

Appendix 4 Academic Literature Review

Author	Year	Publicatoin	Source	Q.1 What is the contribution to the 'state of the art' in measuring benefits?	Q. 1 Normative guidance (n), description of practice (d)?	Q. 1 Guidance applied at project (pt), program (pm), portfolio (po) levels?	Q. 2 At what point(s) in the project (program, portfolio) are outcome benefit (OB) measures developed, defined and selected?	Q.2 Focus on intermediate benefits (IB) too? (Yes/No)	Q.2 Focus on Interdependencie s between IB and OB?	Q.2 Links to specific stakeholders ?	Q. 3 Who assesses the benefits and at what point during the project are they assessed?	Q. 3a Are measures added over the life of the project and/or beyond? e.g. recognition of emergent benefits?	Q. 3b How far after the close-out of the project are benefits continued to be assessed, and at what intervals?	Q. 4 Targeting of guidance/ subject matter of description. By project type, industry, project size, potential social impact, customer?	Q. 5 What kinds of measures are typically used to assess benefits, and which are more frequently used?	Q. 5 Quantitative financial (Qnf), Quantitative non-financial (Qnnf) and/or Qualitative (QI)
1. Ahlema nn et al	2013	ECIS	<u>Exploiting Is/It Projects' Potential-Towards A Design Theory For Benefits Management</u>	Proposes a set of "meta-requirements" which lead to 8 design principles aimed to tackle challenges associated with benefits management. "Core principles" drive successful benefits realisation / management. Very little addressing actual measurement, save for recommendatio ns on who is responsible and that metrics are highly important as they will support decisions about (personal) reward for BR.	(d) (empirical) with a view to formulate (n) recommend ations	(po) Beyond single projects but limited to organisations (formal) that host projects.	Project Portfolio Management, goal setting and budgeting processes lead to defined benefits. No advice on actual measures.	Not specified	Not specified But complex causal chains that span organisational units create accountabilityis sues.	Distinction between 1 st and 2 nd Order ownership,t he latter more prevalent where benefits are realized through complex causal chains that span organisatio nal units	Realisation has to be measured "regularly". Continuous ly refine and optimise benefits analysis and measurem ent. Post-benefit-implemen tation work aids continuous learning.	Not specified	Ongoing benefits "exploitation" is emphasised after project closure	IS/IT generally in numerous industries: Banking, Insurance, Logistics, Retail, Energy and Chemical etc.	Not specified	Not specified
2. Almeida and Romão	2010	Portuguese Journal of Managemen t Studies	<u>Benefits management for an e-invoice process</u>	Applies the benefits management methodology created by Ward & Daniel (2006) to ANA- Aeroportos de Portugal. Advocates realistic business case built on a range of benefit measures which go beyond ROI and incorporate "soft metrics" and delayed	(d) and (n)	(Po) including pt and pm	Defined and measured as part of the BM approach which supports the business case	Not specified	Not specified. Not interim and outcome benefits, but benefits dependency network essential so that business changes and "IT capability" can support the achievement of benefits.	None mentioned No single group has all the knowledge necessary to identify all the benefits, changes and IS/IT enablers". BM methodolog y supports this through mixed teams.	Managers /Investors monitor the progress and business benefits previously planned.	Implied. The process of evaluating benefits can trigger "actions to achieve more efficiency in the invoicing related processes".	Not specified	IS/IT in airport	Cost reduction Waste reduction (paper) Speed – faster payments Less disputes Customer preference Customer satisfaction Supplier preferences and satisfaction Surveys to estimate cost of as-is system, Accuracy, Staff reduction, Improved security,	Qnf Qnnf QI

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				realisation because some projects create a platform or "intellectual property" first which allows benefits to be realised in later projects that exploit the platform. Systematic reviews should be performed.											Tax efficiency, Improved security	
3. Al-Tamee m and Wheeler	2000	Americas Conference on Information Systems (AMCIS)	<u>A process view of information system benef its management and evaluation</u>	Article merely describes how BM is part of 7 core processes in IS delivery.	(n)	(Pt)	Identified at the investment justification stage and reviewed at project completion, "to determine whether benefits have been delivered"	No	No	Not specified	Not specified	No	Not specified	IS/IT generally	Not specified	Not specified
4. Ashurst	2012	Palgrave Macmillan	Benefits Realization from Information Technology	The book covers a wide range of tools for benefits realisation, summarising many research projects which Ashurst has participated in. A key focus is benefits realisation capability, explicitly based on RBV, and dynamic capabilities. Metrics are related to competences, and include metrics on maturity, as well as direct measures of P3M success.	d followed by n	Mainly pt and po. At the Portfolio level, reference is made to the difficulty in getting approval for innovation projects, with business cases being adapted to fit existing investment appraisal criteria, for example estimates of financial impact of non-financial benefits. (P67).	Framework of practices – In Benefits Planning (BP3, BP8) P182-183.	Not specified	Not specified	General focus on stakeholder requirement s in identifying target benefits BP3, P182	Framework of practices – In Benefits Planning (BP3, BP8), Benefits Delivery (BD5), Benefits Review(BR 3) benefits Exploitation (BE3) P182-186.	Yes, see Qu. 3	Tensions between shorter timescales for business investment compared to IT strategy for 3-5 years hence (P69-70)	Mainly IS/IT, often in public sector, including universities.	Refers to pressures to force non-financial benefits of strategic innovation projects to be translated into financial impacts (P67). Support IT projects where a financial case is easier to construct are being funded. (P68) Action research with benefits toolkit – consideration of non-financial benefits helpful (P127).	Qnf, Qnnf

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5. Ashurst et al	2012	International Journal of Information Managemen t	Exploring IT-enabled innovation: A new paradigm?	This article extends previous research on benefits-led approaches to IT, to research the implications for IT-enabled innovation. It is suggested that a benefits-led approach to IT-enabled innovation represents a new (third) paradigm different from the previous paradigms of technology implementation and a planned approach to benefits realisation. Based on 10 case studies.	d	Pt, po	At any time – see Q3a	Not specific	Not specific	Not specific	Not specific, but 'owners of innovation' usually innovation or IT teams	The article suggests that benefits in design/delivery approaches emerge based on work to solve a problem or achieve a vision. Contrast with top-down approach to benefits. Agile rather than waterfall.	Not specific	IS/IT innovation in private sector	Not specific	Not specific
6. Ashurst, C., Doherty, N., Peppard, J	2008	European Journal of Information Systems, 17 (4), 352-370.	Improving the impact of IT development projects: the benefits realization capability model.	This article develops a benefits realisation capability model, following research into the benefits realisation practices of 25 organisations. Four competences are identified, benefits planning, benefits delivery, benefits review and benefits exploitation. Measuring benefits is included in the	d followed by n	Mainly pt, also some referecnes to po	The empirical research identifies neglect of benefits metrics. By and large, the need to articulate benefits, during a project's planning phase, had been recognized across projects, but all too often these benefits were either articulated in a very general business sense, or in terms of the system's functionality and	No	No	No However, in the vast majority of cases, these analyses focused on the manner in which stakeholder s would interact with the system, rather than explicitly detailing how their roles and responsibilities should be modified to facilitate	Little evidence of ownership. Moreover, there was absolutely no evidence of organizations explicitly identifying owners for these benefits, to help facilitate their ultimate realization. The difficulty of getting organizatio	No	Not specific. Because project teams tended to be disbanded very soon after the go-live date, there was very little evidence to suggest that on-going benefits exploitation was explicitly practiced in any of the case organizations. However, in two cases managers were appointed to have responsibility for the long-term	Mainly IS/IT.	Having established the strategic drivers, most organizations had broken these down into a number of lower level benefits [BP3: identify and define benefits]. For the most part these were also fairly ill-defined, such as: 'reduce the operational costs for maintaining the web-site' {Vision and Scope: P8}; 'to provide searchable	Qnnf

