the employee's percentages. The total estimated cost of raw materials used in the sold products during the month/year was also generated based on the O/M's personal experience and estimation.

The above evidence revealed that there was a lack of *formal* procedures for product costing and pricing but there was application of *informal* procedures. It also

highlighted that there was very little *written* but a little more *oral* accounting information generated and used in product costing and pricing.

In *case 5 Clothing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for product costing and pricing were as follows:

The O/M had extensive experience which allowed him to estimate the prices that would be charged for any produced item. he estimated the cost and price of the products before starting the actual manufacturing processes, and all the cost and price calculations were performed on pieces of paper and retained in his head.

New products were given modified prices based on similar products which had been produced before. If the product had never been produced before, the O/M would manufacture one test sample before pricing the new product, and he determined the new product price based on personal evaluation of three factors: the first was the number of units which would be produced per day, the second was the average total daily expenses and the third was a reasonable profit margin.

With regard to the accounting information generated and used for product costing and pricing, the O/M generated information concerning the average price of the competitor's products and the market conditions. He generated information regarding the time and work consumed in a similar product which had been produced in the enterprise before and the price charged for it. The O/M also generated information about the daily expenses of the business, average daily wages and estimated number of units that the enterprise was able to produce per day. The O/M used the generated information in estimating the unit price and determining the modified price of a similar product that had been produced in the enterprise before pricing the new product.

The above evidence showed that there was a lack of *formal* procedures for product costing and pricing but there was application of *informal* procedures. It also revealed that there was very little *written* but a little more *oral* accounting information generated and used in product costing and pricing.



## 10.3.2.2 Financial planning

Table (10-15): Comparison between the substantive hypotheses which are related to the applied procedures ( <i>formal or informal</i> ) and the extent of <i>written and oral</i> accounting information generated and used in financial planning for the five cases							
Subjects		Case 1	Case 2	Case 3	Case 4	Case 5	Formal hypotheses
The applied procedures	Formal	No	Yes	No	No	No	Lack of formal procedures.
	Informal	Yes	Yes	Yes	Yes	Yes	Application of informal procedures.
The extent of written and oral accounting information generated and used	Written	Some	----	Yes	----	----	Very little written but a little more oral accounting information.
		Little	----	----	----	----	
		Very little	Yes	----	Yes	Yes	
	Oral	Some	----	Yes	----	----	
		Little	Yes	----	Yes	Yes	
		Very little	----	----	----	----	

Table (10-15) shows that four out of the five cases had a lack of formal procedures, whereas all five cases applied informal procedures for financial planning. Also, four out of the five cases generated and used very little written but a little more oral accounting information for financial planning. The supporting evidence for the development of the formal hypothesis is identified in these cases and discussed in the following paragraphs:

In *case1 Pasta Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for financial planning were as follows:

The pasta manufacturing did not have a standard business plan or objectives written down on paper. The information used in the short term planning, marketing and production decisions was based on the O/M's personal experience and opinions. The O/M was unfamiliar with budgeting and unaware of its importance and the budgets, income statement and balance sheets were never prepared in the enterprise. The additional second hand machines were introduced based on the O/M's personal experiences and businesses needs rather than using an expert to a prepare feasibility study plan.

With regard to the accounting information generated for financial planning, the O/M generated and used information regarding estimated financial and technical

implications of the additional second hand machines. Also, he used the generated information concerning the estimated break-even point, production and sales sizes.

The above evidence showed that there was a lack of *formal* procedures for financial planning but there was application of *informal* procedures. It also highlighted that there was very little *written* but a little more *oral* accounting information generated and used in financial planning.

In *case2 Plastic Bags and Printing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for financial planning were as follows:

The enterprise was established based on advice from a friend who was an expert in plastic bag manufacturing, and on a basic feasibility study. The basic feasibility study and the O/M's strong business relationships allowed him to obtain a soft loan to initiate his business. The O/M was worried about the high risk of this new business and its potential failure, and thus, planning was one of the O/M's main concerns. Purchase, sales and cash flow were monitored and capital expenditure, profit and manufacturing planning were undertaken. He was also able to base decisions on an understanding of the enterprise's financial and technical capacity and on the market needs. Furthermore there was a considerable amount of information regarding customers needs and supplier's offers.

The budgets were prepared only in preparation for the peak sales seasons. The O/M's primary concern was to sell an increased number of units and accrue more money in order to make profits and have enough money to cover the enterprise's monthly obligations. During a given week and before the next week began, the O/M ensured there were enough raw materials in the inventory to supply the production processes, enough finished products to cover the customers orders and that there was at least LD 260 to cover the loan premium. Instructions were given by the O/M to retain enough cash in the safe in order to take advantage of raw materials offers. Also, an amount of money was saved each month in order to introduce new production lines.

With regard to the accounting information generated for financial planning, the O/M generated estimated basic information related to planning and market needs and conditions and production decisions. The O/M generated and used the information in recognising the high risk of this new business and its potential failure. He also generated information regarding the existing banking sector terms and conditions concerning available bank loans. In addition, he generated and used information about prices of raw materials in projecting the trend of the prices of raw materials and the period when they

would either be increased or decreased. He also used the generated information about raw materials and finished products inventory in order to meet the production processes and customers orders. The O/M used the generated information about cash flow (in and out) in order to cover the enterprise's monthly obligations and to obtain raw materials offers. He also used the generated information about customer balances in making discount decisions. He also used the generated monthly information about quantities sold of each type of products, to whom they were sold, and in which region and for what prices. The O/M also generated information about estimated demand, financial and technical implications of the establishment of the business and introduction of the new production line.

The above evidence showed that there was application of *formal and informal* procedures for financial planning, and that there was some *written and oral* accounting information generated and used in financial planning.

In *case 3 Plastic Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for financial planning were as follows:

Although the O/M was very concerned with the planning, there were no plans written down on paper and there were no standard forms for business planning. The plans are prepared and retained in the O/M's mind and the enterprise was based on advice from friends. The budget was not prepared because the O/M was not familiar with using one and was unable to forecast the demand for the business products. In order to cover the daily expenses and financial obligations of the enterprise, the O/M was concerned to sell more units and accumulate more profits.

With regard to the accounting information generated for financial planning, the O/M generated information regarding the existing banking sector procedures, and also about the average daily sales and the market needs from the plastic products. The O/M generated and used information about the enterprise's sales strategies and production policies. He also generated and used information about the actual inventory of finished products and quantities sold from each type and size. The O/M used the generated information about debtor customers balances and bounced cheques. The O/M generated and used information recognised that the enterprise's financial position was not positive and did not allow for the acquisition and introduction of additional machines. He also used it to secure sufficient funds for the business's financial obligations.

The above evidence highlighted that there was a lack of *formal* procedures for financial planning but there was application of *informal* procedures. It also showed that

there was very little *written* but a little more *oral* accounting information generated and used in financial planning.

In *case 4 Furniture Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for financial planning were as follows:

The enterprise did not have a standard form of business plan or objectives written down on paper. In addition, the O/M did not prepare budgets and he was unable to write any financial plans or use management accounting techniques. The O/M was not aware of the need for a business plan as a management tool to control the business activities as well as a tool for raising funds. He used his own method to run the business activities, and considered and retained in his mind the enterprise's marketing planning and production decisions.

With regard to the accounting information generated for financial planning, the O/M generated information about the existing banking sector procedures. He also, generated estimated basic information related to the marketing planning and production decisions. The O/M generated and used information to recognise the enterprise's financial position, and to help the enterprise.

The above evidence highlighted that there was a lack of *formal* procedures for financial planning but there was application of *informal* procedures. It also showed that there was very little *written* but a little more *oral* accounting information generated and used in financial planning.

In *case 5 Clothing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for financial planning were as follows:

The business was established without preparing a feasibility study. After the business was established, there were also no start up business plans or general formal business plans and objectives written down on paper. In addition, no budgets or other financial statements were prepared and the O/M never considered this necessary. The O/M was not aware of the need for business plans as a management tool. The short-term planning and production decisions were prepared and considered based on his experience and retained in his mind. His concern was to obtain more orders from the contractors and collect more money.

With regard to the accounting information generated for financial planning, the O/M generated and used information in making short-term planning and production decisions.

The above evidence showed that there was a lack of *formal* procedures for financial planning but there was application of *informal* procedures. It also revealed that there was very little *written* but a little more *oral* accounting information generated and used in financial planning.

### 10.3.2.3 Profit planning

Table (10-16): Comparison between the substantive hypotheses which are related to the applied procedures ( <i>formal or informal</i> ) and the extent of <i>written and oral</i> accounting information generated and used in profit planning for the five cases								
Subjects			Case 1	Case 2	Case 3	Case 4	Case 5	Formal hypotheses
The applied procedures	Formal		No	Yes	Yes	No	No	Lack of formal procedures.
	Informal		Yes	Yes	Yes	Yes	Yes	Application of informal procedures.
The extent of written and oral accounting information generated and used	Written	Some	----	Yes	Yes	----	----	Very little written but a little more oral accounting information.
		Little	----	----	----	----	----	
		Very little	Yes			Yes	Yes	
	Oral	Some	----	Yes	Yes	----	----	
		Little	Yes	----	----	Yes	Yes	
		Very little	----	----	----	----	----	

Table (10-16) shows that three out of the five cases had a lack of formal procedures, whereas all five cases applied informal procedures for profit planning. Also, three out of the five cases generated and used very little written but a little more oral accounting information for profit planning. The supporting evidence for the development of the formal hypothesis is identified in these cases and discussed in the following paragraphs:

In *case1 Pasta Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for profit planning were as follows:

Informal net profit or loss, sales and costs reports were prepared for each month and year and compared with those of previous months and years. The estimated break-even point and the unit selling prices and sales volume at which the enterprise makes neither a profit nor a loss were computed. Selling more than 100 tons of pasta products was the O/M's main concern in order to recover the total monthly costs and make

reasonable net profits. Therefore, many actions were undertaken to increase sales and reduce costs.

With regard to the accounting information generated for profit planning, the O/M generated and used information to evaluate how the business was performing. He also used this information in determining the estimated break-even point and the unit selling prices. He generated and used information about the pasta's high demand seasons and the required and utilisation of the production capacity. Furthermore, the O/M used the generated information about the costs and expenses during the month and year. He also generated and used information on customers who had reduced their purchasing, and also generated information concern the average price of competitors' products.

The above evidence revealed that there was a lack of *formal* procedures for profit planning but there was application of *informal* procedures. It also showed that there was very little *written* but a little more *oral* accounting information generated and used in profit planning.

In *case2 Plastic Bags and Printing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for profit planning were as follows:

The business plans and how the business was performing were constantly evaluated. The O/M obtained from the I/A profit and loss reports, quantities sold of each type of product, to whom they were sold, in which region and for what prices, element costs and expenses every month and year and compared them with those from previous months and years. The strategies used in the enterprise allowed it to made healthy profits and take advantage in the plastic bags market. The O/M's policy and target was to reduce the costs in order to increase the profit margin or to keep it unchanged when the prices were reduced, and to produce and sell more than 30 tons of plastic bags each month in order to make reasonable net profits. Therefore, many actions were undertaken to increase sales and reduce costs.

With regard to the accounting information generated for profit planning, the O/M generated and used information about the costs and expenses on a weekly, monthly and yearly basis. The O/M used the generated information concern the average utilities, wages and other expenses paid in the previous months, cost of one ton of raw materials and revenues from selling one ton of units produced. He also generated information about the average price of competitors' products. He generated and used information regarding the strong sales seasons for plastic bags, the finished products inventories levels and the production capacity that should be secured before the start date of these

seasons. The O/M obtained profit and loss reports every month from the I/A and compared them with those from previous months. Furthermore, the O/M received monthly reports regarding quantities sold of each type of product, to whom they were sold, in which region and for what prices, element costs and expenses every month and year.

The above evidence showed that there was application of *formal and informal* procedures for profit planning, and that there was some *written and oral* accounting information generated and used in profit planning.

In *case 3 Plastic Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for profit planning were as follows:

Monthly reports about the quantities sold and produced, the amount of cost and expense elements and the net profits were prepared by the I/A. The O/M generated monthly and annual information regarding the total sales and the product sales levels. Also, monthly comparison information was prepared in order to discover how the business was performing and to evaluate the monthly business plans. Several actions were undertaken in order to increase the profits. Some of these actions were aimed at increasing the sales and others aimed at reducing the costs and expenses. The O/M was very concerned about the costs and elements and they were monitored during the month in order that they are kept at the lowest levels.

With regard to the accounting information generated for profit planning, the O/M generated and used information in order to discover how the business was performing and to evaluate the monthly business plans. He also used the generated information regarding the average daily sales and the market needs. The O/M used the generated information in determining the highest amount of monthly and yearly sales, and in determining the estimated cost and expenses and break-even point of each month. The O/M used the generated information in comparing the quantities sold and produced, amount of cost and expense elements and net profits with those in the previous months.

The above evidence showed that there was application of *formal and informal* procedures for profit planning, and that there was some *written and oral* accounting information generated and used in profit planning.

In *case 4 Furniture Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for profit planning were as follows:

Income statements and balance sheets were not prepared. The net profit calculations were performed on pieces of paper that were discarded after the results were obtained and committed to the O/M's memory. A number of actions were undertaken by the O/M in order to increase the sales.

With regard to the accounting information generated for profit planning, the O/M generated and used information regarding the total sales in each month and the estimated costs of raw materials consumed in the products sold each month. In addition, he determined the products which had the highest sales levels. The O/M generated and used the information about net profit, monthly and yearly total costs and expenses, product total cost and actual costs and expenses of certain items.

The above evidence revealed that there was a lack of *formal* procedures for profit planning but there was application of *informal* procedures. It also showed that there was very little *written* but a little more *oral* accounting information generated and used in profit planning.

In *case 5 Clothing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for profit planning were as follows:

The O/M used personal experience to compute the net profits every month and year. These computations were usually done on paper, which would then be discarded after the results were obtained and recorded in the profits file. The net profit was compared with that of the previous months and years. Income statements and balance sheets were never requested or prepared, and the O/M's primary concern was to obtain more orders from the contractors in order to make a reasonable profit. The O/M relied upon his personal experience to manage the business activities and to evaluate how the business was performing.

With regard to the accounting information generated for profit planning, the O/M generated and used information concerning estimated demand, net profits, monthly and yearly total costs and expenses.

The above evidence showed that there was a lack of *formal* procedures for profit planning but there was application of *informal* procedures, and that there was very little *written* but a little more *oral* accounting information generated and used in profit planning.



## 10.3.2.4 Manufacturing planning

Table (10-17): Comparison between the substantive hypotheses which are related to the applied procedures ( <i>formal or informal</i> ) and the extent of <i>written and oral</i> accounting information generated and used in manufacturing planning for the five cases								
Subjects			Case 1	Case 2	Case 3	Case 4	Case 5	Formal hypotheses
The applied procedures	Formal		No	Yes	Yes	No	No	<i>Lack of formal procedures.</i>
	Informal		Yes	Yes	Yes	Yes	Yes	<i>Application of informal procedures.</i>
The extent of written and oral accounting information generated and used	Written	Some	----	Yes	Yes	----	----	<i>Very little written but a little more oral accounting information.</i>
		Little	----	----	----	----	----	
		Very little	Yes	----	----	Yes	Yes	
	Oral	Some	----	Yes	Yes	----	----	
		Little	Yes	----	----	Yes	Yes	
		Very little	----	----	----	----	----	

Table (10-17) shows that three out of the five cases had a lack of formal procedures, whereas all five cases applied informal procedures for manufacturing planning. Also, three out of the five cases generated and used very little written but a little more oral accounting information for manufacturing planning. The supporting evidence for the development of the formal hypothesis is identified in these cases and discussed in the following paragraphs:

In *case1 Pasta Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for manufacturing planning were as follows:

The manufacturing plans and schedules were considered based on the O/M's personal experience and retained in his mind. The O/M used personal experience in generating estimated information regarding delivery time, additional extra working hours, and the types and quantities of pasta that would be demanded by the customers every day. Also, he estimated the manufacturing capacity level in terms of the second hand machinery and the high competition.

With regard to the accounting information generated for manufacturing planning, the O/M generated and used information about the estimated capacity level of the enterprise. He also generated and used information concerning the types and quantities

of pasta that had a regular demand. The O/M generated and used information about the inventory levels (raw materials and finished products) that were below the normal levels. He also generated and used information regarding the estimated additional working time and the estimated capacity level in the strong seasons. He used the generated information in estimating the delivery time.

The above evidence revealed that there was a lack of *formal* procedures for manufacturing planning but there was application of *informal* procedures. It also showed that there was very little *written* but a little more *oral* accounting information generated and used in manufacturing planning.

In *case2 Plastic Bags and Printing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for manufacturing planning were as follows:

The interruption of the electrical power supply and the machine breakdowns could cause the enterprise to close for a day or even a week. Therefore, the O/M's manufacturing strategy was to keep the production's lines operating for 24 hours a day, six days a week in quieter periods in order to secure large inventories of the finished products before the strong selling seasons and festivals started. During these periods, the whole production capacity was focused on producing special orders. The determination of the delivery time was the O/M's responsibility and this was based on his personal experiences. Delivering the products at the right time was close to 100 per cent if there were no production interruptions. In the event that the enterprise received more than one special order, a written schedule was prepared.

With regard to the accounting information generated for manufacturing planning, the O/M generated information about the seasons demand and the enterprise production capacity. The O/M also generated and used information about the quantities actually produced and quantities in the inventory (raw materials and finished products). The O/M used the generated information in comparing the expected daily demand with inventory available to determine the specific types, sizes and quantities of plastic bags, which would be produced the next day. The O/M used the generated information in estimating the delivery time and in writing the manufacturing planning and schedules when he received additional special orders.

The above evidence revealed that there was application of *formal and informal* procedures for manufacturing planning, and that there was some *written and oral* accounting information generated and used in manufacturing planning.

In *case 3 Plastic Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for manufacturing planning were as follows:

The O/M stated that the manufacturing machines were operated for twelve hours a day from Saturdays to Wednesdays. Every Thursday before the weekend holiday began (Friday), the machines were inspected and the manufacturing area was tidied up. In case of an urgent order, overtime hours would be worked on Thursdays. The enterprise was sub-contracting business to produce barrels to specific customers. Therefore, the enterprise's policy in the winter was to produce a large quantity of barrels in order to have them ready and available for future demand when the enterprise was busy producing products in the high sales seasons. The social and family occasions, machine breakdowns and electrical power failures were the main factors affecting the manufacturing plans. Under normal conditions and when there was no interruption to the production processes, products were completed and delivered on time. The manufacturing plans and decisions were made based on the O/M's personal experience and were displayed on the notice board on the manufacturing area walls.

With regard to the accounting information generated for manufacturing planning, the O/M generated and used information in manufacturing planning and decisions. Additional extra working hours on Thursdays were utilised based on business needs. The O/M generated information concerning the internal and external factors influencing the manufacturing plans and processes and capacity available. He also generated and used information about the types, sizes and quantities of plastic products demanded by the customers every day and week. He also generated information regarding the actual inventory of finished products and quantities sold from each type and size. The O/M generated and used information to determine the delivery time for new products or orders with particular specifications which had never been produced in the enterprise before.