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				analysis of competences			features or its intended usage, rather than clearly measurable business terms. P.363. The normative element in the paper indicates that benefits should be identified in the 'benefits planning' stage (BP3, BP4) P358.			the realization of benefits.P363	ns to provide clear measures for benefits was highlighted by a project manager {P21} who lamented: 'At the start of the project we asked about success criteria and how they (the customer) would measure return on investment. All we could get out of them was that other players in the market already had similar technologies, and they wanted to eliminate all paper from their sales cycle'. P 363		management and performance of the operational software P365		indexing for web-site' {Vision and Scope: P20}; 'to make the work of representatives more effective' {Vision and Scope: P21}; 'to provide users with easy-to-use online e-procurement for ordering office supplies' {Vision and Scope: P24}. Improving the impact of IT development projects In a small number of cases, there were examples of benefits that were articulated in a more measurable, but not necessarily a business-oriented form, such as: 'generate 1 million visitors per month' {Vision and Scope: P14}. P362-363	
7. Ashurst, C., Hodges, J.,	2010	Journal of Change Management, 10 (2), 217-237.	Exploring Business Transformation: The Challenges of Developing a Benefits Realisation Capability	This article develops a maturity model for benefits realisation capability for investment in change, based on dynamic capability theory.	d followed by n	pt, pm, po	One of the maturity factors is 'measuring success (p233). Level 1: Basic Including all relevant costs/ benefits in the business case.	No	No	No	Not specified who. Assesed throughout benefits life-cycle	Emergence is implicit.	Under 'benefits exploitation it is suggested that The knowledge of what is possible and how to use the full potential of the new technology is	IS/IT managers	Not specific	Not specific

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				Measuring benefits is therefore related to competences, and is part of 'practices' in the competence model (p234).			Level 2: Improving Carrying out benefits realization reviews. Level 3: Enhanced Focus on 'measuring the right things' as drivers of change Level4: Avanced Measures of the benefits realization capability						quickly fragmented and lost. When many organizations are still using systems 20 years old or more, retention of knowledge to enable continued benefits exploitation is important.			
8. <u>Baccarini and Bateup</u>	2008	Facilities	<u>Benefits management in office fit-out projects</u>	There is no "coherent" and "holistic" approach to benefits management in three case studies of office fit-out projects. But projects could be improved with KPIs for benefits and more formal control of benefits processes. Speculation that only if benefits are tangible are they recorded. Also that confounder variables are known to exist which may discourage managers from making claims for benefits achieved. Some evidence	(d) followed by (n)	(pt)	In business cases and business briefs, benefits were identified "but not in a coherent, structured manner".	Not specified	Not specified	"key stakeholder s" informally make mention of the project six months following completion(uninitiated)	Assessed informally on an ad-hoc basis. One case used weekly meetings during the project. But achievement nt "with overall concept" was the main reason for meetings not a systematic appraisal of benefits. Some post-occupancy evaluation (POE). Six months after delivery with random interviews with staff	None of the case studies identified new benefits during the fit-out period.	6 months after completion (implies a single review)	Construction Office fit-out projects.	Efficiency benefits measured by increase in occupancy density. Reduction in floor space per person. Collocation benefits; occupant productivity; flexibility for business growth; image benefits; desired corporate look; impact on environment; impact on behaviour e.g. collaboration. Staff retention. KPIs were ONLY set for efficiency measures.	Qnnf QI

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				that the business brief trumps any benefit approach: consistency with project brief is therefore very important. More formal and rigorous application is recommended with together with more monitoring during project, more KPIs and rigorous appraisal at project end.							and informal feedback from management. Efficiency and flexibility were reviewed (nothing else) after 6 months.					
9. Badewi	2015	Strategic Project Management: Contemporary Issues and Strategies for Developing Economies	<u>Project Management , Benefits Management , and Program Management</u>	Quantifying and planning for benefits influencing project success. But business case in itself without planning for the benefits has a weak correlation with project investment success	empirical with a view to formulate recommendation	Benefits management is part of programme management. Project management is a phase in the benefits delivery process	At the starting of the programmes	Yes	The psychological factors are mediating the benefits realisation process. I.e. if there is no quick wins, the change process may stuck.	Benefits owner is the final user of the delivered capability. The senior responsible owner is the head of the department which is doing the change.	portfolio management is the department responsible for that through its independent reviewers. (section 6.4.3)	benefits are identified before the project as part of the programme vision and mission statement	Rolling wave.I.e. programmes shall be thought as a continuous process but with setting tranches for controlling the benefits. I.e. after closing the implementation phase, the workshops shall think of new benefits to start a new tranche (section 6.4.3)	IT Projects	productivity, satisfaction, and users performance Are these examples?	all
10. Badewi	2016	International Journal of Project Management t	<u>The impact of project management (PM) and benefits management (BM) practices on project success: Towards</u>	this article focuses on the relationship between project managers and benefits owners. The benefits profile is developed by the benefits owners. Benefits	empirical with a view to formulate recommendation	Benefits management lifecycle is broader than the project management lifecycle. PM is a sub of BM lifecycle. it does not examine the	Benefits are identified before the project. Based on the definition of the benefits profile, project charter is developed to fulfil the needs for recouping the benefits. In	not	none	Benefits owner is the final user of the delivered capability. The senior responsible owner is the head of the department	Benefits auditors (be part of HR management which is integrated in the KPIs used in measuring the	none	the benefits need 3 years to mature and being integrated in the new Business As Usual (BAU). (Literature review and discussion)	IT Projects (global study)	Efficiency and effectiveness - satisfaction and ROI	(effeciency, effectiveness , satisfaction, and ROI). No qualitative benefits

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			<u>developing a project benefits governance framework</u>	profile is the contract between the benefits owner and senior responsible owner while project charter is the contract between project manager and SRO. (Section 2.3). Both the existence of business case (as written by SRO), Project charter and benefits profiles are critical for project investment success. the use of BM with conjunction of PM, the Project success improves additionally by 35% than being by PM only.		role of Po or Pm	the discussion section, the benefits are owned in such a way the sustainability of delivering the benefit is argued. Also, delivering benefits shall be integrated in the KPI system and compensation system.			which is doing the change.	employees' (i.e. benefits owners) performance). The benefits auditor reports the performance to the SRO. (Discussion section)					
11. Badewi	2016	PhD Thesis - Cranfield University	<u>Investigating benefits realisation process for enterprise resource planning systems</u>	Business case design to include the quantification of benefits, benefits modelling, benefits ownership, and the expected behaviour of benefits trends over time under certain assumptions. Benefits are classified into IT benefits, automating benefits, planning benefits, and	(n) and (d)	All Pt→ strategic Pm→ the benefits Pt → the implementation mechanism	Benefits are identified before the project starts. the first step after defining the vision and mission of the change	Yes	IT benefits are necessary for Automating benefits (AB). AB are necessary for PB PB necessary for Innovating benefits AB are not necessary for Innovating Benefits	Users, SROs, Project Managers, and Programme Managers	Portfolio Manager, or SRO, is accountable for the process of ensuring the benefits are self-realizable. HR department is responsible for integrating new benefits to current performance appraisal system	Responsibility of benefits realization in the post-implementation stage is the business change manager, whose responsibility is to manage the readiness to change before implementation, ensuring that the smoothing process of transitioning the project (Chapter 4)	Usually a benefits audit is conducted 6–12 months after delivering the project output	IT Projects (ERP systems)	Investment success (ROI, Satisfaction, and benefits)	All except the QI

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				Innovating benefits Automating benefits come from Pt Planning benefits come from Po Innovating benefits come from portfolio mgmt.												
12. Badewi and Shehab	2016	International Journal of Project Management	<u>The impact of organizational project benefits management governance on ERP project success: Neo-institutional theory perspective</u>	Comparison between benefits management logics (i.e. tools, concepts, and principles) and project management logics. The institutionalisation of PM and BM logics improves the possibility of successful transformational projects in an organisation . The use of PM and BM in normal projects improves the probability of success of transformational projects.	both	(transformational) projects	Continuous (before, with, after but within stabilisation , and after stabilization process)	No	none	SRO, Project managers, Benefits owners	During the project implementation is the business change manager. but after closing the project (i.e. transition). the SRO (the department head) is responsible for integrating the benefits into KPIs with HR department . (Literature review)	Responsibility of benefits realization in the post-implementation stage is the business change manager, whose responsibility is to manage the readiness to change before implementation, ensuring that the smoothing process of transitioning the project (Literature Review)	Usually a benefits audit is conducted 6–12 months after delivering the project output (Section 2.2.2)	ERP Projects	Investment success (ROI, Satisfaction, and benefits)	All except qualitative benefits.
13. Badewi et al	2013	Advances in Manufacturing Technology XXVII - Proceedings of International Conference on Manufacturing Research (ICMR 2013)	<u>Benefit Realisation Modelling for ERP systems using System Dynamics</u>	Before realising the benefits, the benefits owners shall be psychologically ready for the change (in the discussion section). Benefits realisation is a continuous process fueled by benefits owners	both	(transformational) project	transformational change project	Psychological returns are the fuel to keep on generating extra benefits	quick wins (Literature)	users, project managers, head of departments (SROs)	the perception of benefits shall be measured. But this paper does not cover the process of quantification of the benefits	none	none	ERP Projects	none	none

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				psychological factors (i.e. intentions, perceptions, attitudes, and motivations)												
14. Barclay and Osei-Bryson	2009	Project Management Journal	Toward a more practical approach to evaluating programs: The Multi-Objective Realization approach	The development of Multi-Objective Realisation Method (MORE) to help measure strategic contributions of programs. (Abstract)	d	Pm	Pm (P.80-82) 1-Identification (Defining stakeholders) 2-Definition (Benefits are identified) 3- Analys (measuring the benefits to take corrective actions) 4- Realisation (to confirm the strategic contribution has been delivered)	Yes	Use of Means-ends network to depict the relationship between IB and OB	Yes. . the stakeholders identified are program sponsor, program executive, program manager, external consultant, contractor, program team and staff (P85)	None	None	None	Software Company	Quality, process, innovation and learning, psychological benefits (e.g. perceived usefulness, ease of use), transaction cost, etc. (Table2. P 83 and Table 4 P 87) They can be summarised into People, process, customer, financial, and programme management	All (including improved operational efficiency, increase market share, and maximizing ROI). Qualitative benefits are quantified to be measured.
15. Bennington and Baccarini	2004	Project Management Journal	Project Benefits Management in it Projects-an Australian Perspective	"Significant room for improvement" in formal project benefit management exists among project managers p1. Research suggests that PMs concentrate on deliverables and measures of efficiency rather than effectiveness. Insufficient use of KPIs found. Interesting remarks about	(d) followed by (n)	pt	Pt Research title is a little ambiguous because the heading suggests "benefits identification" but the text refers to "establishment" of benefits p24. Some surveyed consult their stakeholders in workshops with key stakeholders, presumably where benefits are defined and	No	No Complexity of benefits generally and difficulty in identifying [sic] intangible benefits and benefits change over time p.25 are obstacles to OB let alone IB	None save that the survey respondents emphasised executive management as a stakeholder frequently (possibly because of the status of those surveyed MC)	Executives (implied) but where assess = monitor this falls to the pt. The benefits are assessed throughout the "project lifecycle" p24.	No, save for a reason to suggest why "establishing benefits" is difficult.	Not specified	IT Projects	Generic measures include Employee productivity and business efficiency, saving money/cost, accuracy and reliability, comply with regulations, etc. (table 3, p23.)	Qnf Qnnf

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				"over-stating" project benefits in order to get project approval p26. This has implications for who assesses? More than half of the respondents in this survey "inherited" the benefits (p26 and throughout) and so had no say in their appropriateness .			selected etc. For other pt managers the benefits are merely given by the executives p.24									
16. Berghout et al	2011	Computers in Industry	<u>Management of lifecycle costs and benefits: Lessons from information systems practice</u>	Benefit management practices are inconsistent among 8 financial services companies in NL. Operational costs are not always recognised and project goals are not easily verified/measured p1. Benefits (and costs) appear to be managed according to context and are "incident driven" p1. Research indicates that senior managers are becoming more involved in cost and benefit management but authors bemoan senior management evaluation of	(d)	Pt Some reference to Po level	Tendency for costs to be analysed in detail but "benefits are hardly measured" - Authors quote from one of their research subjects (section 5.2) "During development new insights emerge and perspectives change" Costs and benefits are to remain "balanced" Section 5.3 on realisation. Authors emphasise that benefits and costs need to be managed throughout the systems development lifecycle.	Not specified	Not mentioned	Generic stakeholder s; no specific stakeholder mentioned	Implies senior management identify, monitor and manage	Not specified	Not specified	Financial Services	Authors find a tendency to emphasise qualitative measures e.g. "better than the current situation" rather than quantitative goals (see section 5.2). ""commercial benefits remain tricky" (section 5.2). But all of the projects analysed in the research do make mention of tangible and intangible costs and benefits	QL, Qnf, Qnnf

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				projects and the absence of a "coherent set of methods"												
17. Braun et al	2009	9. Internationale Tagung Wirtschaftsinformatik Wien, 25. – 27. Februar 2009	<u>Benefits Management -A Literature Review and Elements of a Research Agenda.</u>	A literature review of benefits management that describes the "state of science" and the areas for future research". There is no consensus on benefits classification but general acceptance that "tangible benefits" can be measured according to an objective, quantifiable, financial measure and "intangible benefits can be measured using subjective and qualitative measures p557. Companies can no longer rely wholly on traditional ROI measures for IS/IT projects that seek to reduce business cost. "Interpretive methods are enjoying increased interest as they capture benefits in greater variety p558. Opportunities for research in combining	(d)	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	theoretical paper	General reference to intangible and tangible benefits; quant and qual but no specifics	No specifics

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				quantitative and interpretive approaches and industry based approaches to evaluation p559. Unlocking benefits will require "conversion effectiveness"... "to transform IS resources into actual benefits" p559												
18. Braun et al	2010	ECIS	<u>Understanding Benefits Management Success: Results of a Field Study.</u>	On benefits management capability from an RBV/ perspective. According to authors "increased interest in interpretive methods" to complement traditional ROI, IRR. However insufficient "resource" devoted to intangible benefit or where benefits too "complex" and cannot be captured in monetary terms p8.	(d) leading to some (n)	pt	Not specified	develop	Not specified	Not specified	Generic stakeholder . Some reference to "top management"	Paper is about the competencies required for successful benefits measurement but it does not address in whom these typically reside. Because the authors interview"BM stakeholders, top management, middle management and project management levels" p6 it suggests that knowledge of the competencies is distributed throughout the organisation.	Not specified	Field research	Not specified	Reference to generic Qnf, Qnnf and QI
19. Braun et al	2010	ICIS	<u>How Benefits from is/IT Investments are Successfully Realized: the Role of Business</u>	"Benefits are more likely to be realised with proper analysis, planning and reviewing"p9. Business process	d	Pt po. Data generated from projects and portfolios	Not specified	No. Some mention of intermediate business processes in the context of business	Not specified	Generic	Not specified	Not specified	Not specified	Data comes from IT and non-IT projects. But not guidance, a theoretical construct.	None specified	None specified