The above evidence showed that there was application of *formal and informal* procedures for manufacturing planning, and that there was some *written and oral* accounting information generated and used in manufacturing planning.

In *case 4 Furniture Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for manufacturing planning were as follows:

The O/M depended predominantly on personal experience in managing the daily business activities. The manufacturing plans and decisions were made based on the

number and types of product, and the agreed delivery time. The enterprise often met the product delivery time, when there was no interruption to the production processes. The interruption of the electrical power supply, lack of spare parts for machines and the high absence rate of employee's were the main factors which affected the production processes. In case the demand was higher than the enterprise's capacity or there was an interruption to the production processes, instructions were given by the O/M to keep the manufacturing operations running until late every day seven days a week. In addition, more employees would be hired on a temporary basis.

With regard to the accounting information generated for manufacturing planning, the O/M generated and used information in estimating the delivery time and raw material's and work force's required.

The above evidence revealed that there was a lack of *formal* procedures for manufacturing planning but there was application of *informal* procedures. It also showed that there was very little *written* but a little more *oral* accounting information generated and used in manufacturing planning.

In *case 5 Clothing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (formal and informal) and accounting information generated and used for manufacturing planning were as follows:

The manufacturing scheduling decisions were made based on the O/M's personal experience which took into consideration the types and numbers of orders received from the customers and contractors, and the agreed delivery time. The manufacturing schedules are formulated in the O/M's mind, and suitable actions which would allow the completion and delivery of the products on time are always undertaken.

With regard to the accounting information generated for manufacturing planning, the O/M generated and used information concerning the estimated working time, raw materials required, internal and external factors influencing the manufacturing processes and capacity available. Also, he generated and used information in comparing the required and available capacity.

The above evidence revealed that there was a lack of *formal* procedures for manufacturing planning but there was application of *informal* procedures. It also showed that there was very little *written* but a little more *oral* accounting information generated and used in manufacturing planning.

## 10.3.2.5 Productivity control

Table (10-18): Comparison between the substantive hypotheses which are related to the applied procedures ( <i>formal or informal</i> ) and the extent of <i>written and oral</i> accounting information generated and used in productivity control for the five cases								
Subjects		Case 1	Case 2	Case 3	Case 4	Case 5	Formal hypotheses	
The applied procedures	Formal	Yes	Yes	Yes	No	No	Application of formal procedures.	
	Informal	Yes	Yes	Yes	Yes	Yes	Application of informal procedures.	
The extent of written and oral accounting information generated and used	Written	Some	Yes	Yes	Yes	----	----	Some written and oral accounting information.
		Little	----	----	----	----	----	
		Very little	----	----	----	Yes	Yes	
	Oral	Some	Yes	Yes	Yes			
		Little	----	----	----	Yes	Yes	
		Very little	----	----	----	----	----	

Table (10-18) shows that three out of the five cases applied formal procedures, whereas all five cases applied informal procedures for productivity control. Also, three out of the five cases generated and used some written and oral accounting information for productivity control. The supporting evidence for the development of the formal hypothesis is identified in these cases and discussed in the following paragraphs:

In *case1 Pasta Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for productivity control were as follows:

The enterprise used second hand machines. There were frequent interruptions to the manufacturing processes due to the interruptions of the electrical power, water supplier and technical errors. There were records for the employees working hours and absence, quantities of raw materials used in the production processes and the finished products manufactured during the day.

The O/M monitored all the manufacturing processes. However, after each job was completed, the O/M or the P/M inspected it in order to ensure it was manufactured according to the quality standards. If defects were discovered, the employees were asked for the reasons which would then be considered. The machines were tested and maintained weekly. The standard quantities were compared with the quantities produced

in order to determine the waste, and unusual amounts of waste were identified and investigated. In addition, the O/M and the P/M compared the production size with the production capacity at the end of each day. The reasons for underlying differences were identified and investigated. The O/M was very concerned about the pasta-manufacturing employees, and listened to their suggestions, complaints and problems. In this way, he maintained a friendly atmosphere with the employees and established a strong relationship with them.

With regard to the information generated for productivity control the O/M generated information concerning workers start and finish times and their absence, quantities of raw materials used in the production processes and the finished products manufactured during the day. He also used the generated information regarding the units produced and the wasted units and production problems.

The above evidence revealed that there was application of *formal and informal* procedures for productivity control, and that there was some *written and oral* accounting information generated and used in productivity control.

In *case2 plastic Bags and Printing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for productivity control were as follows::

The lack of local or national spare parts suppliers and the frequent interruption of electrical power supply were the main causes of the interruption to manufacturing productivity. The manufacturing machines were operated twenty-four hours a day, six days a week under normal conditions, and the manufacturing process was divided into two shifts, each of which worked twelve hours from eight till eight.

There were specific procedures and continuous observations and inspections of the product in all manufacturing stages. At the end of each day, the quantities of raw materials used in the production processes and the quantities produced were recorded in the inventory bin cards. At the end of each day, month and year the O/M, P/M and the I/A compared in written form the quantities produced with the standard and targeted quantities in order to identify and investigate any differences. Each month, the O/M received reports regarding the employee's production rates which would be compared with those from previous months. There were written punishment and motivation regulations and these were displayed on the notice board so that all employees were aware of them.

With regard to the information generated for productivity control, the O/M used the generated information in comparing the units produced with the standard and

targeted quantities by the end of each day, month and year. Also he used the generated information in comparing employees production rates. The O/M generated information about workers starting and finishing times, units produced and hours worked by each employee per day and month. The O/M also used generated information about the weight of raw materials used in production.

The above evidence showed that there was application of *formal and informal* procedures for productivity control, and that there was some *written and oral* accounting information generated and used in productivity control.

In *case 3 Plastic Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for productivity control were as follows:

At the end of the day the employee's attendance, overtime, fines and quantities and types of product produced by each worker would be recorded on the computer and all the manufacturing stages were monitored. The O/M maintained a friendly rapport with the employees, but there were written punishment and motivation regulations. There were also records for employee work times and absence.

With regard to the information generated for productivity control, the O/M used the generated information regarding the finished manufactured products, raw materials used, waste, quantity produced by each employee, hours worked and wages for each employee and machine stoppage hours. In addition, he used the generated information in comparing the production's size during each day and month with the targeted quantities.

The above evidence revealed that there was application of *formal and informal* procedures for productivity control, and that there was some *written and oral* accounting information generated and used in productivity control.

In *case 4 Furniture Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for productivity control were as follows:

There were no records kept of employee work times and absence. There was no recording of the machine idle time, or the units produced by each employee. There were frequent interruptions to the manufacturing processes due to:

- 1) Frequent and unexpected interruption to the electric power supplies.
- 2) Longer repair times due to the lack of local or national machine spare parts suppliers.
- 3) Shortages in specific raw materials.
- 4) A High absence rate of employees due to social and family occasions.

The enterprise's production size depended mainly on the types and models of the products ordered, and all the machines were bought second hand from local suppliers. The manufacturing process was divided into two shifts, and each shift worked six hours from 8 a.m. to 2 p.m. and from 3 p.m. to 9 p.m. The manufacturing stages were divided into four which included designing, cutting, assembling and trimming and finishing. The O/M and the P/M were responsible for assigning jobs to the employees based on their skills, and the O/M indicated that employees were selected and hired based upon their professional skills. The O/M and the P/M observed and supervised the employees while they worked, and if mistakes were discovered, the employees were asked to correct them. The O/M was very concerned about paying the employee's percentages on time, and if there was a shortage of money, it was covered by loans from friends. The O/M established a strong relationship with the employees based upon honesty and a shared moral code.

With regard to the information generated for productivity control, the O/M generated and used information comparing the available capacity of the enterprise with that required, and identified any additional capacity needed. The O/M also generated and used the information in computing the employee's specific percentages.

The above evidence highlighted that there was a lack of *formal* procedures for productivity control but there was application of *informal* procedures. It also showed that there was very little *written* but a little more *oral* accounting information generated and used in productivity control.

In *case 5 Clothing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for productivity control were as follows:

The high employee absence rate and the frequent interruptions to the electrical power supply were the main reasons that forced the enterprise to reduce its full capacity. The O/M and P/M recorded the attendance, working hours and the cash withdrawals of each employee. The O/M was aware of the production capacity of each employee and their professional skills, which made him able to estimate the average number of units which they could produce for any type of product per day.

With regard to the information generated for productivity control, the O/M generated and used information regarding the estimated number of units that each employee could complete during a working day, and the estimated number of units that the enterprise could complete during a week. He also generated information about the estimated production size that would be produced every day.



The above evidence revealed that there was a lack of *formal* procedures for productivity control but there was application of *informal* procedures. It also showed that there was very little *written* but a little more *oral* accounting information generated and used in productivity control.

### 10.3.2.6 Quality control

Table (10-19): Comparison between the substantive hypotheses which are related to the applied procedures ( <i>formal or informal</i> ) and the extent of <i>written and oral</i> accounting information generated and used in quality control for the five cases								
Subject			Case 1	Case 2	Case 3	Case 4	Case 5	Formal hypotheses
The applied procedures	Formal		No	Yes	No	No	No	Lack of formal procedures.
	Informal		Yes	Yes	Yes	Yes	Yes	Application of informal procedures.
The extent of written and oral accounting information generated and used	Written	Some	----	Yes	----	----	----	Very little written but a little more oral accounting information.
		Little	----	----	----	----	----	
		Very little	Yes		Yes	Yes	Yes	
	Oral	Some	----	Yes	----	----	----	
		Little	Yes	----	----	----	----	
		Very little	----	----	----	----	----	

Table (10-19) shows that three out of the five cases had a lack of formal procedures, whereas all five cases applied informal procedures for quality control. Also, three out of the five cases generated and used very little written but a little more oral accounting information for quality control. The supporting evidence for the development of the formal hypothesis is identified in these cases and discussed in the following paragraphs:

In *case1 Pasta Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for quality control were as follows:

In each stage, the quality of the products was inspected. If a faulty unit was discovered at any stage, the P/M and the employees stopped the machines and repaired the fault or obtained help from the O/M. The O/M and the P/M always inspected the raw materials before use in the manufacturing processes in order to confirm they met the required standards. Also, they monitored the quality of units produced through frequent inspections. Any quantities which did not meet the required standards (defects) were sold to specific customers for cheaper prices than perfect units. The pasta

manufacturing products were of a lower quality than Italian products, but the enterprise had first-class packaging, and an overall design which was attractive and appropriate. The O/M was very concerned with customer satisfaction and obtained regular feedback on the products.

With regard to the accounting information generated for quality control, the O/M generated information about the customers' comments, complaints and suggestions regarding the products. The O/M used the generated information to compare the quality specifications of the enterprise's products with other local competitor's products. He also used it to compare the product quality with the required quality standards.

The above evidence revealed that there was a lack of *formal* procedures for quality control but there was application of *informal* procedures. It also showed that there was very little *written* but a little more *oral* accounting information generated and used in quality control.

In *case2 plastic Bags and Printing Manufacturing Enterprise* the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for quality control were as follows:

Quality control was the O/M's primary concern. The enterprise had a very good business reputation, and the reasons for this were the quality of the products, the production delivery time, the O/M's relationship with the customers and the enterprise's financial procedures. The P/M stated that the fact that machines were new and the quality control procedures were the main factors which enabled the enterprise to meet the required quality. There were written quality standards, and examples used as guidance models were displayed on the workshop walls. At all stages, the quality of the products was monitored and checked through frequent inspection using the random sample method. If the customers found defects in their orders and they were returned, the shift responsible for these defects would be determined by identifying the shift code number which was stamped on the defective units. A penalty would be given to the employee who caused the defects in order to minimise problems in the future.

With regard to the accounting information generated for quality control, the O/M generated information about the customer's comments and suggestions in order to obtain feedback that could be used for developing improve quality. He also generated and used information concerning the defects and the reasons for these defects.

The above evidence showed that there was application of *formal and informal* procedures for quality control, and that there was some *written and oral* accounting information generated and used in quality control.

In *case 3 Plastic Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for quality control were as follows:

The enterprise had a high reputation for product quality, differentiation and innovation. The O/M used Italian and French plastic-ware catalogues as quality benchmarks. Many products shapes which were found in the catalogues and on websites were redesigned in the enterprise in order to meet the consumer's tastes. The O/M was very interested in feedback from the P/M, S/M, employees and the customers regarding new product designs and frames before manufacturing them. The quality of the enterprise's products was similar to foreign products and higher than the local competitor's products. The P/M explained that the reasons for the high quality of their products were the high quality of the raw materials, the new injection-moulding machine, the new frames which were made in the enterprise and the continual inspection of the product during processing. Quality control was the P/M's and the employee's main responsibility. The manufacturing process was divided into steps, which would allow each employee to inspect the work performed by another employee in order to identify and correct mistakes immediately. The P/M pointed out that at the end of each day, the O/M inspected the finished products by using a random sample method. The O/M stated that if defects were found, all the finished products that were produced that day were inspected piece by piece. The defects and waste accounts on the computer were updated on a daily basis. At the end of each month, the I/A provided the O/M with comparisons between the defects and wastes of the current month with the estimated wastage and those in previous months.

With regard to the accounting information generated for quality control, the O/M generated information about the feedback from the P/M, S/M, employees and the customers for the new product designs and frames. He also generated and used information regarding the defects and the reasons for defects. The O/M generated and used information about foreign and local competitor's products.

The above evidence showed that there was application of *formal and informal* procedures for quality control, and that there was some *written and oral* accounting information generated and used in quality control.

In *case 4 Furniture Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for quality control were as follows:

All the business activities were done based upon trust, honesty and simple frequent inspections. Testing and assessing the quality of the products was the O/M's main responsibility and it was based on his personal experience. Achieving the right balance between the required quality standards and favourable prices for customers was the most difficult problem faced by the enterprise. Generally, there was no formal quality control system in the enterprise. The O/M received catalogues and magazines on a regular base in order to familiarize himself with new product models and designs. The O/M was very interested in obtaining feedback from the employees regarding new models in order to improve products.

With regard to the accounting information generated for quality control, The O/M obtained feedback from the employees. The O/M generated and used information concerning the employee's professional skills, and about the quality specifications for each job completed and quality standards implemented in the business. He also used it this information to compare the required specifications and descriptions of units produced with those received from the customers.

The above evidence showed that there was a lack of *formal* procedures for quality control but there was application of *informal* procedures, and that there was very little *written* but a little more *oral* accounting information generated and used in quality control.

In *case 5 Clothing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for quality control were as follows:

The O/M was very concerned with the quality of products and the delivery time in order to avoid any problems with customers which would affect the business reputation and potentially affect future orders. The quality of raw materials (fabric) and testing and assessing the quality of the fabric were the O/M's main responsibility, and it was based on his personal experience. The O/M received specialised journals and magazines, and other information was received regularly from suppliers and manufacturers which kept him updated with new raw materials and modern machinery related to the business. Monitoring and inspecting the employees and their work was done by the O/M and P/M and mistakes were identified and corrected immediately. At the end of each day, the O/M and P/M inspected the finished products piece by piece before they were sent to the customers, and products with mistakes were identified and corrected the next day. The O/M stated, "The business inspection procedures should allow any mistakes to be discovered". The O/M's personal experience and the enterprise's quality procedures

enabled it to meet the quality standards required by the customers and thus achieve a very good reputation.

With regard to the accounting information generated for quality control, The O/M the O/M obtained details about the specifications of the units produced. The O/M generated information about the specifications of the latest raw materials and modern machines. He also generated and used information about the products required specifications and descriptions.

The above evidence showed that there was a lack of *formal* procedures for quality control but there was application of *informal* procedures. Also, it revealed that there was very little *written* but a little more *oral* accounting information generated and used in quality control.

### 10.3.2.7 Cash flow control

Table (10-20): Comparison between the substantive hypotheses which are related to the applied procedures ( <i>formal or informal</i> ) and the extent of <i>written and oral</i> accounting information generated and used in cash flow control for the five cases							
Subjects		Case 1	Case 2	Case 3	Case 4	Case 5	Formal hypotheses
The applied procedures	Formal	Yes	Yes	Yes	No	No	Application of formal procedures.
	Informal	Yes	Yes	Yes	Yes	Yes	Application of informal procedures.
The extent of written and oral accounting information generated and used	Written	Some	Yes	Yes	Yes	----	Some written and oral accounting information.
		Little	----	----	----	----	
		Very little	----	----	----	Yes	
	Oral	Some	Yes	Yes	Yes		
		Little	----	----	----	Yes	
		Very little	----	----	----	----	

Table (10-20) shows that three out of the five cases applied formal procedures, whereas all five cases applied informal procedures for cash flow control. Also, three out of the five cases generated and used some written and oral accounting information for cash flow control. The supporting evidence for the development of the formal hypothesis is identified in these cases and discussed in the following paragraphs:

In *case1 Pasta Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for cash flow control were as follows:

All payment methods were accepted. The O/M received a report concerning the customer debit accounts from the I/A and he remarked on the debit accounts which were higher than normal. Then, instructions were given to the S/M to sell smaller quantities than ordered to these customers until they were able to pay the amounts owed in order to place them again to the normal average.

There were specific procedures for the received cash and cheques. A bank statement was obtained every week and the bank balance was reconciled by the I/A and then given to the O/M for information. The O/M reviewed the bank balance before issuing the cheques to see whether it was sufficient to cover the amounts or not. The employee's withdrawals were limited to the monthly extent of their wages. The employee's personal accounts were checked when they requested money during the month and compared with its limit. After the end of each week, month and year, details about the sales, collections and expenses were reported to the O/M, and the O/M monitored and compared these with their normal averages. The reasons for underlying differences were identified and investigated.

With regard to the accounting information generated for cash flow control, the O/M generated information concerning balances of customers and suppliers. He also generated information regarding the balance of the bank account and employee's personal accounts, wages, purchases, sales, collections and expenses. The O/M used the generated information to compare the money available with the amount of the cheque to be issued.

The above evidence revealed that there was application of *formal and informal* procedures for cash flow control, and that there was some *written and oral* accounting information generated and used in cash flow control.

In *case2 plastic Bags and Printing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for cash flow control were as follows:

A new customer's reputation was investigated before establishing business contacts. If they were deemed unreliable, the O/M requested them to pay their balance in cash. Existing customers who had a high credit rating were allowed to pay their balances by cheque, and special order customers were requested to pay one-third from their balances as a deposit. The customers were requested to pay the deposit by cash, whereas other payments could be by cash or cheques. There were specific procedures for the issued and received cheques, and the O/M checked the bank balance before issuing the cheques. A bank statement was obtained by the O/M each week in the

normal cases, and after three days from the date of the cheque's deposit in order to become aware of collected and bounced cheques. The bank balance was reconciled and the results were given to the O/M. Each month, the O/M received a report concerning the customer debit balances. The customers who had not made payments for a prolonged period were identified in order to contact them to encourage payment. The O/M gave discounts in order to urge payments of longstanding debit balances. The employee's wages and withdrawals were recorded, and there were specific procedures for employee withdrawals. Funds were always secured to repay the loan premiums and to meet future growth plans.