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			<u>Process Know How and Benefits Management Practices.</u>	knowledge and communication are skills are important too in this explanatory study. Conceptual model developed and tested against a range of projects				processkno wledge (BPK) which ultimately leads to benefits								
20. Breese	2012	International Journal of Production management	<u>Benefits realisation management : Panacea or false dawn?</u>	<p>The article was concerned with the development of BRM and used insights from the performance management and evaluation of regeneration programmes, coupled with a critical perspective, to illustrate the difficulties in benefits measurement and management.</p> <p>The assumption made was that the outputs and outcomes in regeneration were analogous with benefits.</p> <p>From my own perspective as a local programme manager, the benefits management framework provided a clear rationale for investment, ensured that</p>	n and d	pt, pm po. Linked rise of BRM with pm and po. Focus of attention on project benefits in regeneration.	<p>In regeneration, targets for outputs and outcomes were set at initiation, with approval by central government.</p> <p>'Targets for regeneration programmes were usually set at the bid stage, which was often a very intensive and stressful time' P. 347</p>	No, but see Qu. 3b	No, but see Qu. 3b	<p>'Different stakeholder s have different interests, and local communitie s often had a different perspective from those who focussed on what is required for the town or city as a whole (Diamond and Liddle, 2005). This demonstrat es how the 'logic' built into the benefits manageme nt framework was orientated to the requirement s of the dominant stakeholder s'. P.348</p>	<p>In regeneratio n, the benefits are for local communitie s, but the article is written from the point of view of a programme manager with a responsibili ty for programme level targets.</p> <p>Responsibil ities varied across the project stages,</p> <p>'Within the officer team, the division of tasks meant that the bid writer was sometimes a 'strategy' specialist, separate from the team overseeing delivery,</p>	<p>The main focus was on the attainability of targets</p> <p>'Inevitably, there were times when key elements of the programmes turned out to be impossible to deliver. In one programme I was involved in, the main flagship project, due to open up development sites leading to 700 new jobs and 160 new houses, failed to happen, because of local opposition to the scheme. Renegotiation of the content of the programme had to be undertaken. It was still possible to put together a range of other projects using</p>	<p>Most of the regeneration programmes I was involved with lasted between four and seven years. They were generally expected to achieve their outputs within that timescale, and there was a final evaluation at around the time that the funding for the programme ended. This was because the programme infrastructure was wound down at the end of the funding period, so if it was left until a year or more after the programme ended there would be no funding for the evaluation, or staff to liaise with the evaluators. Of course, the impact of a regeneration programme</p>	Regeneration programmes	<p>Quantification is referred to as one of the characteristics of the 'modern paradigm' of management science' P342.</p> <p>Regneration output categories and examples of outcomes are provided P345, 346.</p>	Mainly Qnf and Qnnf.

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				there was a focus on beneficiaries and complemented the financial audit process to provide a basis for accountability which was not only concerned with expenditure. On the other hand, the benefits management framework tended to dominate delivery of the programme, so that implementation was skewed to meet the requirements of the system, to the disadvantage of those less adept at 'playing the game'. P348							and the compressed timescales in putting the bid together meant that liaison was not always as smooth as it might have been'. P347	the spare funds to broadly compensate for the lost outputs, although the longer term regeneration impact was reduced'. P347	cannot be properly assessed until the shortterm funding has gone, and it can be seen whether the area can continue to improve without that support. P348.			
21. Breese et al	2015	International Journal of Project Management	<u>Benefits management : Lost or found in translation</u>	Development of BM as a management idea over the first 25 years reviewed, with geographical spread. Research agenda on the translation of BM promoted. As such, the subject matter was high level and did not discuss metrics in any detail.	Not specific	Not specific	Not specific	Not specific	Not specific	Not specific	Not specific	Not specific	Not specific	Generic	Not specific	Not specific

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22. Caldeira et al	2012	International Journal of Information Management	Information and communication technology adoption for business benefits: A case analysis of an integrated paperless system	Application of BM to a hospital project - useful detailed case study. It analyses the benefits of implementing a paperless software solution (Alert®pfh—Alert Paperfree Hospital, developed by Alert Life Sciences Computing) in a Portuguese Hospital, the Espírito Santo Hospital, in the city of Évora.	d	Pt only	<p>This was a 'before and after' case study. Data were collected between 2006 and 2011, covering periods before, during and after the implementation of Alert®pfh. The following techniques for data collection were used:</p> <p>Semi-structured interviews;Real-time quantitative data in the emergency services; Participant observation; and Document analysis.</p> <p>54 benefits were initially identified, although some were</p>	No	No	<p>Data collection was based on stakeholder s in the hospital identifying benefits but 'Neither the sources of nor the stakeholder s associated with each benefit are given in order to maintain their anonymity.' P. 198.</p> <p>Thirty-nine semi-structured interviews were conducted with members of the board of directors, doctors, nurses, IT staff, and IT consultants . The interviews provide for a detailed perspective of the clinical and administrative processes of the hospital and potential benefits. (P197)</p> <p>The article is not specific on which benefits and macro-benefits are owned by which stakeholder s in the hospital.</p>	It appears that the benefits were identified during the 'before' data collection exercise	In order that the above-mentioned benefits might be attained, appropriate and effective management of the process of organizational change to a digital system is essential. During the process both the system supplier and the Hospital directors were clearly concerned about this aspect, so it is expected that the organizational changeover will not constitute an obstacle to realizing the afore-mentioned benefits in the medium/long term. (P201)	ICT in hospital	<p>Some of these benefits are immediately apparent from a financial perspective. Other benefits do not show a clear financial value, and have been classed as measurable, quantifiable or observable in accordance with the methodology adopted. There are still others that are potentially financial, but it is not yet possible to identify or estimate their monetary value accurately. Nonetheless, the benefits deriving from implementing ALERT makes it possible to estimate an annual reduction in costs or gains achieved of 3,869,896 euros. P199-201.</p> <p>The macro-benefits include greater precision in diagnoses and clinical prescriptions; reduction in costs for tests and clinical analyses; greater</p>	Qnf, Qnnf. Used the Ward and Daniel classification of benefits.	

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							subsequently discarded, grouped into 7 'macro-benefits. The macro-benefits were represented as 'benefits (main)' in the BDN (P198-200)								systematicity in information for management purposes; reduced personnel costs; reductions in costs for facilities, equipment and material supplies; improved service for patients; improved working conditions for health workers; and the capacity to increase the volume of activity, especially in outpatient appointments, with no extra expenditure. (P202)	
23. Cha et al	2015	ICIS	<u>Owner Dynamic Capabilities and Benefits Management in Public Information Systems Projects: A Qualitative Content Analysis</u>	Analysis of 'owner dynamic capabilities' in benefits management using analysis of 31 IS public sector case studies. based on doctoral thesis. Abstract only is available	d	pt	Not specified	Not specified	Not specified	Not specified	The aim of paper is to examine the concept of owner dynamic capability, and how their post-implementation benefits can be realised within the context of IS project and its continuously changeable transformation	Not specified in the abstract	Based on the empirical data, the findings demonstrate the significance of project back-end capabilities as one type of owner dynamic capability in managing post-implementation benefits from	IS/IT Government projects	Not specified in the abstract	Not specified in the abstract

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24. Chih and Zwikael	2015	International Journal of Project Management	Project benefit management : A conceptual framework of target benefit formulation	<p>The article extends the literature on project benefit management by providing a holistic view on how project target benefits should be formulated and appraised.</p> <p>Our findings highlight the important role of project target benefits in funding decision-making and suggest seven criteria for their appraisal (strategic fit, target value, measurability, realism, target date, accountability and comprehensiveness) and four constructs which improve the formulated target benefits (a formal benefit formulation process, senior executive leadership, senior executive supports, and public service motivation). Abstract</p>	D leading to n	Mainly pt	The research concerned the development of project benefit targets for incorporation into business cases. It was concerned with criteria for deriving benefit targets, rather than the targets themselves.	<p>No</p> <p>But under 'comprehensiveness' refers to</p> <p>Unfortunately, there is no universal answer as to what can be considered "comprehensive," because it varies from one case to another. As a guideline, <u>Henderson and Ruikar (2010)</u> suggested different categories of target benefits including direct/indirect, short/long term, internal/inter-organizational and economical /cultural benefits'. P358</p>	No	The first critical factor suggested by our participants is stakeholder engagement in formulating target benefits, which is in line with <u>Breese (2012)</u> . Public project stakeholders who need to be engaged in target benefit formulation may include governing stakeholders (e.g., senior executives), supporting stakeholders (e.g., IT departments) and end users. It is essential to engage the "Right stakeholder for the right reason at the right time" P358.	In the government context, multiple agencies may have collaborative ownership of the ultimate benefits. Our participants thus highlighted the need to establish clear lines of accountability for benefit realization. Assigning a project owner – the person held accountable for securing the project's target benefits (<u>Zwikael and Smyrk, 2011</u>) – is considered an effective way of addressing this accountability issue (<u>Olsson et al., 2008</u>). P358	Not specified – the research concerned the front end.	Not specified	Australian government agencies - project and program managers	<p>Proposition 1</p> <p>Project target benefits can be appraised based on whether they fit into organizational strategic goals, whether they have a target value, target date and assigned accountability for their realization, and whether they are measurable, realistic and comprehensive. P358</p>	Qnf Qnnf no mention of qualitative
25. Coombs	2015	International Journal of Project Management	When planned IS/IT project benefits are not realized: a study of	The article describes a study of inhibitors and facilitators of benefits	D leading to n	pt	In this case, outcome benefit measures were poorly defined, but were developed	Using the Cranfield BDN, business benefit were	Through the BDN structure	Targets for the FMS that were stated in general terms with	However, <u>Ashurst et al. (2008)</u> report that although benefits are	This was a post-hoc analysis	Not specific, but point made that benefits achieved long after costs incurred	IS/IT Financial Management System project	Unfortunately, this emphasis on organizational transformation is not reflected in	Not specific, but against narrow technical measures.

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			inhibitors and facilitators to benefits realization	realization, using Cranfield BDN as diagnostic tool. It identified a lack of measurable targets for the project, but more important than this in the problems encountered in the project was the technical emphasis, as opposed to the change management organisational dimension			during the research, to obtain the views of participants.	identified, linked to investment objectives. P370		no obvious association with a particular stakeholder or group of stakeholders were categorized as investment objectives e.g. the council wide standardiza tion of processes. More specific advantages that could be associated with a particular stakeholder or group of stakeholders were categorized as business benefits e.g. improving the speed and accuracy of month-end and year-end reporting. However, although these advantages were labeled as benefits in the documentat ion from the case study site, the	regularly considered during the developme nt of a business case, once approval had been granted, the benefits focus rapidly disappears. As a result many IS/IT projects still end with the project being technically completed, but with the delivery of desired benefits lacking (Barker and Frolick, 2003; P366. Q6				IS/IT project evaluation methods, with many adopting a narrow quantitative focus on costs and benefits and treating evaluation as a technical problem (Stockdale and Standing, 2006). Common IS/IT appraisal techniques used by managers include return on investment, internal rate of return and net present value (Lin and Pervan, 2003). These techniques work on the premise that the cost of an investment is directly related to the benefits. However, the problem with this rationale is the significant gap between costs being incurred and the actual realization of benefits P364	Focus on organisationa l change, linked to investment objectives

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										explicit association with particular stakeholders was rarely stated. P369						
26. Crawford and Nahmias	2010	International Journal of Project Management	Competencies for managing change	Competitive rivalry among change managers, program managers, project managers and corporate executives. Who is best placed to effectively manage change?	d	s	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Project management/change management - generic	Not specified	Not specified
27. Dhillon	2005	International Journal of Information Management	Gaining benefits from IS/IT implementation: Interpretations from case studies	A two case study inquiry which shows (unsurprisingly) that real benefits reside not in the "IT domain" but in the changes to organisational activities. Quotes various sources indicating that benefits are important for "project approval" but post-approval "little further	d	pt	Pt benefits are important at "project approval" stage p503	No	No	Generic Stakeholders	"Success... is defined by the stakeholders within the wider (informal) environment of the system"	Not specified	Not specified	IS/IT in hospital and computer manufacturing company (Customer service information system)	General reference to some efficiency measurement but "cost containment" was overlooked in the ESL project p512.	Not specified

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				attention is paid to benefits" p503.												
28. Dhillon	2008	Information & Management	Organization al competence for harnessing IT: A case study	Author explains three "broad categories for harnessing IT" - "strategic competence"; "exploitation competence" and "supply competence" p301. A single case study – John Brown Engineering – is used to illustrate the author's argument. Very little connection with metrics for benefit realisation, but claims made for how benefit realisation is more likely if all staff are "involved and committed to the new way of working for full benefits to be realised" p300.	d	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Engineering company forms the basis of the case study	Not specified	Not specified
29. Dhillon	2000	System Sciences, 2000. Proceedings of the 33rd	<u>Interpreting key issues in IS/IT benefits management</u>	Thrust of article is the same as above article - Gaining benefits from IS/IT implementation: Interpretations from case studies	SAME ARTICLE AS ABOVE – SEE "GAINING BENEFITS											
30. Divenda l	2011	PhD Thesis - Twente University	Selecting and evaluating a benefits management	Comparison of 17 methods, evaluated for use at Heineken - chose	D in analysis of methods, n in choice of method, d	Pt, po	Assumption that this is undertaken in the Business Case.	Terms not used, but feature in the method evaluated,	No	No	General requiremen t for responsibilities to be	In corporate 'establishing the potential for further benefits' from	No specified, but on a related issue, the use of the extended Cranfield model	IS/IT, Heineken and Philips	Quantification is a key criterion, but in use of the BDN	Qnf, Qnnf. Incorporates the 'explicitness