With regard to the accounting information generated for cash flow control, the O/M generated information regarding balances of customers and suppliers. He also generated information concerning the amount of purchases, sales and amounts received from customers, balance of wages, expenses and the bank account. The O/M used the generated information in comparing the financial obligations with funds available, and the withdrawal balance of each employee with their limits. Also, he used it to compare the balance of the bank account with the amount of the cheque to be issued.

The above evidence revealed that there was application of *formal and informal* procedures for cash flow control, and that there was some *written and oral* accounting information generated and used in cash flow control.

In *case 3 Plastic Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for cash flow control were as follows:

Cheques were accepted only from customers who were known to the O/M and sales on credit were only given to the customers who had excellent business reputations. There was continuous contact with the debtor customers in order to urge their payments. There were specific procedures for issued and received cheques and information concerning the business cash flow on computer printouts was provided to the O/M. A bank statement was obtained each week and this was used to monitor the bank balance, which was then reconciled by the I/A with that on the computer. If the bank balance was lower or higher than the normal average level, then the reasons would be identified and investigated.

With regard to the accounting information generated for cash flow control, the O/M used the generated information about sales, expenses and collections, and debit balances of each customer. He also used the generated information regarding normal debit balance of each customer, amount of daily collections and bank balances. The

O/M used the generated information in securing sufficient funds to meet the financial obligations and daily expenses. Also, he used the generated information in comparing the withdrawal balance of each employee with their limits.

The above evidence highlighted that there was application of *formal and informal* procedures for cash flow control, and that there was some *written and oral* accounting information generated and used in cash flow control.

In *case 4 Furniture Manufacturing Enterprise* the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for cash flow control were as follows:

Most sales were paid for with cash. Customers with excellent reputations and others who were known by the O/M or by an employee were requested to pay twenty five per cent of their balance as a deposit. Other customers were requested to pay fifty per cent of their balances as opposed to seventy five per cent as a deposit. The O/M stated that all customers were requested to pay the deposits in cash in order to buy the required raw materials. There were specific procedures for the issued and received cheques, and the O/M preferred to pay expenses and purchase raw materials on a cash basis. The O/M checked the bank balance in order to prevent cheques from bouncing, and he obtained a bank statement every month in the normal cases.

With regard to the accounting information generated for cash flow control, the O/M generated and used the information in comparing the cheque details that were recorded in the notebook and the cheque stubs with the bank statement. He also used the generated information to compare the withdrawal balance of each employee with his limits. The O/M generated and used the information concerning customer balance sales, purchases, expenses and collections.

The above evidence revealed that there was a lack of *formal* procedures for cash flow control but there was application of *informal* procedures, and that there was very little *written* but a little more *oral* accounting information generated and used in cash flow control.

In *case 5 Clothing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for cash flow control were as follows:

The customer's credibility was neither checked before or after commissioning. This is because the O/M asked the customers to pay in cash or by cheques. Customers were required to sign their account pages in the measurements book or in the contractor's book, and pay one-third of their balance as a deposit. All deposits were



made in cash, whereas other payments were accepted in cash or by cheques. Details concerning the amounts received and remaining balances were recorded in the measurements or contractors book, and the remaining balances were also recorded in the notebook. Although deposit slips were obtained from the bank after each deposit transaction, no recording was performed in the business records to indicate the deposit transaction. The O/M preferred to make purchases of raw materials and pay all the business expenses in cash, and cashed cheques up to the expense amounts to him-self or to the P/M. Personal and family withdrawals were made in cash and were unlimited, and details of these payments were recorded in the notebook and cheque stubs.

With regard to the accounting information generated for cash flow control, the O/M generated and used information regarding the balance of the bank account and customer's and supplier's balances. He also used the generated information in comparing the deposit slips at the end of month with the bank statements. The O/M generated and used information concerning personal, family and employee's withdrawals.

The above evidence revealed that there was a lack of *formal* procedures for cash flow control but there was application of *informal* procedures, and that there was very little *written* but a little more *oral* accounting information generated and used in cash flow control.

### 10.3.2.8 Inventory control

Table (10-21): Comparison between the substantive hypotheses which are related to the applied procedures ( <i>formal or informal</i> ) and the extent of <i>written and oral</i> accounting information generated and used in inventory control for the five cases								
Subjects			Case 1	Case 2	Case 3	Case 4	Case 5	Formal hypotheses
The applied procedures	Formal		Yes	Yes	No	No	No	Lack of formal procedures.
	Informal		Yes	Yes	Yes	No	No	Application of informal procedures.
The extent of written and oral accounting information generated and used	Written	Some	Yes	Yes	----	----	----	Very little written but a little more oral accounting information.
		Little	----	----	----	----	----	
		Very little	----	----	Yes	Yes	Yes	
	Oral	Some	Yes	Yes	----	----	----	
		Little	----	----	Yes	----	----	
		Very little	----	----	----	Yes	Yes	

Table (10-21) shows that three out of the five cases applied informal procedures, whereas two out of the five cases applied formal procedures for inventory control. Also, three out of the five cases generated and used very little written but a little more oral accounting information for inventory control and a little more oral accounting information for inventory control. The supporting evidence for the development of the formal hypothesis is identified in these cases and discussed in the following paragraphs:

In *case1 Pasta Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for inventory control were as follows:

The inventory of raw material kept in the enterprise should be sufficient to supply seven days of production, and this level of inventory was estimated based on the O/M's personal experience. All the raw materials were recorded in the inventory book. The inventory book indicated the current balance of each item in the finished products and raw materials inventory and enabled the I/A to identify the items which had reached their reorder points. There was a predetermined minimum and maximum level of finished products kept in the inventory, and these levels were determined based on the O/M's personal experience in order to meet unexpected orders. At the end of each day, the I/A recorded the information regarding raw materials used in the production processes, quantities produced and finished products in the inventory book. If there were returned products from previous sales, the O/M and the P/M decided to repackage or sell them as defective units to specific customers. If they decided to repackage them, they would be added to the inventory book. Late in the evening of every day, information concerning the inventories was reported to the O/M, and this information included the levels of raw materials and finished products for each category of product. The O/M and the P/M compared the levels of finished products in the inventory with normal levels and consequently they determined the items which would be produced the next day. Every year, and in selected months, the O/M and I/A conducted a physical count of the items in the inventory, and the results were compared with the balance in the inventory book. Differences were identified, investigated and corrected

With regard to the accounting information generated for inventory control, the O/M generated and used information to determine the of inventory levels (finished products and raw materials). The O/M used the generated information regarding quantities, prices and types of the items in the inventories. He also used the generated information about types and quantities of returned products, and physical counts of the

items in the inventories. The O/M used the generated information to compare the levels of finished products in the inventory with normal levels.

The above evidence highlighted that there was application of *formal and informal* procedures for inventory control, and that there was some *written and oral* accounting information generated and used in inventory control.

In *case2 plastic Bags and Printing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for inventory control were as follows:

The O/M was very concerned with the inventory control. At the end of each week, month and year, the O/M counted and checked the inventories and compared these figures with the balances in the inventory bin cards. Differences were identified, investigated and corrected. Determining the correct balances and levels of the inventories was very important for the O/M to identify the following day's manufacturing production plan. Thus, the O/M always asked the I/A to ensure all items taken from and added to the inventories were recorded in the bin cards on a daily basis. A bin card was kept for each type and colour of finished product and each item of raw material in the inventory.

The units produced were counted, checked and stamped with the shift's code number by the P/M or by the O/M before either storing them or updating their bin cards. At the end of each day, information regarding the quantities of raw materials used in the production processes and the quantities produced were reported to the I/A in order to update the inventory bin cards. Information concerning balances and levels of raw materials and finished products were reported to the O/M on a daily basis. In the event of products being returned from previous sales because of damage or incorrect specifications, the details were transcribed onto the bin cards on the same day.

Each evening, he compared the levels of finished products in the inventory with the normal levels in order to identify the items which would be produced the next day.

There were specific minimum levels of raw materials and finished products kept in the inventory, and these levels were determined based on the O/M's personal experiences.

With regard to the accounting information generated for inventory control, the O/M generated and used information in the determination of inventory levels (finished products and raw materials). The O/M generated information regarding quantities, prices and types of the items in the inventories and average units sold daily. He generated information about types and quantities of returned products. He also used this to compare the physical counts with the balances in the inventories bin cards. The O/M

generated and used information about the returned products from previous sales and prices of each item in the inventory level.

The above evidence showed that there was application of *formal and informal* procedures for inventory control, and that there was some *written and oral* accounting information generated and used in inventory control.

In *case 3 Plastic Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for inventory control were as follows:

A specific minimum level of raw materials and a specific maximum level of the finished products were maintained in the inventory, and these levels were determined based on the O/M's personal experience. The next day's production plan would be based on the average daily sales from each product and the expected demands. An account for each item of raw material and finished product was created on the computer. The I/A stated that by updating the computer on a daily basis, the supplier bills, the production forms, the sales invoices and all items taken from and added to the inventories were recorded. The inventories information was available to the O/M who inspected it frequently on the screen and via printouts, and he was able to obtain instant information regarding the balance of any item in the inventory. Every month, sudden physical counts were conducted on the inventories and compared with the balances recorded on the computer and any differences identified, investigated and corrected. The I/A was responsible for monitoring the products loaded on the delivery truck on a daily basis. He recorded details about products which were loaded on the delivery truck for distribution to retailers and details about returned products from previous sales were recorded immediately on the same day. At the end of each day, the O/M and I/A compared the quantity sold for each type of product with the quantity loaded on the delivery truck and any differences were identified, investigated and corrected. Regarding raw materials, the O/M received a reminder from the I/A about the raw materials which had reached their reorder points. Adequate quantities were then purchased which would bring the items to their normal levels. The O/M explained that, "I do not purchase large quantities of raw materials in order to avoid having a large portion of the working capital tied up".

With regard to the accounting information generated for inventory control, the O/M generated and used information in determining the next day's production plan. He also used the generated information concerning products loaded daily on the delivery truck. The O/M generated information about the daily inventory levels (raw materials, finished products) and average daily sales, and he generated and used information

regarding returned products from previous sales. He also used the generated information in the determination of inventory levels (finished products and raw materials). The O/M generated and used information to compare the sudden physical counts of the inventories with the balances recorded in the computer on a monthly basis.

The above evidence revealed that there was a lack of *formal* procedures for inventory control but there was application of *informal* procedures, and that there was very little *written* but a little more *oral* accounting information generated and used in inventory control.

In *case 4 Furniture Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for inventory control were as follows:

The enterprise retained small quantities of specific raw materials which were used regularly and other items were purchased when needed. Therefore, there were no large quantities of wood and fabric stored in the inventory. The required product types and models were the main factors affecting the raw material quantity and types. The quantities of wood and fabric were identified and acquired after the commissions were obtained from customers. Adequate inventory levels of nails, screws and glues were always kept in stock, and these levels were determined based on personal estimation rather than information obtained from business records. There were no specific records kept to record the inventory details, and no recording procedure was performed on the items taken from or added to the inventory. The only record kept by the business was the purchase invoice copy file. The entire inventory was stored in the work place and was available to everyone in the enterprise. The employees were allowed to take and use the inventory items without permission and the O/M did not perform a regular count of the items in the inventory. The values of finished products and raw materials in the inventory were estimated using the O/M personal experience.

With regard to the accounting information generated for inventory control, the O/M generated and used information concerning the average quantity of nails, screws and glues.

The above evidence showed that there was a lack of *formal and informal* procedures for inventory control, and that there was very little *written* but a little more *oral* accounting information generated and used in inventory control.

In *case 5 Clothing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for inventory control were as follows:

The stores kept small quantities of specific raw materials which were used regularly in the manufacturing processes. Other items were purchased as and when necessary. Based on the O/M's personal experience a large thread inventory of different colours was kept in the enterprises. If suppliers were unable to provide or deliver the necessary raw materials, these would be borrowed from other clothing manufactures which whom the O/M had a good working relationship. The lender's name and the cost of the raw materials would be recorded in the notebook.

No records were kept of the inventory and no recording was performed concerning items removed from or added to the inventory. The only records stored in the enterprise were the copies of purchase invoices. All the raw material items were on shelves in the work place and were available to anyone in the enterprise. However, the employees noted that sometimes specific items from the fabric inventory were exhausted without being noticed by the O/M or P/M. The O/M explained, "Since the enterprise is located close to the suppliers, procedures for the purchase of raw materials will be made when the need becomes apparent". He added that after commissioning with the customers was completed and the deposit received, he examined the raw material inventory in order to identify the types and quantities that would need to be ordered to bring the inventory to the level which would enable the enterprise to manufacture the specific products. These levels were determined based on the O/M's personal experience. Orders were then requested and obtained from the local suppliers within one hour. No regular physical count of the items in the raw material inventory was performed.

The O/M was aware of the necessity that certain actions were needed such as the use more records for a better control, but he did not feel that this was urgent. He added that he built strong relationships with his employees based on honesty.

With regard to the accounting information generated for inventory control, the O/M generated and used information concerning the estimated raw material unit prices, details and estimated quantities of raw materials in the inventory. The O/M generated and used the information in the determination of inventory levels and the quantities of raw materials to be reordered.

The above evidence revealed that there was a lack of *formal and informal* procedures for inventory control, and that there was very little *written* but a little more *oral* accounting information generated and used in inventory control.

## 10.3.2.9 Capital expenditure control

Table (10-22): Comparison between the substantive hypotheses which are related to the applied procedures ( <i>formal or informal</i> ) and the extent of <i>written and oral</i> accounting information generated and used in capital expenditure control for the five cases							
Subjects		Case 1	Case 2	Case 3	Case 4	Case 5	Formal hypotheses
The applied procedures	Formal	No	No	No	No	No	Lack of formal procedures.
	Informal	Yes	Yes	Yes	Yes	Yes	Application of informal procedures.
The extent of written and oral accounting information generated and used	Written	Some	----	----	----	----	Very little written but a little more oral accounting information.
		Little	----	----	----	----	
		Very little	Yes	Yes	Yes	Yes	
	Oral	Some	----	----	----	----	
		Little	Yes	Yes	Yes	Yes	
		Very little	----	----	----	----	

Table (10-22) shows that all five cases showed a lack of formal procedures, whereas four out of the five cases applied informal procedures for capital expenditure control. Also, four out of the five cases generated and used very little written but a little more oral accounting information for capital expenditure control. The supporting evidence for the development of the formal hypothesis is identified in these cases and discussed in the following paragraphs.

In *case1 Pasta Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for capital expenditure control were as follows:

The decision to acquire additional second hand machines to produce the other three categories (short pasta, soup and cous-cous) was based upon the O/M's personal experiences and the business needs. The O/M stated that from basic information obtained from experts and personal observation, he realised that acquiring other machines to produce different types of pasta products would increase their sales and profits. Also, the O/M considered replacing the electric dryer. Therefore, an instruction was given to the I/A to prepare a feasibility study to replace the electric dryer with a fuel dryer.

With regard to the accounting information generated for capital expenditure control, the O/M generated and used information regarding the manufacturing capacity of the additional second hand machines, and the quality of products to be produced by

these machines. The O/M used the generated information in projecting the financial and technical implications of replacing the electric dryer.

The above evidence showed that there was a lack of *formal* procedures for capital expenditure control but there was application of *informal* procedures. It also revealed that there was very little *written* but a little more *oral* accounting information generated and used in capital expenditure control.

In *case2 plastic Bags and Printing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for capital expenditure control were as follows:

The O/M acquired the printing and large cutting machines based on personal experience and the business needs. He also considered acquiring a recycling machine. The O/M stated that based on his personal experience and observation he felt that the acquisition of the recycling machine would reduce the unit cost. Also, a feasibility study was prepared to acquire an electric generator as a reserve battery in the near future in order to keep the machines running when the electrical power supply was cut, and this was based on the business needs and the O/M's personal experience.

With regard to the accounting information generated for capital expenditure control, the O/M used the generated information in projecting the financial and technical implications of the capital assets.

The above evidence revealed that there was a lack of *formal* procedures for capital expenditure control but there was application of *informal* procedures, and that there was very little *written* but a little more *oral* accounting information generated and used in capital expenditure control.

In *case 3 Plastic Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for capital expenditure control were as follows:

The O/M prepared his own studies rather than gaining a professional opinion from an expert. The acquisition of the enterprise machines was based on the O/M's personal experience and the total acquisition was obtained from the enterprise and family savings and loans from friends.

With regard to the accounting information generated for capital expenditure control, the O/M used the generated information in the determination of the estimated financial implications of the required machines. Also, he used this information to estimate the demand, financial and technical consequences. The O/M used the generated



information in the determination of the average net profits generated from operating the new machines.

The above evidence showed that there was a lack of *formal* procedures for capital expenditure control but there was application of *informal* procedures. It also highlighted that there was very little *written* but a little more *oral* accounting information generated and used in capital expenditure control.

In *case 4 Furniture Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for capital expenditure control were as follows:

All the tools, equipment and some machines were acquired based on business needs irrespective of the cost. A number of machines were acquired based on the O/M's personal experience and the availability of cash, and his decision to acquire a new advanced machine was carried out based on the O/M's personal experience rather than preparing a feasibility study.

With regard to the accounting information generated for capital expenditure control, the O/M generated and used information concerning the estimated financial implications of acquiring the new advanced machine.

The above evidence indicated that there was a lack of formal and informal procedures for capital expenditure control, and that there was very little written and oral accounting information generated and used in the capital expenditure control.

In *case 5 Clothing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for capital expenditure control were as follows:

The decisions to acquire sewing machines and tools were based primarily on business need, and acquiring specific sewing machine models was based on the O/M's personal experience. The O/M stated that all the machines and tools were acquired with cash and most were more than twenty years old. Based on his personal experience and general information obtained from Italian suppliers regarding the new machines, the O/M also planned to buy new machines. He stated that acquiring the new machines would reduce the manufacturing time and increases the profitability. There were no market or feasibility studies undertaken to estimate the demand and financial consequences of buying the new machines.

With regard to the accounting information generated for capital expenditure control, the O/M generated and used information in projecting the financial and technical implications of acquiring the new sewing machines. Also, he used this

information in the determination of the average net revenues generated from operating the new sewing machines.

The above evidence revealed that there was a lack of *formal* procedures for capital expenditure control but there was application of *informal* procedures. It also showed that there was very little *written* but a little more *oral* accounting information generated and used in capital expenditure control.