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			method for IT projects	<p>Cranfield model, from a short-list of 4. Also interviews at Philips.</p> <p>The criteria for evaluating the 17 methods included quantification of benefits, the measurement of benefits and responsibilities clearly defined (P29).</p> <p>An extension of the Cranfield method, by Eckartz et al., 2011) is also evaluated P45</p>	in the use of that method.		<p>However,</p> <p>Third, in contrary to results from the Philips case study, the workshop participants express the need to use the benefit information in regular project meetings during project execution. Philips focuses at identification upfront and confirmation after a project, not at benefits management during project execution. However, the benefit 'thinking' process during project execution is greatly appreciated by all workshop participants</p> <p>P48</p>	eg in BDN of Cranfield model.			<p>clearly defined.</p> <p>In Cranfield model 'benefit owners' are assigned. For example,</p> <p>The workshop is concluded and the identified benefit owners are asked to think of methods to quantify 'their' benefits. The author of this study visits the benefit owners shortly after the workshop and at this point they are able to quickly provide quantificati on for the benefits.</p> <p>P44</p>	Ward and Daniel. P39	<p>found</p> <p>individual benefits are more useful to guide the project execution than to evaluate project success with. Benefit owners can often easily influence realization of individual benefit targets, but with negative consequences for other projects or daily activities. Benefits realization of specific benefits is a bad KPI to evaluate the owner's performance, because it can easily be influenced and may impede negative side effects. Evaluating the combination of all benefits in a project limits these negative consequences, making it a good indication of project performance. P48</p>		<p>Adding benefit details in the benefit templates is an easy task for the participants, until the benefits need to be quantified. Quantification is a difficult task and after more than two hours in the workshop, only some ideas on how one could quantify every benefit are provided. It becomes obvious that identification of benefits and quantification of benefits could better be split into two separate workshops for complex projects.P44</p>	<p>of the contribution, from Ward and Daniel, 2006.</p> <p>P37</p> <p>Incorporates a typology from Oude maatman and Eckartz, 2010, of suggested areas to look for potential benefits P36.</p>
31. Doherty	2014	Applied Ergonomics	The role of socio-technical principles in leveraging meaningful benefits from	Conceptual paper comparing BRM with the socio-technical systems work of Ken Eason, eg	n	Mainly pt, but some reference to pm and po. Concerned about organisational	Assumption of early identification of benefits as arising from activities and outcomes P184.	No	No	End user benefits stressed in S-T S literature.	'Active BM' and 'It's a journey, not a destination' and 'shared responsibili	Emergence of benefits from IT investment is common ground (also quotes Orlikowski	Not specific, but stresses post-implementation phase (Its a journey, not a destination)	IS/IT investments in change	Not specific	Not specific

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			IT investments	1988 book 'information technology and organisational change', and suggesting that BM owes much to Easen and fellow writers.		change and IT investment	Main focus on later stages				ty' but not specific on roles.P183	P184-185)				
32. Doherty et al	2008	The Electronic Journal Information Systems Evaluation	<u>Towards an Integrated Approach to Benefits Realisation Management –Reflections from the Development of a Clinical Trials Support System</u>	Development of BRM for a clinical trials support system, based on the Cranfield model. The article identifies a way of linking software development to end-user benefits	N, d	pt	Not prescriptive	Focus on BDN	Through BDN	Benefits for end users.	The article develops a means of linking software developme nt to benefits for users, taking account of organisatio nal change, through 'use cases'	The implication is that benefits are emergent in software development projects in health.	Not specified	IT in health	Unfortunately, there is very significant gap between simply specifying the desired outcomes of a prospective software development project, in financial terms, and ultimately establishing the veracity of such cost savings or improvements to revenue, once the system is operational. This is partially because it is far less easy to effectively measure the outcomes of a system's project, in financial terms, than it is to make pre-investment predictions. However, probably, the more significant reason that anticipated benefits, whether financial or otherwise, rarely translate into actual benefits is that project	Qnf, Qnnf

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															teams typically fail to recognise the critical role of organisational change.	
33. Dupont et al	2016	International Journal of Project Management	Enhancing project benefit realization through integration of line managers as project benefit managers	Line managers and subordinates as "project benefit managers" "enhances compliance in project implementation" The article is concerned with process of ensuring benefits will be realised by thinking deeply about "correct" ownership by respected line managers who have (1) day-to-day knowledge of operations (2) have the "correct" network attributes to deliver small or large changes and (3) Are mutually trusted by those who will be affected by the change. Authors recommend carefully chosen "project benefit managers" but the article says nothing about metrics.	(d) in case study (n) in interpretation	pt	Not specified but it is apparent in the case that theoretical benefits are defined by senior management but are subject to distortion if implementation is not achieved and compliance is low	None specified	None specified	None specified (generic only)	Not specified but see column 6	None specified	Not specified	Banking	None specified	None specified
34. Eckartz et al	2012	System Science (HICSS), 2012 45th Hawaii	A Design Proposal for a Benefits Management Method for	An attempt to improve and develop the Ward & Daniel 2006 BM	n	Pt, pm	"In order to realize the expected benefits it is important to	Not specifically but benefits dependency network	Proposed improved approach "assigns a sequence in	Not specified save generic reference	Proposed method can be initiated in "collaborati	Some evidence that practitioners – e.g. ES vendors	Yes "Another important issue to consider is that only during the onward and	IT enterprise systems	Recommendations to improve benefit specificity by adding	Qnf Qnnf QI but no specific measures.

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		International Conference on	Enterprise System Implementati ons	method. Authors outline 4 characteristics of BM which experts consider most important: (1) "Ability of any method to quickly quantify benefits" (2) Avoidance of abstraction and preference for practicality (3) Ability to clearly assign responsibility for benefit "identification, measurement and realization" (4) "Ability to integrate the method with existing business processes and KPIs" p4646.			specify them early in the process and also explicate the necessary business - and organisational changes during the ES implementation" P4644-4645. Business case is focused on the project chartering phase "whereas extensive implementation research shows the project stage to be of substantial influence on the implementation outcomes and thus the costs and benefits" p4645.	mentioned. Cranfield model "perceived as complex""A more straightforward connection between the benefits, goals and drivers of the project is demanded" 4647	achieving the benefits" p4649 "assigning the amount of coupling"	and senior managemen t	ve workshop". "Update benefits during the implementation stage	Microsoft and SAP – recognise the "iterative BC (Business Case) approach" p4645. Authors improved BM method recommends "specifying benefit realization time span" p4648	upward phase when the ES system is in operation most benefits get actually realised". A "larger investment horizon" is important when specifying benefits.		probability, frequency, dependency between benefits and making measurements explicit.	
35. Eskerod and Riis	2009	Project Management Journal	Project management models as value creators	Building on earlier work the authors contend that "a common project management model" is the "most significant" in bringing value to a company p5. Value in this context does not mean benefit It means "efficiency, legitimacy, power and control or stakeholder	(d)	Pt, po	Not specified	Not specified	Not specified	Not specified Generic	Not specified	Not specified	Only one of the project management models "concerns itself with life after project completion" p14.	IT; financial services; manufacturing; consulting engineers; pharmaceutical	Not specified	Not specified

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				<p>satisfaction" p6.</p> <p>Reviews five companies in DK, all have adopted their own project management model which helps to "harvest value" on condition that "there is substantial investment in both the human and technical dimensions"</p> <p>P17.</p> <p>Of the five companies, three "indicated that they ought to be better in measuring and following up on benefits"p13.</p>												
36. Fearon and Philip,	2005	Journal of Information Technology (Palgrave Macmillan)	Managing expectations and benefits: a model for electronic trading and EDI in the insurance industry	Classification of benefits and motivation for electronic trading (defined as inter-organisational systems and including EDI) is well documented in the literature. Benefits are	D followed by n	pt	<p>Before pt for definition</p> <p>Article approach is to say less about development, definition and selection as a formal process and more about how expectations</p>	<p>Implied</p> <p>The opposite is the case for this study. Benefits are realised early for brokers, nut as adoption of EDI becomes</p>	Implied (see left)	External stakeholder s that influence and drive expectation s are emphasised . For this study they include the insurance industry	Not specified	Recognition that benefits are achieved differently to how they were planned. Also the benefits expected by different organisations will vary through time according to	Not specified precisely but recognition that distribution of benefit changes.	Insurance	Not specified but commercial measures – commission, cost savings (labour), storage costs. Accuracy, speed. Supplier –buyer relationship improvement	<p>Qnf</p> <p>Qnnf</p> <p>QI</p>

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				<p>direct and indirect. The former referring to operational benefits such as improved speed of communications , increased control and reduced cost of error/admin. The latter (indirect) referring to better customer service, improved vendor relationship, competitive advantage, customer loyalty, increased sales, "increased technology leadership", "improved data sharing" p178</p> <p>Authors suggest less is known about the inter and intra organisational realisation of the more "indirect" and strategic benefits.</p> <p>Authors approach is to examine the factors that influence expectations and actual realisation of benefits. The</p>			<p>about benefits are subject to external influences including software vendors, technologists and the partner with most power. So this is prior to project sign-off.</p>	<p>commonpla ce benefits (from the persepctive of the broker) are eroded.</p>		<p>itself, the technology providers and the brokers who want to show willing to their insurer partners. Consultants as "stakeholde rs" "over-inflated expectation s" p183.</p>		<p>how the parties exploit the new situation(s) that emerge.</p>				

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				process of formulating and communicating expectations among organisations that adopt electronic trading is an intangible process but one worth understanding to see if reconciliation of such differences will lead to improved commercial success.												
37. Flak et al	2008	Hawaii International Conference on System Sciences, Proceedings of the 41st Annual	<u>An exploratory approach for benefits management in e-government: insights from 48 Norwegian Government funded projects</u>	Development of a Norwegian method for BM, HOYKOM, and its use by 48 Norwegian eGovernment projects. Projects managers were asked about their quantitative and qualitative benefits measures	D leading on to n	pt	The HOYKOM process involves 4 stages 1. Before project start-up: initial cost/benefit analysis to accompany the project proposal when applying for financial support from HOYKOM, 2. during the project phase: a specific, detailed plan of expected benefits from the project. The plan is seen as an instrument for the project	No	No	Also, the Norwegian approach seems to provide less explicit focus on stakeholder involvement compared to existing approaches such as the Cranfield Process Model and the ABR model. P10	These plans are suggested as an instrument for the project owner, enabling him or her to develop a roadmap outlining how particular benefits will be realized and when. Hence, this plan is a key ingredient in a benefits manageme	This does not feature as a theme in HOYKOM	Not specified	eGovernment in Norway	The HOYKOM approach includes lists of pre-defined quantitative and qualitative benefits P5-6. In conclusion.... Two issues stand out when looking at the data from the HOYKOM projects. First, the estimates concerning the actual figures of quantitative benefits were of surprisingly poor quality.	Qnf, Qnnf, QI

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							manager, 3. by project sign-off: When the project manager hands over the results of the project, the project owner should develop a benefits realization plan that clearly states which benefits the organization will pursue (based on the plan of expected benefits from the project manager) and how the organization intends to act to ensure that specific benefits are actually realized and 4. during the operative phase: Roughly a year into the operative phase, the project owner should assess the effects of the project and account for which and how eventual benefits were actually realized.				nt approach and the generally poorly developed plans from the HOYKOM projects does represent a concern.P9				The other issue that stands out from the data material produced in the 48 projects is the generally poor quality of the contents of the benefits realization plans. Explanations are posited for these issues. P9	
38. Gomes and Romao	2013	Tourism and Management Studies	How benefits management helps balanced scorecard to deal with business dynamic	Recommends a BM approach (Ward & Daniel's) to overcome some of the issues associated with performance	n	Po, Pm Strategic projects portfolio emphasised	Not specified. The authors concentrate on characteristics of good measurement rather than explain when	Not specified	Not specified but emphasis on benefit dependency network and validating the links between measures	Generic use of stakeholder s. Importance of ensuring value is created for	Not specified WHO, but "any organization operating in a dynamic	Post implementation review is an "important component of the project" and would seek to	"benefits management considers both short and long-term business benefits" "Long term benefits may not appear	IS/IT,	Customer satisfaction and loyalty considered "relatively new" [sic]. "Few have realised the potential benefit"	Qnf Qnnf QI

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			<u>environments</u>	measurement frameworks like the Balanced Scorecard			benefits are defined and developed.		rather than benefits	stakeholder s is stressed.	environmen t" "should redefine the performanc e measures" p132	understand "whether there were any unexpected benefits arising and which planned benefits are still expected but may need additional attention to ensure they are realised" p133.	until long after the program has closed and may generate less commitment and enthusiasm" p137.		p137. Balanced set of measures is required. Sales, annual revenue. Time reduction. Ordinal scales, for example "company recognised as innovative" see Figure 6 p134.	
39. Gomes and Romão	2015	<u>International Journal of Information Technology Project Management (IJITPM)</u>	<u>Enhancing Organisational Maturity with Benefits Management</u>	UNABLE TO ACCESS FULL ARTICLE												
40. Gomes and Romão	2016	New Advances in Information Systems and Technologies	<u>Improving the Success of IS/IT Projects in Healthcare: Benefits and Project Management Approaches</u>	PM and BM approach can "enhance the reliability of the delivery benefits from investments in IS/IT" (no page numbers) Follows the Cranfield model.	D	Pt pm	Questioning of the intended benefits will occur naturally as a consequence of applying the BDN method to see if enablers, processes, responsibilities, change initiatives, governance and metrics can all be combined to produce benefits. Key stakeholders should be	Not specified, save implied in BDN	Not specified, save implied in BDN	Key stakeholder s (no specifics)	"Benefits' monitoring compares results with benefits in the realization plan during the project"	"It is also understood that alongside planned benefits unplanned benefits often emerge which are the consequence of an implemented change or another gained benefit."	"The benefits' management process includes a stage of post-implementation review, which is a crucial project phase. This review stage should not focus just on technology usage. Instead, the review should explore which of the expected benefits have been achieved, whether any unplanned	IS/IT in healthcare	None specified	Not specified

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							involved in order to maximise their commitment.						benefits arose, and which planned benefits are still expected, but may well need additional attendance in order to ensure that they are fully completed".			
41. Gomes et al	2013	International Journal of IT/Business Alignment and Governance (IJITBAG)	<u>The Benefits Management and Balanced Scorecard Strategy Map: How They Match</u>	Authors seek to link strategy mapping ideas from the Balanced Scorecard literature with the benefits dependency network from the benefits management lit. The ideas are seen as "complementary " but the authors' goal is to "build a framework that combines useful features of both methods" p44. Case study is IT intervention at ViaPav	n	Po Projects are mentioned but in the context of quoting Remenyi at al (2000) who point out the difficulty and challenge of identifying "all benefits should be identified and quantified before the project starts" p48.	Author cites Peppard et al 2007 to list five principles of realising benefits in IT projects. Principle 4 suggests: "All IT projects have outcomes, but not all outcomes are benefits - Many IT projects produce negative outcomes, sometimes even affecting the very survival of the organization" p46. Recommends a BDN which will be achieved through workshops. Important that stakeholders (generic) "identify and agree" and also "learn" [about] benefits. P48.	Not specified	Implied in the use of BDN but otherwise not specified.	Generic stakeholder s	Not specified	Authors appear to be sceptical about the idea of emergent benefits. Everything needs t be "managed appropriately"p 45. "It is unlikely that benefits will simply emerge, as if by magic, from the introduction of a new technology. Their realization needs to be carefully planned and managed (Lin & Pervan, 2003), (Markus, 2004) p45.	Not specified but implied in some of the arguments the author makes and in choice of citations.	IS/IT	Authors quote Ward & Daniel (2006) to note that benefits are tangible and intangible and that the latter are "judged subjectively and tend to employ qualitative measures" p45. Measures for ViaPav case include: Revenue, customer enquiries (less is more?); time reduction; and customer satisfaction. It is not possible to tell from the paper the full detail of these measures.	Qnf; Qnnf; QI
42. Greenwell et al	2014	International Journal of	<u>Benefits Management of Cloud</u>	The aim is to apply benefits management	D	Po (p2) to identify the benefits but	projects	Yes	Yes p5 examples marketing	No	Not	None	none	Cloud computing	Marketing, financial and economic,	All