### 10.3.2.10 Make or buy decision

Table (10-23): Comparison between the substantive hypotheses which are related to the applied procedures ( <i>formal or informal</i> ) and the extent of <i>written and oral</i> accounting information generated and used in make or buy decisions for the five cases							
Subjects		Case 1	Case 2	Case 3	Case 4	Case 5	Formal hypotheses
The applied procedures	Formal	Yes	No	----	No	No	Lack of formal procedures.
	Informal	Yes	Yes	----	Yes	No	Application of informal procedures.
The extent of written and oral accounting information generated and used	Written	Some	Yes	----	----	----	Very little written but a little more oral accounting information.
		Little	----	----	----	----	
		Very little	----	Yes	----	Yes	
	Oral	Some	Yes	----	----	----	
		Little	----	Yes	----	Yes	
		Very little	----	----	----	Yes	

Table (10-23) shows that three out of the five cases had a lack of formal procedures, and three out of the five cases applied informal procedures for make or buy decisions. In addition, three out of the five cases generated and used very little written accounting information, whereas two out of the five cases generated and used a little more oral accounting information for make or buy decisions. The supporting evidence for the development of the formal hypothesis is identified in these cases and discussed in the following paragraphs.

In *case1 Pasta Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for make or buy decisions were as follows:

The I/A prepared basic calculations on paper to compute the financial implications of making the food colouring in the enterprises rather than buying in. The papers were kept in a separate file. The O/M provided the related estimated information.

With regard to the accounting information generated for make or buy decisions, the O/M generated information regarding the estimated cost of making a litre of food colouring in the enterprise. He also used the generated information to compare the estimated cost of food colouring if made in the enterprise with that charged by subcontractors. The O/M used the generated information in estimating the net profit from buying the ready-made food colouring.

The above evidence showed that there was application of *formal and informal* procedures for make or buy decisions, and that there was some *written and oral* accounting information generated and used in make or buy decisions.

In *case2 Plastic Bags and Printing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for make or buy decisions were as follows:

Occasionally, the O/M decided to buy two types of ready-made plastic bags rather than manufacture them in the enterprise. Basic calculations were prepared based on the O/M's personal experiences to determine the financial implications of manufacturing these items in the enterprise rather than buying from elsewhere. The calculations were performed and retained only in the O/M's head. The purpose of buying these products was to meet customer orders and that the business would have time to produce other important items concurrently.

With regard to the accounting information generated for make or buy decisions, the O/M used the generated information in comparing the estimated cost and quality between the ready-made CD's plastic cover and the macaroni's (pasta) plastic bags with those which would be produced in the enterprise.

The above evidence showed that there was a lack of *formal* procedures for make or buy decisions but there was application of *informal* procedures. It also revealed that there was very little *written* but a little more *oral* accounting information generated and used in make or buy decisions.

In *case 3 Plastic Manufacturing Enterprise*, the O/M, S/M, P/M and I/A stated that make or buy decisions were not practiced in the enterprise.

In *case 4 Furniture Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for make or buy decisions were as follows:

The O/M used his personal experience to perform basic calculations in order to compute the financial implications of buying the cupboard and cabinet doors rather than manufacturing them in the enterprise. The information used in the computation was the

estimated cost of labour and raw materials, and the subcontractor's prices. The calculations were performed on pieces of paper, which were then discarded.

With regard to the accounting information generated for make or buy decisions, the O/M generated and used information in comparing the ready-made cupboards and cabinet doors with those which would be produced in the enterprise in terms of quality and cost.

The above evidence highlighted that there was a lack of *formal* procedures for make or buy decisions but there was application of *informal* procedures. It also showed that there was very little *written* but a little more *oral* accounting information generated and used in make or buy decisions.

In *case 5 Clothing Manufacturing Enterprise*, the supporting evidence and arguments to the applied procedures (*formal and informal*) and accounting information generated and used for make or buy decisions were as follows:

There were only two situations when the O/M would decide to buy products from competitors rather than manufacture them in the enterprise: the first when the demand became higher than the capacity of the enterprise, and the second when the enterprise received an urgent order whilst it was working to capacity service existing orders. In both situations, the O/M designed the products, prepared the patterns, cut the fabric and then sent these to the competitors for sewing and attaching accessories and assembling the parts.

The O/M was very concerned with meeting the customers needs regardless of whether profits would be made or not.

With regard to the accounting information generated for make or buy decisions, the O/M generated and used information regarding the relevant data, which was then used to determine the estimated raw material types and quantities, the estimated total cost manufacturing time and the competitor's charges.

The above evidence revealed that there was a lack of *formal* procedures for make or buy decisions but there was application of *informal* procedures. It also highlighted that there was very little *written* and *oral* accounting information generated and used in make or buy decisions.

The data from table (10-14) to table (10-23) are re-presented in table (10-24). This table lists the business aspects, application of the procedures, accounting information generation and use and the related cases.

**The extent of written and oral accounting information generated and used**

Business aspects	The applied procedures														
	Use of formal		Lack of formal		Use of informal			Lack of informal							
Product costing and pricing	1	2	3			4	5	1	2	3	4	5			
Financial planning	2				1	3	4	5	1	2	3	4	5		
Profit planning	2	3			1		4	5	1	2	3	4	5		
Manufacturing planning	2	3			1		4	5	1	2	3	4	5		
Quality control	2				1	3	4	5	1	2	3	4	5		
Productivity control	1	2	3			4	5	1	2	3	4	5			
Cash flow control	1	2	3			4	5	1	2	3	4	5			
Inventory control	1	2				3	4	5	1	2	3			4	5
Capital expenditure control						1	2	3	4	5	1	2	3	4	5
Make or buy decisions	1					2	-	4	5	1	2	-	4		5

The extent of written and oral accounting information generated and used														
Very little written		Little oral		Very little oral		Some written		Some oral						
			4	5			1	2	3		1	2	3	
1	3	4	5	1	3	4	5			2			2	
1		4	5	1		4	5			2	3		2	3
1		4	5	1		4	5			2	3		2	3
1	3	4	5	1	3	4	5			2			2	
		4	5							1	2	3		
		4	5							1	2	3		
		4	5							1	2	3		
		4	5							1	2	3		
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The data from Table (10-24) is represented in table (10-25) and table (10-26) to indicate the majority of cases lacked formal as well as implicating informal procedures, and generated and used very little written as well as oral accounting information. These tables show the formal hypotheses which related to the business aspects.

Table (10-25) Procedures and accounting information for seven out of ten business aspects in the majority of the cases										
Business aspects	The applied procedures				The extent of written and oral accounting information generated and used					
	Formal		Informal		Written			Oral		
	Application In	Lack	Application In	Lack	Some	Little	Very little	Some	Little	Very little
Financial planning		X	X				X		X	
Profit planning		X	X				X		X	
Manufacturing planning		X	X				X		X	
Quality control		X	X				X		X	
Inventory control		X	X				X		X	
Capital expenditure control		X	X				X		X	
Make or buy decisions		X	X				X		X	

**Formal hypotheses**

11.The application of *informal procedures* for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions is a reason for the generation and use of accounting information.

12.The lack of *formal procedures* for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions is a major barrier to the generation and use of accounting information.

13.Very little *written but a little more oral* accounting information is generated and used in financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions.

Table (10-26) Procedures and accounting information for three out of ten business aspects in the majority of the cases									
Business aspects	The applied procedures			The extent of written and oral accounting information generated and used					
	Formal		Informal		Written			Oral	
	Application	In Lack	Application	In Lack	Some	Little	Very little	Some	Little
Product costing and pricing	X		X		X			X	
Productivity control	X		X		X			X	
Cash flow control	X		X		X			X	
<p style="text-align: center;"><b>Formal hypotheses</b></p> <p>14. The application of <i>formal and informal</i> procedures for product costing and pricing; productivity and cash flow control is a reason for the generation and use of accounting information.</p> <p>15. Some <i>written and oral</i> accounting information is generated and used in product costing and pricing; productivity and cash flow control.</p>									

The formal hypotheses from table (10-4) to table (10-14) and from table (10-25) and table (10-26) are represented in table (10-27).

Table (10-27): Formal hypotheses from the cross-case analysis
<b><i>H1. The owner manager's level of management and accounting skills influences the generation and use of accounting information.</i></b>
<b><i>H2. The owner manager personal experience influences the generation and use of accounting information.</i></b>
<b><i>H3. The enterprise expansion influences the generation and use of accounting information.</i></b>
<b><i>H4. The size of the business influences the generation and use of accounting information.</i></b>
<b><i>H5. The competition influences the generation and use of accounting information.</i></b>
<b><i>H6. The number of business records and documents influences the generation and use of accounting information.</i></b>
<b><i>H7. The use of internal accountant influences the generation and use of accounting information.</i></b>
<b><i>H8. The owner manager's availability of time influences the generation and use of accounting information.</i></b>
<b><i>H9. The use of some management accounting techniques influences the generation and use of accounting information.</i></b>

Table 10-27 (Continued)

<i>H10. The owner manager and government agencies level of interest in the micro enterprise's financial information influence the generation and use of accounting information.</i>
<i>H11. The application of informal procedures for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions is a reason for the generation and use of accounting information.</i>
<i>H12. Lack of formal procedures for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions is a major barrier to the generation and use of accounting information.</i>
<i>H13. Very little written but a little more oral accounting information is generated and used in financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions.</i>
<i>H14. The application of formal and informal procedures for product costing and pricing; productivity and cash flow control is a reason for the generation and use of accounting information.</i>
<i>H15. Some written and oral accounting information is generated and used in product costing and pricing; productivity and cash flow control.</i>

## 10.4 Summary

This chapter provided an overview of the five case studies in terms of the profile of interviewees and the number of interviews conducted, the enterprise and owner manager's background, and it also explained and described the procedures followed in the development of the formal hypotheses. Fifteen formal hypotheses were identified from the five cases and these formal hypotheses were developed based on the similar substantive hypotheses which were identified in the preceding chapters. The formal hypotheses developed were categorised into two groups. The first was related to the impact of the owner managers', enterprises' and environmental features on the generation and use of accounting information. The second was related to the applied procedures (formal and informal) and the extent of written and oral accounting information generated and used for the business aspects (product costing and pricing, financial, profit and manufacturing planning; productivity, inventory, quality, cash flow and capital expenditure control and make or buy decisions). In this chapter also the supporting evidence and arguments for the development of the 15 formal hypotheses that related to the first group and to the second group were identified and discussed.

The next chapter will explore and investigate the link between the main findings (results) and academic literature (previous accounting research in the micro and small enterprises sector).



# Chapter 11: Discussion

## 11.1 Introduction

From the grounded theory approach fifteen formal hypotheses (See table 11-1) emerged through the coding stages of the data collected from the five case studies and a cross-case analysis. These hypotheses apply to micro manufacturing enterprises in Libya.

Table (11-1): Formal hypotheses from the cross-case analysis
<i>H1. The owner manager's level of management and accounting skills influences the generation and use of accounting information.</i>
<i>H2. The owner manager personal experience influences the generation and use of accounting information.</i>
<i>H3. The enterprise expansion influences the generation and use of accounting information.</i>
<i>H4. The size of the business influences the generation and use of accounting information.</i>
<i>H5. The competition influences the generation and use of accounting information.</i>
<i>H6. The number of business records and documents influences the generation and use of accounting information.</i>
<i>H7. The use of internal accountant influences the generation and use of accounting information.</i>
<i>H8. The owner manager's availability of time influences the generation and use of accounting information.</i>
<i>H9. The use of some management accounting techniques influences the generation and use of accounting information.</i>
<i>H10. The owner manager and government agencies level of interest in the micro enterprise's financial information influence the generation and use of accounting information.</i>
<i>H11. The application of informal procedures for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions is a reason for the generation and use of accounting information.</i>
<i>H12. Lack of formal procedures for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions is a major barrier to the generation and use of accounting information.</i>
<i>H13. Very little written but a little more oral accounting information is generated and used in financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions.</i>

Table 11-1 (Continued)

*H14. The application of formal and informal procedures for product costing and pricing; productivity and cash flow control is a reason for the generation and use of accounting information.*

*H15. Some written and oral accounting information is generated and used in product costing and pricing; productivity and cash flow control.*

The association between the results of the cross case analysis (formal hypotheses) and the literature (Chapter 2) provides some support for the existing knowledge regarding the accounting information in the micro enterprise sector. Lowe (1995, p. 54) stated that, "An examination of the relevant literature follows grounded theory research and is used as a basis of comparison after the research findings have been interpreted." Reading Strauss and Corbin (1998) encouraged the researcher, who had finished his data analysis and was in the process of finishing the writing stage, to compare hypotheses which emerged from the cases with the existing literature mainly to confirm findings (hypotheses). The researcher's findings were also used to clarify any discrepancies between the findings and the literature. Strauss and Corbin (1998, p.51, 52) pointed out that:

*"When an investigator finished his or her data collection and analysis and is in the writing stage, the literature can be used to confirm findings and, just the reverse, findings can be used to illustrate where the literature is incorrect, is overly simplistic or only partially explains phenomena. Bringing the literature into the writing not only demonstrates scholarliness but also allows for extending, validating and refining knowledge in the field. What the researcher should avoid is being insecure about his or her discoveries. Running to the published literature to validate or negate everything that one is finding hinders progress and stifles creativity".*

As the formal hypotheses emerged from the cross case analysis, the researcher began to investigate the literature which has a relationship with the cross case results (formal hypotheses). In the literature review (Chapter 2), the researcher was looking from a broad perspective for the phenomenon without knowing which the key material to focus on. The researcher concerned the small and micro enterprise definitions and characteristics and its role in the economy, the importance and the sources of information, accounting applications and the relationship between information, and accounting and the micro and small enterprise.

Researchers who aim to test a hypothesis employ an extensive literature review in order to generate the hypothesis. Therefore, the theories and suppositions which provide

the momentum and direction of the research are derived from existing ideas and research already undertaken. In grounded theory the purpose of literature review are:

- To obtain an adequate view of the phenomenon under investigation and to go to the site with an open-mind rather than with an empty-mind.
- To inform the reader of the context of the research rather than to develop any theoretical framework for empirical analysis.

Smith and Biley (1997, p. 20) stated:

*“In a grounded theory strategy, the literature review serves two purposes. First, it allows the reader to identify the issue that that researcher found interesting initially. Thus, the reader is able to trace the process, progress and evolution of the research question. Second, a literature review provides a backdrop against which the new findings can be evaluated”.*

After the completion of the cross case analysis, the researcher began to be very selective about the literature which was relevant to the emerging hypotheses. Therefore, some of the material which is included in this chapter and the literature review chapter was collected after the completion of the cross case analysis. The researcher has updated the literature review chapter with the literature which has been included within this chapter. Therefore, the researcher began the literature review chapter with a broad overview of the general literature on the subject. Within this chapter the literature will specifically include the related materials which are associated with the formal hypotheses. Smith and Biley (1997, p. 26) pointed out that in order to ensure the researcher’s bias is kept to a minimum level; “all the theories come from the data itself and are not a result of literature-informed”. They added that the literature review should be brief, ideally and should be conducted only after conclusions have been drawn on completion of the study.

Generally, researchers who adopt the Strauss and Corbin (1990; 1998) grounded theory methodology approach should begin the literature review chapter with a broad overview of the general literature on the subject as a means of enhancing his/her sensitivity. After completing the cross-case analysis and within the conclusion, the literature will be specifically selected to include the relevant literature that is associated with the formal hypotheses (Strauss and Corbin, 1990; 1998).

In the course of identifying the relevant literature studies on accounting in micro enterprises, the researcher decided that the appropriate literature to link the main findings of this research study was the micro enterprise literature and the relevant literature and studies on accounting in small businesses. This is because, firstly, the

subject of accounting information in micro enterprises has received relatively little attention from researchers and there is a dearth of literature on this subject in micro enterprises. Secondly, when small business literature is reviewed the micro business sector is a sub-sector of the small business sector and most of the existing studies of small businesses include micro enterprises in their samples. However, there was a relatively small amount of literature and very few comparable studies on accounting in small enterprises which included micro enterprises in their samples.

The next section will link the main findings of this research study to the academic literature and to the Libyan environment.

## 11.2 Discussion

This section discusses the results. The purpose of this discussion is to link main findings (results) to the academic literature (previous accounting research in the micro enterprises sector) and to the Libyan environment. This section is divided into two sub-sections. Section one discusses the main findings (results), which are related to the first group namely, the impact of the owner managers', enterprises' and environmental features on the generation and use of accounting information. Section two discusses the main findings (results) that are related to the second group namely, the applied procedures (formal and informal and their impact on the generation and use of accounting information) and the extent of written and oral accounting information generated and used for the business aspects (product costing and pricing, financial, profit and manufacturing planning; productivity, inventory, quality, cash flow and capital expenditure control and make or buy decisions).

### 11.2.1 The owner managers, enterprises and environmental features

The links between the main findings, academic literature and the Libyan environment which related to this group (the first group) are presented in the following sections.

#### 11.2.1.1 The owner manager's features

##### 11.2.1.1.1 The owner manager's education level in management and accounting skills

*H1. The owner manager's level of management and accounting skills influences the generation and use of accounting information.*

A study has highlighted that owner managers with a high level of financial skills made increased use of computers to produce financial information and those with limited financial skills placed little value on the financial statements produced by their external accountants (Marriott and Marriott, 1999). Collis *et al* (2001, 2002) stated it might be expected that the sophistication of the information produced by the management accounting system would be correlated with the owner manager's financial skills. A research study has revealed that the conceptual owner manager skills were the most important of all for successful performance. These include skills such as clear and creative thinking, report writing, time management, information gathering and problems analysis and decision-making (Al-madhoun *et al* 2002). A research study has indicated that owner managers tend not to use financial information frequently as they find financial statements are too complex and not easy to understand (Sian *et al*, 2003), and that although the owner manager was aware of the important role of these statements in the business, he was unable to comprehend and utilise the figures. One of the underlying reasons for this was a lack of education in management and accounting skills (Elattar, 2001). Marriott and Marriott (2000) found that a number of owner managers do not use financial information as a result of their limited financial skills. UNCTAD (2000) research also found that many enterprises do not use regular financial records or accounts, either because they are not convinced of their usefulness for decision-making or they lack the business knowledge and skilled accounting personnel. Elattar (2001) added that a lack of education in management and accounting skills would prevent the owner manager from understanding or using some of the available management accounting information that could be useful for planning and control.

The above studies confirm an association between the level of the owner manager's management and accounting skills and the generation and use of accounting information, which in turn confirms the research findings regarding this point. The research found that the lack of the owner manager's education in management and accounting skills prevented him from using all the useful information provided by the internal accountant to achieve improved planning and control levels. In addition, it was a barrier to developing formal long and short-term plans and the use of some management accounting techniques. Also, the research found that owner manager with an awareness of management and accounting skills was able to understand and use information for planning and controlling business activities. The lack of Libyan owner manager's education in management and accounting skills were attributed to the following reasons:

- Some of the owner managers had school, vocational and university education and most of them did not have a management and accounting background.
- The owner managers were extremely busy in running their businesses and they had very little time to improve their management and accounting skills.
- The owner manager's low level of awareness of the importance of management and accounting skills.
- No availability of management and accounting training programmes and courses for micro enterprise's owner managers which could contribute to develop their skills.

#### **11.2.1.1.2 The owner manager's personal experience**

##### ***H2. The owner manager personal experience influences the generation and use of accounting information.***

Greenbank (2000) stated that owner managers often work at both the management and operational level. They are therefore in a position to acquire information through personal experience. He added that owner managers also derive information from their past and present social environments and these different sources of information can combine to form the basis of a more intuitive style of decision making. Elattar (1999) found that eighty-one percent of owner managers between the ages of twenty and sixty years had managed their business for in excess of three years. He also stated that seventy-six per cent of owner managers aged between forty and sixty had managed their business for more than 10 years. Also relevant to this was Elattar's (2001) finding that owner managers generate and use management accounting information based on personal experience for planning and controlling the business and tend to use personal memory as an important source of management accounting information. Greenbank (1999, p. 66) stated that, "Micro enterprise owner managers are very close to their business. They can therefore use their experience to determine the costing techniques most appropriate and relevant needs".

The above studies confirm the research findings concerning the owner managers' generation and use of some accounting information based on personal experience. The researcher found that based on their personal experience and estimates, the owner managers tended to provide relevant data which was then used compute the estimate a product's and total cost pricing. Also, based on personal experience, the owner manager determined the inventory levels, production capacity, information used in short-term

planning, marketing, production and capital expenditure decisions. The decisions for allowing discounts were primarily made based on the owner manager's personal experience.

The O/M's personal experience was important in the generation and use of accounting information for planning and controlling the business aspects. This was attributed to the following reasons:

- Most of the owner managers have been managing and working for their current businesses for between seven and twenty years, which enabled them to learn from previous practice situations.
- Because of a lack of Libyan owner manager's educational level in management and accounting skills.

#### **11.2.1.1.3 The owner manager's available time**

##### ***H8. The owner manager's availability of time influences the generation and use of accounting information.***

O'Dwyer and Ryan (1999 & 2000) found that owner managers could not afford to spend time away from their enterprises. Owner managers tended not to view themselves as managers in the professional sense, and many of them appeared to be extremely busy in running their businesses. Owner managers had very little time assess which direction the business was heading. Edmunds (2000) stated that owner managers in smaller enterprises have less time to search for planning data. Also, Brown (1994) stated that the small firm owner manager has little time to think strategically about the business. Poutziouris *et al* (1999) found that general managerial problems relate to a diverse range of factors, including for example, poor time management.

The above studies confirm an association between a lack of time management and a lack of generation and use of accounting information, which confirms the research findings regarding this point. The researcher found that the owner managers had a lack of time management and this lack was due to the following reasons:

- The frequent Libyan social and family occasions such as family and clan meetings, holy days, domestic holidays, weddings (which can take up to seven days), funerals (which can take up to three days).
- The frequent and unexpected visits by family members, relatives and friends during the working hours.
- In spite of the Libyan regulations preventing the duality of jobs, some of the owner managers were engaged with other jobs every morning or afternoon as they worked as employees in public and private companies.

- The owner manager's responsibility for most of the business activities including the delivery of finished products, collection of debts, purchase of raw materials, supervision of the production processes and in some cases the recording of business transactions and other activities.
- The none availability of data about the manufactures activities, competitors, markets and the shortages in raw materials have forced some of the owner managers to spent a large amount of time every day outside the enterprise in order to monitor the raw materials offers and prices, the competitor's activities and prices, customer satisfaction and to seek new customers.

### 11.2.1.2 The enterprises features

#### 11.2.1.2.1 The business expansion

##### *H3. The enterprise expansion influences the generation and use of accounting information.*

Perren *et al* (1999) discovered that as the business grew and the number of transactions increased, the owner manager's day-to-day operational involvement diminishes and this led to more formal systems being developed. Storey's (1994) study highlighted that expanding firms were much more likely to provide accounting information via their accountants than firms which were in decline. Sixty-nine percent of fast growing firms had sought taxation and financial information services and advice. Sian *et al* (2003) noted that whilst these studies do not suggest that access to reliable accounting information is a cause of small firm growth, they do suggest that rapidly growing small firms are more likely to seek out and use such information.

All the above studies confirm the research finding that as an enterprise expands, the generation and use of accounting information increases. The research found that the enterprise expansion was a major reason for the generation and use of accounting information for planning and controlling business activities.

In spite of the fact that most enterprises have been in business for between seven and twenty years, they did not grow in size and remained micro enterprises with some minor changes and expansions in their activities. During their business life, most of the tools, equipment and some machines were acquired second hand and were based on the business needs. The possible explanations for this none growth phenomenon among the Libyan micro enterprises sector are:

- The Libyan economy has suffered from different sanctions, which were imposed against Libya by the US and the UN and these



sanctions influenced many aspects of Libyan people's lives. The growth of the Libyan economy had deteriorated, the number of foreign investments had dramatically decreased and the ability to obtain new manufacturing technologies, raw material, spare parts and importing modern facilities had been restricted.

- The Libyan owner managers rely significantly on finance from friends and family savings rather than banks to develop their micro enterprises as a result of:
  1. The Islamic belief by some of the owner managers regarding the prohibition of loans with interest.
  2. The bank's difficult loan procedures and the required guarantees.
  3. The banks loan repayment risk.
  4. The advantages of family savings and friend's loans as they are easy to obtain and have free interest with long-term credit.
- Some enterprises established their business without preparing professional feasibility studies.
- Some enterprises did not have start up business plans, future growth plans or general formal businesses plans and clear objectives.
- The absence of government agencies supportive role to the micro enterprises sector.
- Absence of privileges and exemptions to the micro enterprises sector which could contribute to their development.
- High competition.

#### **11.2.1.2.2 Size of the business**

##### ***H4. The size of the business influences the generation and use of accounting information.***

Perren *et al* (1999) found that sophistication of an accounting system is correlated with the size of the enterprise. Perren *et al* (2000) found that very small businesses are conventionally referred to as formal systems and that as the business expands, so the systems become more formalized. Pugh *et al* (1969, cited in Perren, 2000) suggested that the size and the age of an organization were key variables in the level of formalization of its systems. Elattar (2001) found that the small size of a business in terms of the number of employees and financial transactions was a barrier to the use of a well-arranged accounting function in the business. Accordingly, the generation and use of management accounting information was limited to data relating to a limited range of financial transactions. Sian *et al* (2003) found that there is a high correlation between

the enterprises sizes and accounting systems and cash statements. Berry *et al* (2002) found that as enterprises expand and become more complex, their requirement for information increases and the information processing becomes necessary in order to manage the business effectively. He added that while the use of accounting information increases with the age and size of the business, it might be suggested that, in fact, accounting information becomes necessary as age and size increases.

However, many studies suggest that large firms use greater range of management accounting techniques than small ones (see for example, Szendi *et al*, 1996; Hoque and James, 2000; Szychta, 2002)

The above studies confirm the research finding that the small size of a business affected the generation and use of accounting information. The researcher found that the small size of a business is a barrier to the generation and use of accounting information and this is a result of:

- The amount of information and financial and business transactions were very small.
- The Libyan owner managers were unfamiliar and unaware of the importance of accounting information as a result of their lack in management educational and accounting skills.
- None existence of laws, regulations and legislation which require and request the micro enterprises to prepare income statements, balance sheets and budgets (the medium and large enterprises were obligated by law and regulations to prepare the income statements, balance sheets and budgets to determine the V.A.T, to obtain loans or to obtain foreign currency amounts at special prices to import raw materials and spare parts).

#### **11.2.1.2.3 Business records and documents**

##### ***H6. The number of business records and documents influences the generation and use of accounting information.***

Nayak and Greenfield (1994) found that the more successful the micro enterprise the more likely it was to have more formalised and extensive business records. Such micro enterprises did this in order to obtain a regular supply of accounting information to assist future decision-making. A smaller number of micro manufacturing enterprises considered it necessary to retain detailed business records rather than basic records. Additional records tended to be kept as micro enterprises became more complex. Also, enterprises performing well were more likely to keep an increased amount of records and to understand more about their business. Those micro enterprises with a lower level

of performance tended not to keep debtor records. Ninety-one per cent had a cashbook, 33 per cent had production schedules or stock records, 66 per cent had order books and 80 per cent had a nominal ledger which included information beyond creditor records. Sian *et al* (2003) found that the most common source of materials for the preparation of financial statements were invoices and receipts followed by full-computerised records, cashbooks and daybooks written up by hand. Nayak and Greenfield (1996) found that micro enterprises using computer were more likely to have complete records of cashbook, debtors, creditors and nominal ledgers than enterprises with hand written records. Micro enterprise computer users were also more likely to have a greater knowledge of debtor and creditor payment periods. Marriott and Marriott (1999) found that whilst many micro enterprises were using computers to produce management accounts, the figures produced were often erroneous and incomplete. Sian *et al* (2003) found that many small enterprises have computerised (or partly computerised) systems of record keeping which allows the generation of regular internal financial information. Elattar (2001) found that the use of some business records and documents allowed the recording of the details regarding business financial transactions. They also enabled the internal accountant and owner manager to generate a large amount of management accounting information regarding the inventories of raw materials and finished products and of cash flow. The information pertaining to cash flow included the balances of customers and suppliers, expenses, withdrawals, bank balances and cash available to the business. They also allowed generation and use of a limited amount of management accounting information concerning other aspects of the business. Elattar (1999) also found that the majority of respondent enterprises used books to record their business transactions, whereas smaller numbers used temporary papers, invoices, computers, time sheets, or note pads. The majority of respondent enterprises specified that these books were classified into cash, creditors and debtors, sales and purchases books. Eighty-one per cent of respondent enterprises recorded credit sales, eighty per cent recorded collection of debts, seventy-two per cent recorded payments of credits and seventy-four per cent recorded credit purchases. It was discovered that thirty per cent of the respondent enterprises operated on a cash basis and therefore did not have creditors or debtors. Fifty-eight per cent of the respondent enterprises recorded cash purchases whereas, fifty-six per cent recorded cash sales. His analysis also indicated that seventy-three per cent of owner managers of the respondent enterprises did not record the amount of money they withdrawn from the business for personal use, and therefore only twenty-seven per cent recorded these figures. Fifty-five per cent of the respondent

enterprises did not record the quantity of raw materials used in production, whereas sixty-two per cent recorded the payment of expenses (direct and indirect). Although twenty-three per cent of the enterprises had no employees, forty-two per cent recorded the payment of wages and salaries. Additionally, fifty-two per cent did not record the employees' daily working hours. Sian *et al* (2003) found that owner managers in the UK already maintain accounting records, with many using computerized packages or spreadsheets.

All the above studies confirm the research finding that the business records and documents are a major factor affecting the generation and use of accounting information. The researcher found that different number and types of business books, records and documents were used among the Libyan micro-manufacturing enterprises. The possible explanation is that due to the absence of regulations and legislation which would require and request the micro enterprises to prepare, use and keep specific business books, records and documents and due to the absence of a Uniform Accounting Guide which would provide a layout of some records and books, the Libyan micro manufacturing enterprise's business records and books were varied from enterprise to enterprise due to differences in accountant's and owner manager's educational and professional backgrounds and skills.

#### **11.2.1.2.4 The use of an internal accountant**

##### ***H7. The use of internal accountant influences the generation and use of accounting information.***

Elattar (1999) found that using internal accountants was the most common method of generating information. In addition, Elattar (2001) found that the use of an internal accountant to be responsible for the accounting function in the enterprise resulted in a provision of more information which was useful for maintaining better planning and control. Thus, the existence of an internal accountant in the enterprise resulted in records being well organised, all data being recorded and useful information for planning and control generated. Marriott and Marriott (2000) found that accountants have a role to play in increasing the financial awareness of the owner managers and in providing management accounting services to meet their needs and abilities. A study by Sian *et al* (2003) indicates that accountants provide many services to enterprises such as bank reconciliation, periodic management accounts and cash budgets and forecasts. Also, they found that most owner managers rely upon their accountants to provide financial services and often to prepare their financial statements. Deakins *et al*'s (2001)

study indicates that an important task for accountants is to act as a consultant to the owner manager and this involves supplying advice on internal planning, decision-making and control. Gooderham *et al* (2004) stated that in many countries, smaller business accountants play an important role as business advisers in addition to providing accounting services. Mitchell and Reid (2000) stated that there are significant barriers to information use in micro enterprises with no internal accountant. John and Healeas (2000) found that few owner managers are able to understand the contents of statutory accounts and they tend to rely upon their accountants to explain the details to them. Collis and Jarvis (2002) found that smaller enterprises used a qualified accountant to prepare financial information.

All the above studies confirm the research finding that an internal accountant is a major reason for the generation and use of accounting information for planning and controlling business activities. The researcher found that the use of an internal accountant influenced the generation and use of accounting information for planning and controlling micro-manufacturing enterprise activities. The internal accountants play a big part as the enterprise's information providers. They generated several types of information on a daily, weekly, monthly and yearly basis. To some extent the quality of management's decisions is a reflection of the quality of the internal accountants information provided. Therefore, information provided by internal accountants has a direct impact on the O/Ms decisions.

These information included quantities and amounts of purchases, sales, returned products, element costs and expenses, revenues, profits, inventory levels, raw materials used, waste, debtors and bank balances, suppliers and customers' balances and wages. Also, they recorded the financial transactions and created new business books, records and documents.

Also, the researcher found that the information provided by the accountants and the structure of accountant's reports, business books, records and documents were varied from enterprise to enterprise as a result of:

- The absence of Libyan accounting standards and principles (Bait El-Mal *et al*, 1988).
- The differences in the Libyan accountant's educational and professional backgrounds and skills (Saleh, 2001).
- The weakness of the Libyan accounting profession (Saleh, 2001).

#### 11.2.1.2.5 The use of management accounting techniques

*H9. The use of some management accounting techniques influences the generation and use of accounting information.*

Elattar (2001) found that the implementation of 'break-even point', 'reorder point' and 'inventory level determination' influenced the need for generating and using the related management accounting information. This information included the production size, total costs of production, selling prices, the profit margin required, lead period, average units which a standard quantity of raw materials would produce and quantities of raw materials used in the manufacturing processes on a daily basis.

The previous study confirmed an association between the use of some management accounting techniques and the generation and use of accounting information, which confirms the research findings regarding this point. This study found that some management accounting techniques namely break-even analysis, and inventory level and reorder point determination were used in cases 1, 2, 3, and 5. It also indicated that this use was a major reason for the generation and use of accounting information for planning and controlling the business activities in these four cases. The owner manager was influenced to generate and use written, oral and even estimated management accounting information for the use of some management accounting techniques. The main reason for the break-even technique implementation in cases 1, 2, 3, and 5 was to produce and sell more products than the break-even point in each month in order to face the high level of competition and make reasonable net profits. Several actions were taken to increase the sales when the enterprise reached its estimated break-even point such as:

- Reducing the unit- selling prices.
- Distributing the products in other regions with low prices.

In cases 1, 2 and 3, the internal accountants were the main reason for computing and using the estimated break-even point, whereas in case 4, the break-even technique was used in its simplest form by the O/M without being fully aware of this action.

With regard to the finished products and raw materials inventory, there were specific minimum and maximum levels kept in the inventory in cases 1, 2 and 3. Due to the shortage or unavailability of the raw materials at all times and due the high level of competition, these levels were determined based on the O/M's personal experiences.

### 11.2.1.3 The environmental features

#### 11.2.1.3.1 Competition

##### *H5. The competition influences the generation and use of accounting information.*

It has been reported in the accounting literature that as market dynamics and competition increase, the use of accounting information increases (Chapman, 1997; Mia and Clarke, 1999). It was argued that the level of sophistication of the accounting and control system is influenced by the intensity of the competition (Otley, 1980) and managers may require additional information to cope with the complexities of high market competition. Porter and Millar (1985) reported that one of the most important elements in competitive advantage is information. Bennett and Smith (2002) suggested that smaller firms generally achieve competitive advantage through their reduced costs and superior design. Elattar (2001) found that competition was important reason for the generation and use of management account information, because it encouraged the owner manager to undertake actions in order to reduce the product-selling price and implement a more flexible selling policy to increase sales. Such actions influenced the need for the generation and use of more management account information concerning the cost of products and working capital.

The previous studies confirm an association between competition and the generation and use of accounting information, which confirms the research findings regarding this point. In addition, the researcher found that increasing competition highlighted the importance of planning and controlling of the business activities in order to produce high quality products with competitive prices. As a result, the need for generating and using accounting information became necessary.

Libyan micro manufacturing enterprises faced a high level of competition (local and foreign). The reasons which cause this level of competition among Libyan micro manufacturing enterprises are:

- The absence of product's quality standards encouraged some of the manufacturing enterprises to use a low quality of raw materials to produce cheap products in order take competition advantage in terms of prices.
- No existence of protection procedures to the domestic products as the Libyan borders was opened to foreign (Egypt and Tunisia) products without any conditions (custom tariffs, quality standards, health check procedures).

- No existence of a specific agency or centre to support, supervise and control the micro manufacturing enterprises activities
- The shortage and high cost of the raw materials and spare parts as a result of the different sanctions imposed against Libya by the US and the UN.

#### **11.2.1.3.2 The owner manager and government agencies interest level in the financial information.**

***H10. The owner manager and government agencies level of interest in the micro enterprise's financial information influence the generation and use of accounting information.***

Jacobs and Kemp (2002) stated that accounting practices were a response to demands from governmental institutions. Boden (1999) stated that government institutions play an important role in the promotion of accounting practices. He added that in absence of the institutional influence where appears to be an absence of accounting. In his study Boden found that in UK organisations and agencies, self-employed individuals were required to produce financial information for organisations such as the Department of Social Security and banks, and that it may be in an individual's best interest to prepare and present this financial information. He added that in western society, key institutions (particularly institutions of the state) provide both a basis and motive for financial accounting and reporting. Jacobs *et al* (2002 p. 148) stated, "The existence of direct taxes could provide a motivation for not having extensive written accounting records that would provide the basis for a tax assessment". He added that "There was little direct interest from state agencies in the accounting practices of smaller enterprises and therefore the lack of such institutional demand can be seen to be an important contributing factor to a relative absence of accounting" (p.157). Collis and Jarvis (2000) stated that many enterprises generate and produce accounting information for the purpose of tax assessment or for raising loan finance. They found that the annual accounts of small enterprises are commonly used to compare company performance with previous periods and for purposes associated with loans and financing.

On the other hand, Sian *et al* (2003) found that the most common use of financial statements was to compare income and costs with periods in the past, rather than use financial statements for planning and decision-making. In support of this view, UNCTAD's (2000) research found that many enterprises do not keep regular financial records or accounts because owner managers are not convinced of their usefulness for decision-making and control. A research has revealed that statutory accounts were not



useful for owner managers (Collis and Jarvis, 2000), and that most owner managers do not find their financial statements particularly useful as a source of information (Page, 1984). Collis and Jarvis (2002) found that small enterprises found periodic management accounts and cash flow information internally generated and bank statements more useful than the annual financial statements. In support of this, John and Healeas (2000) assert that statutory accounts are of no use to owner managers of small businesses for decision making purposes and that they prefer to use management accounts and cash flows. A study by Sian *et al* (2003) has shown that the most important sources of information are bank reconciliation statement and annual reports and they suggest that a typical set of financial statements may be of limited use to many if not most owner managers. In contrast, Berry *et al* (1987) noted that although alternative forms of financial information have been found to be of greater use to smaller enterprise owner managers, it is unlikely that statutory account of some form could be replaced completely by alternatives such as management accounts.

Most accounting regulatory regimes recognise differences between larger and smaller enterprises. Financial reporting requirement can impose a significant burden upon smaller enterprises in particular (Keasey and Short, 1990). A study has revealed that many countries exempt smaller enterprises from statutory accounts and subject them to different reporting requirements and small enterprises throughout Europe have the option of filing abbreviated reports with reduced levels of disclosure. There was a high level of doubt regarding the usefulness of a balance sheet for micro enterprises (Sian *et al*, 2003). In addition, the same study added that in the UK smaller enterprises are governed by the FRSSE (Financial Reporting Standard for Smaller Enterprises), which is a simpler and less onerous set of reporting rules. The 'ad hoc' consultative group<sup>16</sup> recommends that micro enterprises should follow a simple accruals system which would be consistent but not fully compliant with International Accounting Standards (IAS). With this system, sample financial statements are intended to encourage managers to think analytically about their business. Their objective is therefore not simply regulatory in the traditional sense, but to help develop the business by providing useful information for management, fiscal and other national authorities and other interested parties (UNCTAD, 2003). They follow a simple accruals accounting approach broadly consistent with International Accounting Standards (IAS),

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<sup>16</sup> Ad hoc consultative group consisting of 23 experts from a wide cross-section of countries and of organizations such as the International Accounting Standards Board, the International Federation of Accountants, the World Bank, the Asian Development Bank and the European Commission, as well as various professional accounting associations, government standard setters, academics, practitioners and others, was formed.

although not necessarily aimed at users other than management, tax officials, creditors and investors.

All the above studies confirm the research finding concerning the owner manager and the government agencies level of interest in a micro enterprise's financial information is a major factor affecting the generation and use of accounting information. The research found that as a result of the Libyan government agencies and the financial institutions were not interested in and did not request the financial statements and due to the owner manager's unfamiliarity and unawareness of the importance of these statements, these statements were not prepared in the enterprises. The reasons which cause this lack of interest are:

- The none existence of law, regulations and legislation which require and request the micro enterprises to prepare income statements, balance sheets and budgets (the medium and large enterprises were obligated by law and regulations to prepare income statements, balance sheets and budgets to determine the V.A.T, or to obtain loans and foreign currency amounts at special prices to import raw materials and spare parts).
- The financial transactions were very small and limited, which does not encourage the owner managers and the internal accountants to maintain any formal books and reports of accounts.
- The lack of the owner manager's educational level in management and accounting skills.

## 11.2.2 The applied procedures

The links between the main findings (results) and the academic literature which relates to this group (the second group) are presented in the following paragraphs.

### 11.2.2.1 Formal and informal procedures and the accounting information

#### 11.2.2.1.1 Informal procedures for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions.

*H11. The application of informal procedures for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions is a reason for the generation and use of accounting information.*

It has been observed that formal strategic planning is a typical and relevant issue in large firms, as opposite to smaller ones (Bianchi and Bivona, 1999). In fact, a small or micro enterprise is more concerned with the day-to-day operational problems of managing the company and has neither the time nor staff to invest in strategic planning.

A study has highlighted that small enterprises place more emphasis on day-to-day, short-term business activities and they engage in intuitive informal and unstructured forms of business planning (Temtime *et al* 2003), and that the planning and control systems in small enterprises tend to be non-existent or informal, irregular and incomprehensive (Martine and Staines, 1994). Perren *et al* (1999) found that owner managers employed informal procedures of information acquisition and control in the early years of managing their micro enterprises. However, the information and control was found not to be poor, but usually appropriate for a business of that size. A study has shown that a micro business owner manager generally felt there was no need to produce and use formal business plans, and this was because he or she may not have the necessary skills, ability or time to adopt formal plans (Greenbank, 2000). Also the same study has found that informal methods of information collection are more appropriate and rational for micro enterprises. Indeed, Greenbank (2000) found that very few owner managers actively sought information in a formalised way. Furthermore, the general findings of the study by Nayak and Greenfield (1994) indicated that most owner managers were aware of the activities within their enterprise through information which tended not to be formal.

However, the general findings of the study by Nayak and Greenfield (1994) found that newer and smaller enterprises used a necessity criterion for capital expenditure and were concerned about funding capital expenditure from the money available in the enterprise or the owner manager's personal savings. Older and larger enterprises were more likely to use an efficiency criterion for capital expenditure, but less likely to support it with formal calculations. In support of this view, Elattar (1999) found that the necessity of a capital item in the manufacturing process was more likely than other accounting related analytical methods (Net Present Value (NPV), simple Payback Period (PBP), and simple rate of return (IRR)) used in micro enterprises capital expenditure decisions. Also, Elattar (1999) found that that approximately half of the respondent owner managers did not use a make or buy product component decision in all situations, whereas ten per cent considered it not applicable. The results also indicated that a full manufacturing costing method was more likely to be used than other methods in the comparison between the cost of manufacturing and the cost of purchasing the product or product components. In addition, Elattar (1999) found that a small majority, sixty-one per cent, of respondent owner managers indicated they used inventory control and used accounting information for this purpose. However, thirty-nine per cent of the respondent owner managers indicated they did not use inventory control. Elattar (1999) also stated

that accounting information was not widely used in the quality control decision area. Eighty-two per cent and twelve per cent of owner manager's indicated that the recording of customers' complaints was very important and important (respectively) to them for quality control practices. Sixty-six per cent indicated the inspection process was important and sixty per cent of considered the recording of scrapped materials and products of above average importance, whereas thirty-eight per cent regarded it as very important.

All the above studies confirm the research finding concerning that the application of informal procedures for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions is a reason for the generation and use of accounting information. The researcher found that at least three out of the five cases had a lack of formal procedures for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decision, whereas all five cases applied the informal procedures.

#### **11.2.2.1.2 Lack of formal procedures for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions.**

*H12. Lack of formal procedures for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions is a major barrier to the generation and use of accounting information.*

Herter (1995) agreed that every business, regardless of size, needs comprehensive plan of business. Bianchi and Bivona (1999) stated many studies found that small firms who are engaged in formal business plans perform better than others who are not. O'Dwyer and Ryan (2000) found fifty-four per cent of micro enterprises had a business plan at the business start-up, and fifty-two per cent were adhering to their business plans. Elattar (1999) stated that the recommended method to plan business activities is through the use of budgets and he found that sixty-seven per cent used budgeting for planning business activities. Although monthly budgets were more common than either yearly or quarterly, weekly budgets were not reported at by any respondent.

A low majority, sixty per cent, of respondent owner managers considered budgeting important to plan their business activities. However, no information was revealed to explain why a relatively large number, thirty-four percent regarded budgeting as not important. Fifty-two per cent had a comprehensive budget approach and they prepared eight types of budget (Sales, Production, Raw material used, Raw materials purchases,

Direct labour, Indirect manufacturing costs, Cash, and Capital budget). In fact, fifty-four per cent of respondent owner manager's used capital budgets. Budgets of raw materials used in production as well as raw materials purchased were more prevalent than budgets concerned with direct labour costs or other cost elements. These results could indicate that raw material issues received more attention from respondent owner manager's than other product cost elements.

The budgeting of full overhead costs was the least used by respondent owner managers. Sixty-three per cent were more likely to use a cash budget than other budgets including, operational budgets. This was an indication that the majority of them were able to expect their cash receipts and disbursements. The majority of respondent owner managers compared their budgets with the actual figures recorded, whereas only an average of three per cent did not do so. The budgets were prepared by the owner managers themselves using their own methods. Very small number of owner managers received help in the preparation of budgets from other sources. Nayak and Greenfield (1994) found that only thirty-four per cent of enterprises used budgeting and compared budgets with actual performance and approximately seventy-five per cent used a formalised weekly appraisal. They suggested that advice on how the owner managers of micro enterprises could conduct basic market research was necessary. Also, Elattar (1999) found that thirty-nine per cent of the owner managers indicated they did not use inventory control as they bought their raw materials based upon manufacturing needs. Furthermore, Elattar (1999) stated that the most generally utilised analytical methods in capital expenditure decision areas are the Net Present Value (NPV), simple Payback Period (PBP), and simple rate of return (IRR). It was considered likely that owner manager micro-manufacturing enterprises in this survey might not use these analytical methods and would not understand commonly used academic expressions.

All the above studies confirm an association between the existence of these procedures (financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decision) and the generation and use of accounting information, which confirms the research findings regarding this point. The researcher found that at least three out of the five cases had a lack of formal procedures, whereas all five cases applied the informal procedures. The research found that the lack of these formal procedures was a barrier to the generation and use of related accounting information.

The main reasons which prevent some of the Libyan micro manufacturing enterprises from adopting formal procedures and which caused the application of

informal procedures for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decision are:

- The influence of family, social and personal relationships between the O/M and the employees.
- Some enterprises did not have start up business and future growth plans and clear objectives.
- The existing of a high level of trust between the owner manager's and the employees.
- The lack of the Libyan owner manager's educational level in management and accounting skills.
- The owner manager's lack of time.
- The high cost of adopting formal procedures
- The micro manufacturing enterprise's limited operations.

#### **11.2.2.1.3 Formal and informal procedures for product costing and pricing; productivity and cash flow control.**

*H14. The application of formal and informal procedures for product costing and pricing, productivity and cash flow control is a reason for the generation and use of accounting information.*

Perren *et al* (1999) found that cash flow management was important to the owner managers of micro enterprises. The nature and importance of controlling cash flow through the receipt, recording and reviewing of information was liable to be fairly consistent as micro enterprises developed. Collis and Jarvis (2002) stated that small enterprises found periodic management accounts, cash flow information generated internally and bank statements more useful than annual financial statements. John and Healeas (2000) stated that owner managers prefer to use management accounts and cash flows for decision-making purposes rather than statutory accounts. Sian *et al* (2003) found that the most important sources of information are bank reconciliation statements and annual reports. Also, Nayak and Greenfield (1994) found that the older and larger micro enterprises were more likely to have formalised their withdrawals to take a regular amount each week. They suggested that advice was necessary on producing debtor records and following debts. Elattar (1999) stated that formal methods used to monitor cash flow were records of cash and bank transactions, creditor records and debtor records. Some experts from developing country believed that micro-enterprises are an economic reality and therefore constitute a distinct category of small and medium

enterprises. Most of their transactions are cash-based and limited amounts. Additionally, the amounts of fixed assets are insignificant and therefore they stressed the importance of encouraging the smallest enterprises to move into the formal sector by allowing them to use cash accounting on a temporary basis (UNCTAD, 2003).

Elattar (1999) found that eighty per cent of respondent owner managers who had accounts with banks considered the reconciliation of their bank balances important to control their cash flow. Also, eighty-three per cent regarded information concerning accurate creditor balances as important to control business cash flow. Only eighty-two per cent had creditors and considered the credit payment period important to control business cash flow. Elattar's (1999) results also indicated that seventy-three per cent used their creditor records to check the credit period allowed by suppliers and eighty-five per cent of respondent owner managers regarded the information concerning accurate debtor balances as important to control business cash flow. This percentage was greater than the average eighty-one per cent of owner managers who said they recorded details of their debtors. Approximately eighty-one per cent of the respondent owner managers knew the amount of time it took their debtors to pay and they kept debtor records so they could use the information to remind debtors to pay.

Elattar (1999) noted that results on creditors and debtors indicated that very small numbers of owner managers knew the details of their creditors and debtors from sources other than formal records. This is perhaps logical since owner managers may know details about their business debtors and balances from memory.

With regard to the productivity procedures Elattar (1999) discovered that recording of hours worked by employees was not considered important for monitoring productivity by fifty-one per cent of respondent owner managers. Sixty-four per cent regarded the measurement of labour efficiency important for controlling productivity and about forty-six per cent considered the recording of production wastage important for controlling productivity. In addition, fifty-two per cent of the respondent owner managers regarded the practice of comparing actual output with the estimated figures important for controlling productivity and approximately forty-eight per cent considered the recording the hours machines were idle important for productivity control.

With regard to the product costing and pricing, Nayak and Greenfield (1994) found that the vast majority of micro enterprises were not prepared to reduce prices in order to obtain increased business. Each enterprise had at least one method of product costing and pricing, however, owner managers were unsure whether the price they were charging was correct, as they were unsure of the effects on demand of a change in price.

Elattar (1999) found that fifty-one per cent of owner managers were much more likely to use full cost than any other pricing methods, whereas only four per cent used the hourly rate method. Twenty-two per cent used market price method, whereas, only two per cent used their own experience to price products. Approximately fourteen per cent of owner managers were most likely to use a market-based or a cost-based method. Greenbank (1996, 1999) stated that micro enterprise owner managers made their pricing decisions in an unpredictable way and they were influenced by a complex inter-related combination of factors related to individual, social and economic contexts. The individual context included the behavior, abilities, perceptions and beliefs which were inherited and learned. The social context included the influence of the current and past social experience of owner managers and the economic context included the financial situation faced by the owner manager both in terms of their own needs and the factors determining the cost and revenue implications of operating their micro enterprises.

The previous studies produced conflicting evidence regarding the existence of these procedures and the generation and use of accounting information. A number of the studies confirm the research findings whereas other had contradictory results.

The researcher found that three out of the five cases applied formal procedures, whereas all five cases applied informal procedures for product costing and pricing, productivity and cash flow control. The research found that the application of these formal procedures (product costing and pricing; productivity and cash flow control) was a reason for the generation and use of accounting information.

The main reasons which encouraged the Libyan micro manufacturing enterprises to adopt formal and informal procedures for product costing and pricing; productivity and cash flow control are:

- The existing of internal accountants in these enterprises with the owner manager's high level of awareness of the importance of the enterprise's cash flow control and product costing and pricing.
- The high level of competition, shortage and high cost of the raw materials and spare parts have forced the owner managers to adopt formal procedures to:
  1. Manage and control their employees in order to achieve high productivity level.
  2. Monitor all the manufacturing processes.
  3. Monitor and minimise the waste and defects to their lower levels.
  4. Maintain, repair and test the machines.



### **11.2.2.2 The extent written or oral accounting information is generated and used**

#### **11.2.2.2.1 Financial, profit and manufacturing planning, quality, inventory and capital expenditure control and make or buy decisions.**

*H13. Very little written but a little more oral accounting information is generated and used in financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions.*

Nayak and Greenfield (1994) found that thirty-three per cent of owner managers regularly used information regarding profits and forty-nine per cent utilised information about sales or orders to monitor their business performance. Micro manufacturing enterprises, which have the greatest lead-time between sales and profits, were more likely to use sales information rather than profit information to measure performance (Nayak and Greenfield, 1994). Nayak and Greenfield suggested that advice to micro manufacturing enterprises on weekly profit calculations was necessary to assist with their business monitoring. Furthermore, the general findings of the study by Nayak and Greenfield (1994) indicated that much of the day-to-day accounting information required by an owner manager of a micro enterprise was greater than that which was written down. Also, most owner managers were aware of the activities of their enterprises through information which tended not to be formal. Elattar (1999, p. 661) stated “In order to manage their business in an effective manner, the owner managers of micro manufacturing enterprises need to be aware of the business activities on a day-to-day basis. Such practice would enable them to change or modify strategy or anticipate relevant actions to keep the business on course”. Elattar (1999) found that the majority (more than sixty per cent) of the respondent enterprises generated information regarding the cost of sales, the cost elements of the products, cash in and outflow, and profits and losses of the business. The information concerning the cost of sales and the cost elements of the product were more likely to be generated orally than other forms of information. The safety (reserve) level calculation was carried out by a larger percentage (twenty-nine per cent) than other calculations. The calculations for reorder point and the inventory turnover ratio were made by approximately sixteen per cent of the owner managers.

The previous studies produced conflicting evidence regarding the extent written or oral accounting information in financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions. A number of the studies confirmed the research findings whereas other had contradictory results. The

research findings support the first group, which suggested very little written but a little more oral accounting information is generated and used in financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions. The extent written or oral (very little written but a little more oral) accounting information in Libyan micro manufacturing enterprises was as a result of the application of informal procedures for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions.

#### **11.2.2.2.2 Product costing and pricing, productivity and cash flow control.**

*H15. Some written and oral accounting information is generated and used in product costing and pricing; productivity and cash flow control.*

Nayak and Greenfield (1994) found that nearly ninety-seven per cent of the owner managers of micro enterprises used information obtained from their bank balance. Elattar (1999) discovered that approximately eighty per cent of respondent owner managers who had accounts with banks considered the reconciliation of their bank balances important for them to control their cash flow. Seventy-two per cent who considered the information about the accurate creditor and debtor balances as important to control business cash flow, kept creditor records but did not keep debtor records,

With regard to productivity procedures Elattar (1999) found that only thirty-nine per cent of owner managers considered the importance of recording hours worked for productivity control. In Elattar study, only thirteen per cent of those owner managers who did not record worked hours believe that recording was important for productivity control. He added that this might be because some respondent owner managers used their memory to store the information regarding hours worked rather than formal records. Elattar's results indicated that only forty-eight per cent considered the recording of idle machine hours of above average importance for productivity control.

With regard to the product costing and pricing Elattar (1999) stated that most respondent owner managers had a thorough understanding of the necessity to decrease product cost. A large majority, eighty-two per cent of owner managers used accounting information to determine firstly, the products the market would buy, secondly, at what price, thirdly, how much profit was produced by each product and fourthly, whether some products were more profitable than the others in terms of the percentage of the business capacity used to produce or provide them compared with how much money these products produced for the business.

The previous studies produced conflicting evidence regarding the extent written or oral accounting information in product costing and pricing; productivity and cash flow control. A number of the studies confirmed the research findings whereas other had contradictory results. The research findings support the first group, which suggested some little written and oral accounting information is generated and used in product costing and pricing; productivity and cash flow control. The extent written or oral (some little written and oral) accounting information in Libyan micro manufacturing enterprises was as a result of the application of formal and informal procedures for product costing and pricing; productivity and cash flow control.

The purpose of this discussion chapter was to link main findings (results) to the academic literature (previous accounting research in the micro enterprises sector) and to the Libyan environment. Based on the previous discussion, the literature has confirmed the research findings, which according to Strauss and Corbin (1998) is valuable for such research. However, the research findings (results) for a number of points confirm some studies, but in other points contradict the findings from the other studies.

In the next chapter, an overview of the research approach, research main limitations, contribution to knowledge, directions for future research and a summary of research findings will be discussed.

## Chapter 12: Conclusion

### 12.1 Introduction

This chapter outlines the research and its main findings, and identifies its contribution to knowledge, its limitations and future work. The chapter has six sections including introduction: section (12-2) provides an overview of the research approach, section (12.3) summarises the main findings of this research study in terms of accounting information and its relation to the owner manager, enterprise and environmental features; planning; control; product costing and pricing and make or buy decisions. Section (12-4) identifies the contributions to knowledge which this thesis makes to existing literature, section (12-5) discusses the research limitations and how this work can be taken forward and the last section (12-6) provides recommendations for future research.

### 12.2 Overview of the research approach

A review of current literature revealed only a limited amount of evidence relating to accounting information in micro enterprises in developed and developing countries (Nayak and Greenfield, 1994; Collis and Jarvis, 2002; Sian et al, 2003; Elattar, 2001) and no research on the topic in Libya specifically. This research is an exploratory study, which is concerned with accounting information for planning and controlling business activities in micro manufacturing enterprises in Libya. The exploratory nature of the study offered the basis for conducting it from a qualitative research perspective (Creswell, 1994; Strauss and Corbin, 1998; Denzin and Lincoln, 1994)

Among the many approaches being used to perform qualitative research, this research study adopted the grounded theory methodological approach. Flexibility, sensitivity to behavioural aspects and suitability for overseas students who conduct their research studies in their own countries were the main reasons for adopting such a methodology. Grounded theory liberates the researcher from making prior assumptions and helps to discover what lies behind a specific phenomenon which is not well understood. This grounded theory approach also allows the researcher to enter the research site without having any hypotheses in mind and offers the researcher more flexibility in understanding the phenomenon under study and in explaining why particular practices

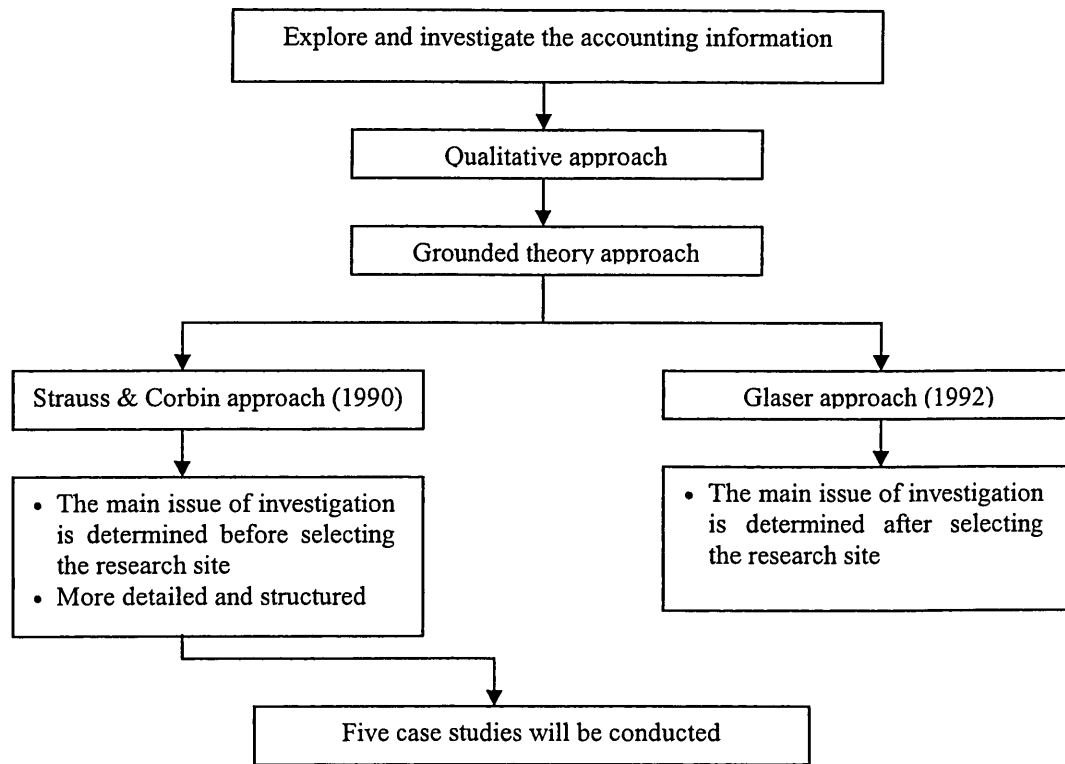
occur (Strauss and Corbin, 1998; Lye et al, 1997; Parker and Roffey, 1997). The researcher utilised grounded theory to have an in-depth and comprehensive understanding of the accounting information in micro enterprises in Libya. This environment is very different from that on which the existing literature on accounting in micro and small enterprises is based. It was decided for this research study to adopt the Strauss and Corbin (1990) grounded theory approach was informed by its general guidance rather than Glaser's (1992).

Strauss and Corbin (1990) suggested that the researcher should first have "theoretical sensitivity" concerning the subject under study. They identified theoretical sensitivity as the researchers' ability to give meaning to the data, and the capacity to determine which issues were of particular important to investigate.

There are several procedures and techniques which researchers can employ to enhance their theoretical sensitivities (Lye et al, 1997). A literature review is one of the techniques of theoretical sensitivity as it can provide a rich source to stimulate thought about the properties and to ask conceptual questions. Literature provides researchers with the ability to be familiar with the phenomenon under investigation and also provides researchers with knowledge to enter the site with the ability to understand what the interviewees saying and doing. The literature was used in this study to encompass the entire field without focusing on a specific area within the phenomenon under investigation. During the research process, the researcher only investigated literature which seemed to be relevant to the subject under investigation.

The researcher conducted five case studies in Libyan micro manufacturing enterprises in order to investigate in-depth the levels of accounting information generation and use. The Strauss and Corbin (1990) grounded theory methodological framework guided the conduct of these cases and the collection and analysis of this relevant data, thus avoiding prior theorising and other forms of researcher bias which could lead to valuable insights being overlooked. Figure 12-1 presents an overview of the study methodology.

Figure (12-1): Overview of the study methodology



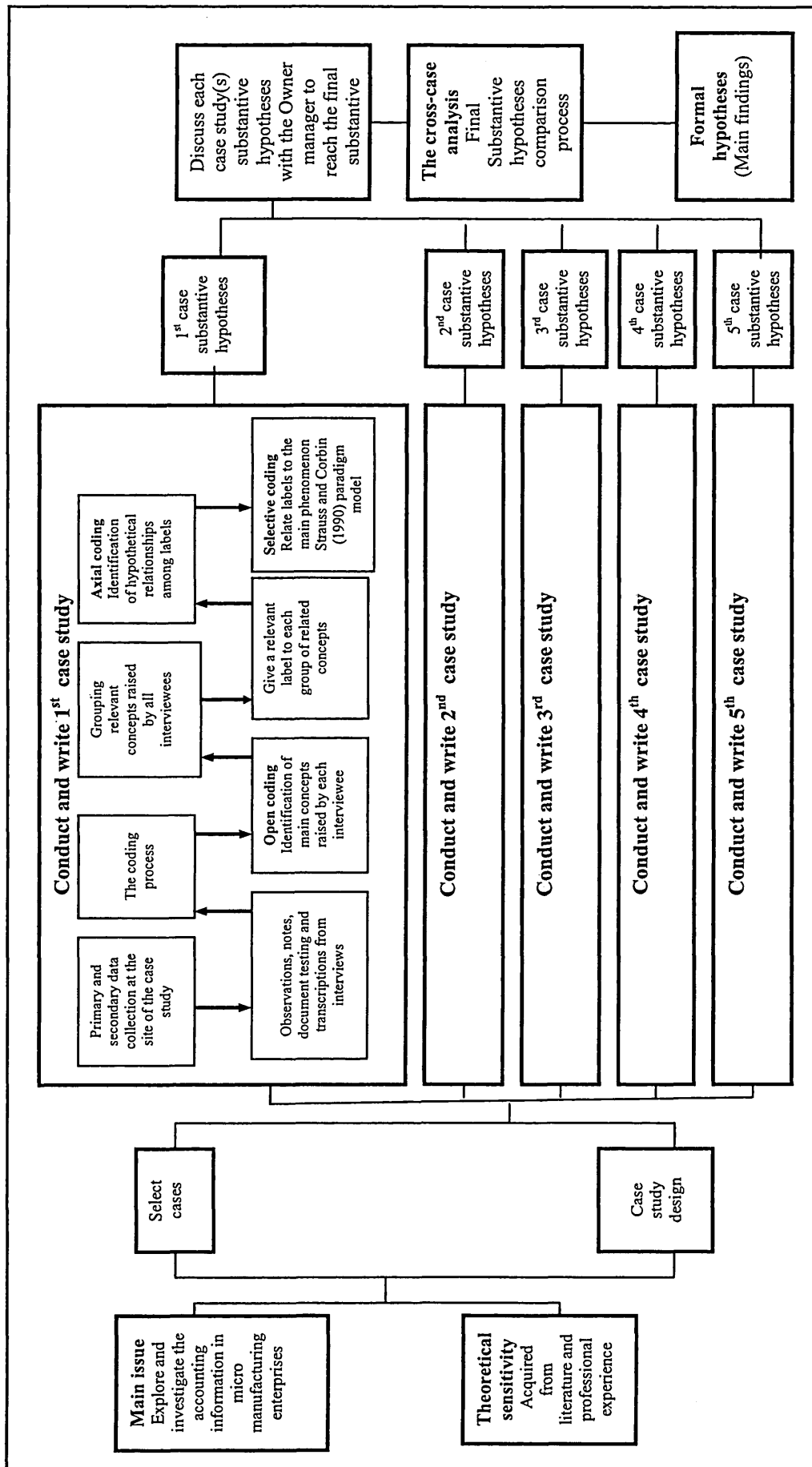
All the five cases were conducted in micro enterprises drawn from the manufacturing sector in Libya, and these five enterprises employed less than ten employees, had one owner manager (O/M) and were in business for a minimum of three years. The case studies took place between February 2004 and June 2004. Data was collected through observation, inspection of documents and interviews with the owner manager (O/M), production manager (P/M), internal accountant (IA), salesman (S/M) and employees (E) of these enterprises. The interviews were unstructured and started with open, general and broad questions reflecting the issue under investigation. This openness gave the researcher the required flexibility to explore the phenomenon in-depth.

During the processing of the interviews, the researcher also needed to be prepared to ask follow up questions which were still unstructured and open. Respondents were allowed to talk openly about the topic and then the researcher guided the discussion by asking detailed open questions such as “could you give more explanation, could you give examples, why, how”, and other similar open questions. All interviews were tape-recorded and transcribed in full. Each interview was analysed before starting to the next

one. In doing so, the researcher obtained guidance from the analysis of the data from the previous interview. The main points raised by the interviewee in each interview were identified and summarised and the points which were raised in all interviews compared, relationships between them noted and related points grouped (major ideas). A structured set of grounded theory coding procedures was employed to organise the ideas which emerged from the analysis of the data collected in the interviews in order to formulate theory (hypotheses). Points of similarity were gathered and labelled. These labels were logically related to the data. Subsequently, these labels were grouped in appropriate categories to perform the Strauss and Corbin paradigm as the researcher implemented this paradigm for each case study. This paradigm was the conclusion of detailed analytic procedures, which in turn enabled the researcher to understand the relationships between different conditions, namely causal conditions, context, action/interaction strategies, intervening conditions and consequences. Understanding the relationships between these conditions enabled the researcher to develop the substantive hypotheses for each case (chapters 5, 6, 7, 8 and 9).

The results of these relationships presented in the paradigm suggested some hypotheses. Strauss and Corbin (1990) considered the hypotheses, which were highlighted at the end of each case study, as substantive hypotheses. These substantive hypotheses were discussed with the owner managers in order to reach the final substantive hypotheses. These final substantive hypotheses were then compared in a cross-case analysis (Miles and Huberman, 1994) to discover the similarities and differences across all the cases in order to form formal hypotheses (Strauss and Corbin, 1990), which were regarded as the main findings of this research study and are presented in chapter 10. The following Figure 12-2 presents the case study design which has been linked by grounded theory in order to developing the formal hypotheses.

Figure (12-2): Process of developing the formal hypotheses





## 12.3 Summary of the main findings

This study attempted to explore and investigate accounting information in micro manufacturing enterprises in Libya. The research study was based on grounded theory methodology and used the case study analysis method. Each case produced its own substantive hypotheses and a cross case analysis produced the formal hypotheses. The emerging theory provided sixteen formal hypotheses which are grounded in data from the case study.

This section outlines the findings of this research study in terms of the accounting information with regard to the owner manager, enterprise and environmental features and applied procedures. These are presented under the following two subsections:

### 12.3.1 Accounting information and the owner manager's, enterprises and environmental features

The supporting evidence for the development of the formal hypothesis indicated that:

1. In all five cases, the O/M's education level in management and accounting skills, the O/M's personal experience, the competition, the number of business records and documents and the lack of interest by the government agencies in the financial statements effected the generation and use of accounting information. Therefore, the formal hypotheses are:

***"The level of the owner manager's management and accounting skills, the owner manager personal experience, the competition, the number of business records and documents and the lack of interest by the government agencies in the financial statements influence the generation and use of accounting information." (H1, H2, H5, H6, H10) (See tables: 10-4, 10-5 10-8, 10-9 and 10-13).***

2. In three out of the five cases, the upturn of the business and the enterprise's expansion, the use of an internal accountant and the owner manager's availability of time effected the generation and use of accounting information for planning and controlling business activities. Thus the formal hypotheses is:

***"The enterprise expansion, the use of internal accountant and the owner manager's availability of time influence the generation and use of accounting information." (H3, H7 and H8) (See tables: 10-6, 10-10 and 10-11).***

3. In four out of the five cases the small size of the business and the use of some management accounting techniques effected the generation and use of accounting information for planning and controlling the business activities. Thus the formal hypotheses is:

***"The size of the business and the use of some management accounting techniques influence the generation and use of accounting information." (H4 and H9) (See tables: 10-7 and 10-12).***

### 12.3.2 The Accounting information and the applied procedures

The supporting evidence for the development of the formal hypothesis highlighted that:

1. At least three out of the five cases had a lack of formal procedures, whereas at least four out of the five cases applied informal procedures for financial, profit and manufacturing planning, quality, inventory and capital expenditure control and make or buy decisions. Also, at least three out of the five cases generated and used very little written but a little more oral accounting information for or financial, profit and manufacturing planning, quality, inventory and capital expenditure control and make or buy decisions. Therefore the formal hypotheses are:

***"The application of informal procedures for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions is a reason for the generation and use of accounting information." (H11)(See tables: 10-15, 10-16, 10-17, 10-19, 10-21, 10-22 and 10-23).***

***"The lack of formal procedures for financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decisions is a major barrier to the generation and use of accounting information." (H12)(See tables: 10-15, 10-16, 10-17, 10-19, 10-21, 10-22 and 10-23).***

***"Very little written but a little more oral accounting information is generated and used in financial, profit and manufacturing planning; quality, inventory and capital expenditure control and make or buy decision." (H13)(See tables: 10-15, 10-16, 10-17, 10-19, 10-21, 10-22 and 10-23).***

2. In three out of the five cases applied formal procedures, whereas all five cases applied informal procedures for product costing and pricing, productivity and cash flow control. Also, three out of the five cases generated and used some

written and oral accounting information for product costing and pricing, productivity and cash flow control. Therefore the formal hypotheses are:

*"The application of formal and informal procedures for product costing and pricing; productivity and cash flow control is a reason for the generation and use of accounting information." (H14)(See tables: 10-14, 10-18 and 10-20).*

*"Some written and oral accounting information is generated and used in product costing and pricing; productivity and cash flow control." (H15)(See tables: 10-14, 10-18 and 10-20).*

## 12.4 Research contributions

This thesis gave an insight into accounting information in micro manufacturing enterprises literature, the grounded theory methodology approach and accounting information practices in micro manufacturing enterprises in Libya.

The study contributions are related to the study's main objective as to investigate and explore accounting information in micro manufacturing enterprises in Libya.

1. As the study is conducted in a different environment, this contributed to the debate regarding the calls for empirical research in different environments and in transitional economies under different social and economic systems (Bruggeman and Slagmulder, 1995).
2. This study was reinforced by the importance of and the need to conduct field research and in particular case-based research in accounting. Scapens (1990) stated that case studies provide exploration of accounting practices of real people in a work place and explanation of management accounting theories. Ryan et al. (1992, p.113) stated, *"Case studies offer us the possibility of understanding the nature of accounting in practice; both in terms of techniques, procedures, systems, etc. which are used and the way in which they are used"*. Case studies allow data to be collected from participants in the working environments, to capture data rich in detail about accounting information and offer the researcher the flexibility to explore issues raised by participants. Drury and Tayles (1995, p.278) stated, *"There is now a need for case study research that explores in much greater depth how accounting information is used and whether or not accountants and managers understand the weaknesses of conventional systems by making appropriate adjustments to the reported*

*results*". Johnson and Kaplan (1987) pointed out that case studies could help to bridge the gap between management accounting theory and practice.

The richness of the data collected in this study reflected the advantage of adopting the case study method in conducting research. Moreover the case study approach allowed the researcher to interact with the owner managers. This has led to some recommendations being made to the owner managers about how to improve their accounting practices.

3. This exploratory study used a grounded theory approach. Grounded theory has been widely used in social science research, and it is particularly popular among management and organization researchers (Jarvis *et al*, 1996; Locke, 2001). Despite the strength of grounded theory, few accounting researchers have adopted it (Elattar, 2001). This study therefore contributed to the use of grounded theory in accounting research. The research results add some evidence for the potential of using grounded theory approach in accounting studies. Therefore, this research has contributed to the knowledge of accounting literature the possibility and validity of using grounded theory approach in accounting studies.
4. This study is the first study that used grounded theory methodological approach in accounting and finance research within the Libyan context up to date and regarding to this the researcher found that:
  - I. The grounded theory methodology approach was fit and suitable for research in Libya because of:
    - a) The none availability of previous data in Libya (Elshereif, 2002; International Monetary Fund, 2005).
    - b) There is little prior research on accounting in micro manufacturing enterprises and it is difficult to formulate hypotheses (Ferreira and Merchant, 1992). Within such limitations, it was not enough for studies to suggest prior assumptions (hypotheses) for such exploratory study (Otley and Berry, 1994). In addition, the existing literature related to the phenomenon under investigation (accounting information in micro enterprises) mainly related to cultures and environments which are completely different from Libyan culture and environment, where this study was conducted. Using the existing literature would produce hypotheses which may be irrelevant to the Libyan context. Grounded theory liberates the researcher from making prior assumptions and helps to discover what lies behind a specific phenomenon which is not well understood. This Grounded

theory approach also allows the researcher to enter the research site without having any hypotheses in mind and offers the researcher more flexibility to understand the phenomenon under study and to explain why particular practices occur (Strauss and Corbin, 1998; Lye and Rahman 1997; Parker and Roffey, 1997).

- II. Strauss and Corbin approach is more suitable for conducting research within Libyan context as a result of its advantages over the Glaser approach. The Glaser's approach is impractical in terms of time limitations. The researcher has a time limit in which to complete his research and the Libyan owner managers' unwillingness to allow the researcher to spend unlimited time in the enterprise for the data collection and investigation processes. Also, telling the Libyan owner managers' nothing<sup>17</sup>, as suggested by Glaser, would have inhibited access or make the owner managers unwilling to co-operate with the researcher.
5. The study contributed to the limited studies on accounting information in micro manufacturing enterprises in developing countries in general and within the Arab socialist context in particular. This study has provided empirical evidences of accounting information in five Libyan micro manufacturing enterprises. There is no research in this area in Libya up to date. Although the generalisation was not the aim of this study, the findings of the study contributed towards a better understanding of accounting information in micro manufacturing enterprises. The research identified many reasons and factors which effected the generation and use of accounting information and highlighted different types of procedures (formal and informal) and information (written and oral) can be used for different purposes. It is important when establishing accounting information systems to understand the impact of all these reasons and factors and the procedures and information types. Therefore, accounting and information systems designers should recognise this when they design information systems for micro enterprises. However, the study added to the existing micro manufacturing enterprise literature in the following aspects:

- I. Identified what impact of the owner/manager, enterprise and environmental features (such as the owner manager's level of education in management

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<sup>17</sup> In Glaser's approach the main issue of investigation is determined on the site, whereas it is determined in Strauss and Corbin's approach before selecting the research site (Parker and Roffey, 1997; Douglas, 2003).

and accounting skills, the number of business records and documents, the business size, use of internal accountant, competition and the government agencies) on the generation and use of accounting information. In addition, this study identified what impact of the formal or informal procedures on the generation and use of accounting information for planning and controlling each of these aspects.

II. Explored the links between formal and informal procedures and accounting information (written or oral) generation and use for planning and controlling business activities. Also, this study identified where the owner managers of micro manufacturing enterprises have implemented formal or informal procedures of the business aspects (product costing and pricing, financial, profit and manufacturing planning; productivity, inventory, quality, cash flow and capital expenditure control and make or buy decisions).

6. This study makes a contribution to policy formulation and management. As identified earlier, micro enterprises are very important to the development of the Libyan economy. As a result the research highlighted the current problems facing micro manufacturing enterprises in Libya and this will assist policy makers such as the government and its agencies such as (Secretary of Economy and Planning, Secretary of Industry, Commercial Banks, Tax office and Customhouse) international financial institutions such as the World Bank and International Monetary Found (IMF) in developing economic policies.

7. The emerging theory provided formal hypotheses which are grounded in the data from the case study. These hypotheses form the basis for further research. The owner managers and the public and private research centres could take these hypotheses as a guide if they wish to develop their micro enterprises performance as they come from their own environment.

However, the research findings may encourage the owner managers to:

- Raising their awareness of the reasons and factors which effect the generation and use of accounting information
- Improving their management abilities and accounting skills by attending management and accounting training programmes.
- Adopting computer-based accounting software.

Also, the research findings may encourage the government agencies to:

- Raising their awareness of the importance and role of micro enterprises in the Libyan economic.

- Raising their awareness of the micro enterprise's problems.
- Create specific agency or centre to support, supervise and control the micro manufacturing enterprises activities.
- Encourage the owner managers to obtain loans in order to improve their enterprises by improving the banking and financial services and adopting the Islamic banking system which prohibited loans with interests.
- Improving tax office procedures.
- Running effective management and accounting training programmes to the micro enterprise's owner managers'.

## 12.5 Limitations of this research study

The limitations of this study are categorised into empirical and methodological.

Empirically, firstly, the study focused only on five case studies. Thus, the findings or conclusions derived from the cases are not applicable to the population as a whole. Yin (1989) stated that because it does not represent a 'sample', the notion of external validity relates to the generalisability of the results to underlying theory, that is, analytic generalisation rather than statistical generalisation. According to Eisenhardt (1991), multiple case studies provide the basis for general theory formulation. There is no general rule of thumb with regard to the number of case studies which would justify permitting the generalisability of results. The five case studies do not permit generalisations but they provide better evidence than a single case study. The formal hypotheses generated from the five cases can be tested on a large scale on the whole population and only then can be statistically generalised. Secondly, the study excluded micro enterprises less than three years old and those from sector other than manufacturing. Thirdly, the time allocated to the case study is also one of the possible limitations in this study. Approximately three weeks full time were spent at each site and this could be classified as a limited period of time. This period could be considered insufficient for the researcher to conduct interviews, to test documents and to observe in its entirety the phenomenon under investigation.

Methodologically, First the researcher's conscious or unconscious bias as a result of his interaction with the interviewees and proximity to the situation in each case study is another limitation. In order to minimise this limitation and also to aid validity and reliability, multiple sources of data namely observation, document examination and

interviews from five different case studies were used (McKinnon, 1988 and Bonoma, 1985). Secondly, while it is possible that interrelationships will exist between the owner managers, organisations and environmental factors, these relationships are not investigated in this study. The objective of this study is to explore and investigate the process of the generation and use of accounting information. It is therefore not a contingency study. Undertaking such a study would require the examination of a large sample to test the contingency relationships between these factors.

Thirdly, the grounded theory methodology approach used in this research study has been criticised by some researchers, for example:

1. Using the grounded theory procedures in analysing the collected data from the case studies meant that the researcher could be criticised about the data analysis and interpretation which will be based on personal judgement (Holland, 2001). However, to minimise this bias the researcher should discuss the substantive hypotheses which will emerge from each case study with the owner managers in order to reach the final substantive hypotheses. Feedback from interviewees is a very important technique to increase the research validity. Interviewees can check the generated findings, conclusions and hypotheses to judge the trustworthiness and validity of the study's hypotheses (Strauss and Corbin, 1990; Sarantakos, 1998). Smith and Biley (1997) stated that in order to ensure the researcher's bias is kept to a minimum level, the literature review should be brief and ideally should be conducted only after conclusions have been drawn on completion of the study.
2. The analysis technique of coding by microanalysis of the data, word-by-word and line-by-line transcription of tape recordings of interviews will take considerable time, which will cause problems for researchers, especially when they have tight deadlines (Bryman, 2001).
3. Coffey and Atinson (1996) cited by Bryman (2001) stated that grounded theory is very much associated with an approach to data analysis which invites researchers to fragment their data by coding it into discrete chunks. This kind of activity results in a loss of a sense of context and of narrative flow.



4. It may be difficult in practice to decide when the categories are saturated or when the theory is sufficiently developed (Robson, 2002; Hunter, 2005; Goulding, 2005).
5. The complexity of the grounded theory method, particularly when applied by a lone researcher (Leonard & McAdam, 2001). Star (1998) observes that the openness and centrality of complexity has made grounded theory subject to the constant tension between faithfulness to empirical details and a desire to make the complexity usable via abstraction.

The above limitations have been partly overcome by drawing on multiple sources of data from five different case studies. Multiple methods and multiple sources of data help to limit the threats to validity, reliability and subjective bias (McKinnon, 1988 and Bonoma, 1985). The strong component of constant comparison and analytic synthesis are keys to these criticisms and challenges (Star 1998). The procedural strategies of grounded theory help the researcher avoid remaining immersed in anecdotes and stories, and subsequently unconsciously adopting subject's perspectives, prevent the researchers becoming immobilized and overwhelmed by voluminous data, and create a method for the researcher to organize and interpret data (Glaser & Strauss, 1967). Turner (1983) suggested that grounded theory might be an appropriate approach for tackling some of the data handling and data analysis problems created in such situations. Furthermore, grounded theory offers a way of attending in detail to qualitative material in order to systematically develop theories about the phenomena which have been observed. The grounded theorist's analysis tells a story about people, social processes and situations; it does not simply unfold before the eyes of an objective viewer; it also reflects the story of the viewer as well as the viewed (Glaser, 1978). Leonard & McAdam (2001) stated that, since the method has been very clearly articulated by Glaser and Strauss and applied by other researchers this, means that it affords a clear process to work through the confusion which very often results from the sheer volume and richness of qualitative data. Thus, grounded theory enabled data to be explored in a systematic manner, enabling the complexity of interviewees' situations to be adequately represented.

Despite these criticisms, grounded theory remains a pivotal method in the undertaking of qualitative research and the generation of codes and memos, and the inductive nature of its approach are at the core of all such research (Parry, 2003).

Nevertheless, these criticisms may be used to make grounded theory research more reflexive and contextually situated, and may foster the growth and maturity of the grounded theory methodology. However, the usage of grounded theory in this research study has enabled the researcher to consider all aspects of accounting information in micro enterprises. Because of the nature and size of the micro enterprise, data concerning all aspects were obtained from a limited set of interviews, which made the analytic task manageable. In large enterprises, such methodology would be unwieldy to use at the analysis stage, even with a team of researchers, and it is likely that only selected aspects of accounting information could be considered.

## 12.6 Future research

This research study is a first attempt to explore the accounting information for planning and control in micro manufacturing enterprises in Libya and to develop formal hypotheses which explain all the observations regarding this phenomenon. During the theoretical development stage, many subjects presented themselves as opportunities for further research. The following range of future research possibilities can be suggested:

1. As a result of using a small sample (five cases) in this research study, some differences in the findings between the five cases may become similarities and not appear as differences if more case studies are conducted. Thus, more case studies need to be conducted.
2. The formal hypotheses which emerged from the cross case study could be tested in future by using a large-scale studies covering Libya.
3. As accounting information has not been studied in Libyan micro enterprises in general, there is a need to study the use and generation of the accounting information in other sectors such as services and trading. This would give a broad picture of accounting information and a possible explanation for differences or similarities in these sectors.
4. Testing the formal hypotheses of this study in other countries might reveal the possible effects of cultural, economic, environment and political differences on the use and generation of accounting information.

5. Further research could be done to study in depth the interrelationships between the owner manager's, enterprises and environmental factors, which remain unexplored.

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## Appendix 3-1: Gross Domestic Product by kind of Economy Activity, 1962-2004

(Figures in Million Libyan Dinars)

Year	Oil and Natural Gas Activity	Total Non-oil and Natural Gas Activities	Gross Domestic Product
1962	38	117.5	155.5
1969	754.7	468.3	1223
1970	812.6	475.7	1288.3
1971	922.7	663.8	1586.5
1972	920.6	832.4	1753
1973	1131	1050.5	2182.5
1974	2385.3	1410.4	3795.7
1975	1961.1	1713.2	3674.3
1976	2750	2018.1	4768.1
1977	3275.9	2336.8	5612.7
1978	2808.7	2687.4	5496.1
1979	4545.3	3057.7	7603
1980	6525.7	4028.1	10553.8
1981	4403.3	4395.5	8798.8
1982	4235.8	4696.6	8932.4
1983	3823.6	4688.1	8511.7
1984	3209.8	4594.9	7807.7
1985	3500.4	4351.7	7852.1
1986	2595.8	4364.9	6960.7
1987	1875.4	4136.2	6011.6
1988	1570	4616	6186
1989	2055.5	5135.5	7191
1990	3243.8	5003.1	8246.9
1991	3104.3	5653	8757.3
1992	2925.7	6306.2	9231.9
1993	2460.1	6677.6	9137.7
1994	2892.9	6777.9	9670.8
1995	3380	7292.3	10672.3
1996	3960.3	8367	12372.3
1997	4505.8	9294.7	13800.5
1998	2786	9824.6	12610.6
1999	3995.9	10079.3	14075.2
2000	6661	10959.2	17620.2
2001	6,009	11,596	17,605
2002	12,764	11,920.4	24684.4
2003	17,501.4	12389.1	29890.5
2004	26,342	13605.1	39947.1

Sources: (I) Ministry of Planning, Department National Accounts, National Accounts, Libya (various issues); and (II) Central Bank of Libya, Economic Bulletin and Annual Report (various issues).

## Appendix 3.2: Five-year Plan 1963-1968.

Sector	O.A.	%	F.V.	%	A.E.	%
<b>Agriculture and Forestry</b>	29.3	17.3	63.0	10.1	65.4	11.9
<b>Industry</b>	6.9	4.1	32.6	5.2	28.5	5.2
<b>National Economy</b>	2.9	1.1	5.5	0.9	4.3	0.8
<b>Communications</b>	27.5	16.2	118.6	19.0	91.6	16.6
<b>Public Works</b>	38.7	26.6	82.2	13.1	-	-
<b>Education</b>	22.4	13.1	59.9	9.6	47.6	8.6
<b>Health</b>	12.5	7.4	24.3	3.9	16.5	3.0
<b>Labour &amp; Social Affairs</b>	8.7	5.1	29.7	3.0	20.2	3.7
<b>News &amp; Guidance</b>	2.6	1.5	10.4	1.7	6.6	1.2
<b>Public Administration</b>	6.4	3.8	0.8	0.1	46.3	8.4
<b>Planning &amp; Development</b>	11.4	6.7	9.7	1.5	5.0	0.9
<b>Housing</b>	-	-	109.3	17.5	192.2	29.4
<b>Interior</b>	-	-	52.3	8.4	-	-
<b>Electricity</b>	-	-	25.3	5.0	56.8	10.3
<b>Other</b>	-	-	1.7	0.3	10.3	-
<b>Total</b>	169.1	100	625.3	100	551.0	100
Original Allocation (O.A.), Final Version (F.V.), and Actual Expenditure (A.E.).						

## Appendix 3.3: Development Plan 1973-1975.

Sector	1973-1975	
	LD M	%
<b>Agriculture, Forest &amp; Fish</b>	327.8	16.6
<b>Oil &amp; Natural Gas</b>	48.9	2.5
<b>Mining &amp; Quarrying</b>	2.9	0.2
<b>Manufacturing Industry</b>	231.6	11.8
<b>Electricity &amp; Water</b>	257.4	13.1
<b>Construction</b>	6.2	0.3
<b>Wholesale &amp; Retail Trade</b>	1.0	0.1
<b>Transport &amp; Communication</b>	253.8	12.9
<b>Banks &amp; Insurance</b>	0.4	0.0
<b>Housing</b>	361.3	18.4
<b>Public Services (Except Education &amp; Health)</b>	186.7	9.5
<b>Education Services</b>	192.1	9.8
<b>Health Services</b>	71.0	3.6
<b>Other Services</b>	0.0	0.0
<b>Reserve</b>	23.9	1.2
<b>Total</b>	1965.0	100
Source: Ministry of Planning Three-Year Socio-Economic Development Plan (1973-1975)		

## Appendix 3-4: Development Plan 1976-1980.

Sector	1976-1980	
	LD M	%
<b>Agriculture and agrarian reform</b>	445.3	6.2
<b>Integrated agricultural developments</b>	781.3	10.9
<b>Industry and mineral resources</b>	1089.7	15.2
<b>Oil &amp; Gas</b>	648.2	9.0
<b>Electricity</b>	543.6	7.6
<b>Transport &amp; Communication</b>	632.1	8.8
<b>Education</b>	470.4	6.6
<b>Health</b>	171.4	2.4
<b>Manpower</b>	41.8	0.6
<b>Social Security</b>	43.2	0.6
<b>Housing</b>	794.2	11.1
<b>Economy</b>	32.7	0.5
<b>Sport, Information &amp; Culture</b>	91.3	1.3
<b>Municipalities</b>	552.7	7.7
<b>Planning</b>	56.7	0.8
<b>Reserve</b>	325.3	4.5
<b>Nutrition &amp; Sea Wealth</b>	41.4	0.6
<b>Marine Transport</b>	373.5	5.2
<b>Security Services</b>	35.0	0.5
<b>Total</b>	7170.0	100
<i>Source: Bearman (1986: 193).</i>		

## Appendix 3.5: Revised Development Plan 1976-1980

Sector	1976-1980	
	LD.M	%
<b>Agriculture, Forest &amp; Fish</b>	1030.1	14.4
<b>Oil &amp; Natural Gas</b>	41.0	0.6
<b>Mining &amp; Quarrying</b>	9.0	0.1
<b>Manufacturing Industry</b>	1515.4	21.1
<b>Electricity &amp; Water</b>	706.7	9.9
<b>Construction</b>	7.0	0.1
<b>Wholesale &amp; Retail Trade</b>	32.9	0.4
<b>Transport &amp; Communication</b>	1197.8	16.7
<b>Housing</b>	887.5	12.4
<b>Public Services (Except Education &amp; Health)</b>	760.1	10.6
<b>Education Services</b>	513.0	7.2
<b>Health Services</b>	145.2	2.0
<b>Reserve</b>	325.3	4.5
<b>Total</b>	7171.0	100
Source: Ministry of Planning, Socio-Economic Transformation Plan (1973-1975)		

## Appendix 3.6: Development Plan 1981-1985.

Sector	1981-1985	
	LD M	%
<b>Agriculture &amp; Land Reclamation</b>	3100	18.2
<b>Light Industry</b>	1200	7.0
<b>Heavy Industry</b>	2730	16.1
<b>Oil &amp; Gas</b>	200	1.2
<b>Electricity</b>	2000	11.8
<b>Education</b>	1000	5.9
<b>Information &amp; Culture</b>	150	0.9
<b>Labour Force</b>	150	0.9
<b>Health</b>	560	3.3
<b>Social Security</b>	130	0.8
<b>Sport</b>	100	0.6
<b>Housing</b>	1700	10.0
<b>Public Utilities</b>	1300	7.6
<b>Transport &amp; Communication</b>	2100	12.3
<b>Economy</b>	500	2.9
<b>Planning</b>	80	0.5
<b>Sub-total</b>	17000	100.0
<b>Projects Reserves</b>	1500	
<b>Total</b>	18500	

*Source: The Secretary of Planning, The (1981-1985) Economic and Social Transformation*

## Appendix 3.7: Three-year Programme 1994-1996.

Sector	Allocation (LDM)	Actual investment (LDM)	Actual expenditure (%)	Actual investment to allocation (%)
<b>Agriculture</b>	158	49.130	3.4	31
<b>Industry</b>	94.700	132.8	9.1	140
<b>Energy</b>	332	371.5	25.6	111
<b>Education</b>	289	127.900	8.8	44
<b>Media &amp; Culture</b>	12	5	0.3	41.6
<b>Health &amp; Social Security</b>	205	87.9	6.1	42.8
<b>Transport</b>	194	66.050	4.6	34
<b>Planning</b>	17.900	10.800	0.7	60
<b>Economic</b>	6	1.975	0.1	33
<b>Sea Resources</b>	25.600	15.850	1.1	62
<b>Justice &amp; General Security</b>	12.300	6.200	0.4	50.4
<b>Administration Centres</b>	240	271.911	18.7	113
<b>Human Resource</b>	32	32.000	2.2	100
<b>Housing &amp; Public Utilities</b>	297.450	140.400	9.7	47
<b>Tourist</b>	3	2.400	0.2	80
<b>Animal Resources</b>	11	8.250	0.6	75
<b>Man-Mad River</b>	100	20	1.4	20
<b>Finance</b>	5	0	0.0	00
<b>Previous Commitments</b>	100	33	2.3	33
<b>Reserve &amp; Maintenance</b>	264.350	67.500	4.7	25
<b>Total</b>	2400	1450.566	100	60.44
Source: The Secretary of Planning, The (1981-1985) Economic and Social Transformation Plan, and the Secretary of Planning, Economic and Trade (1997) The Follow Up Report of Implementation of the Three-Year Programme (1994-1996).				