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		Advanced Computer Science and Applications	<u>Computing Investments</u>	approach on cloud computing. Benefits Maps are used to identify the relationship between the enabler, enabling changes, business changes, business benefits and investment outcomes		project to realise the benefits			advantage can improve the position organisation. also maintaining competitive advantage can improve the profitability						quality, customers perception, and process approach	
43. Harris et al	2008	Built and Human Environment , 26 - 27 June 2008, Prague, Czech Republic.	The methodologic al development of a Benefits Realisation Management Process (BRMP) in the case of Manchester, Salford and Trafford (MaST) Local Improvement Finance Trust (LIFT)	The aim of the case study is to assess what degree MaST Local Improvement Finance Trust (LIFT) is realising its intended aims and benefits through undertaking a BRMP. This was a preliminary paper. The research was concerned with the evaluation of the LIFT programme as an action research study. Hence it's use of BRM is post-hoc. It made the assumption that the benefits in the business case were not being routinely monitored – one of the reasons for the evaluation.	d	Pt, pm	In this case benefits are defined in the business case but not monitored after that.	No Reference to a benefit dependenci es mapping exercise, but no details about this.	No	The evaluation was seeking to identify the views of different stakeholder s. Staff, patients and community, for example.	Not specified who should assess benefits within the project – in this case an external evaluation team are involved.	The evaluation was concerned with both planned and unplanned benefitis	Not specified	Healthcare	The analysis sought to use questionnaires for quantitative data and interviews/focus groups for qualitative data.	Qnnf, QI

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44. Hellang, Ø., Flak, L.S. Päivärin ta, T	2013	Transforming Government: People, Process and Policy, 7 (1), 93-108.	Diverging Approaches to Benefits Realization from Public ICT Investments: A Study of Benefits Realization Methods in Norway.	This is a key article in demonstrating different approaches to benefits realization. It distinguishes between methods (6 in use in Norway eGovernment) and approaches (3 identified (p95)).	d	Pt, pm, po Different methods and approaches have diferent emphases.	Assumption this is early in the process, for Cranfield approach and both others.	Not specified	Not specified	Indicated as stronger in Cranfield approach than for justification planning and portfolio manageme nt approaches	Some methods are project based, others more scalable to programme and portfolio – influences roles.	Not specified	Portfolio management approach is ,over several years' P104	IS/IT	Varies – for example, justification planning approach based on cost/benefit analysis, net present value	Mainly Qnf, Qnnf
45. Hessel man and Kunal	2013	Twenty Second European Conference on Information Systems, Tel Aviv 2014	<u>Where are we headed with benefits management research? Current shortcomings and avenues for future research</u>	BM research in "adoption and usage" and "context of BM" is under-represented. Research in the field needs a change of direction. Multi-perspective approach is used to study low adoption of BM – technical, humanistic, control and organisational perspectives are chosen.	D Paper is concerned about the status of research in BM and not metrics/ measureme nt.	Pt but not really specified. 40 mentions of "project", 1 mention of "portfolio".	Theoretically observes the Cranfield model so benefits are developed and defined at stage 1	Not addressed	Not addressed	Generic – but "IT stakeholder s" are referred to.	Because the paper finds evidence in the literature for low adoption of BM the implied reference to who is the generic category of "employees " p4.	Not specified	Not specified	IS/IT	Not specified	Not specified
46. Hessel man et al	2015	Conference in Germany	<u>Not Everybody's Darling- Investigating the Acceptance of Benefits Management and Moderating Organization al</u>	An individual's role in BM and aspects of organisational culture are determinants of BM acceptance. Paper seeks to address the	d	pt	Not addressed	Not specified	Not specified	Not specified	Focus on stakeholder s is their acceptance of BM. They show a "low degree of BM acceptance " largely because of	Not specified	Not specified	IS/IT	Not specified	Not specified

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			<u>Characteristics.</u>	<p>shortfall in research that attempts to understand low adoption of BM.</p> <p>Authors' conceptual model suggests BM acceptance is determined by "performance, expectancy, outcome expectancy, social norm", "facilitating conditions" and "efficiency pressure". This is moderated by BM role and organisational culture</p>							the efforts they need to make in changing their behavior p588.					
47. Jurison	1996	The Journal of Strategic Information Systems	Toward more effective management of information technology benefits	<p>IT can provide significant benefits, but in many cases, the firm that made the investment does not capture these benefits. benefits shall be owned, quantified and managed to be realised. (Abstract).</p> <p>In attributing benefits, there are three issues: inappropriate measures, inappropriate unit of analysis (assignment of benefits levels) and time lag (P264). This</p>	n	Portfolio and Project	Portfolio Level. Benefits of IT projects can benefit different stakeholders at the same time.	Yes	Infrastructure benefits are required for realising process benefits (P265)k	Yes, benefits shall be measured from different stakeholder s' perspective s. examples given are for stockholder s, employees, customers, suppliers, competitors , regulators and general public (P266)	None- but stakeholder s are the only ones who perceive it.	None	none	a review paper	Different benefits metrics shall be used to measure the value from the investment in IT. Social Benefits (P266)	<p>Benefits are not only productivity and ROI but also improvement in the process, quality, and other intangible benefits (P264).</p> <p>Thus value/stakeholder based measurement is introduced to aggregate benefits into a single figure (P270)</p>

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				paper developed Stakeholder based model to trace benefits with the stakeholders.												
48. Karamit sos et al	2010	Journal of Software Engineering and Applications	<u>Benefits Management Process Complements Other Project Management Methodologies</u>	Compared between the concept of benefits in Benefits management and PRINCE2. In Benefits management approach, benefits shall be identified and owned before the scope is defined. the quantification, determination, and attributing the benefits are the key to the success (Conclusion)	N	Pt	Pt. the focus of the paper is comparing between PRINCE2 and Benefits Management as contrasting but complementing approaches to run projects	No	No	Yes. stakeholder s assignment comes in the second step after identifying the benefits	None	Yes, the exploring "further benefits" are each phaew of the project management	Projects shall be closed after the benefits become mature and self-realizable. Also, it seems as a process more than being projectized. I.e. in the closing the focus in on exploring new benefits (P843).	theoretical paper	none	none
49. Kazmi et al	2016	International Review of Management and Marketing	Impact of Benefit Realization Management on Two-dimensional Model of Project Success: Evidence from Pakistani Telecom Industry	Benefits management practices are associated with project success. the most critical factor is reviewing the benefits and the least important factor is the BRM planning which include the benefits identification	N	Po	"the program further synchronizes work for the generation of more benefits than that of by projects" P 33	Yes	"IB make great contribution in the accomplishment of end benefits. those end benefits may direct contribution in the achievement of other strategic objectives of the organisation" P 33	Yes, Stakeholder s shall be identified in the benefits planning process	None	Yes, benefits shall be explored after the closure	none	Telecom Industry	Project investment success (i.e. ROI and Stakeholders' satisfaction)	No QI
50. Laursen and Svejvig	2016	International Journal of Project Management	Taking stock of project value creation: A structured literature review with future directions for	The article joins several research areas by adopting the project value creation perspective on literature relating to	D	pt	Not specified	No	No	In distinguishing between beneficiaries, we also find the subjectivity of value essential as	Not specified	The distinct nature of value creation and capture was explained by <u>Chang et al. (2013: 1140)</u> , using the Sydney Opera	Long term – see quote for 3a.	theoretical paper	Not specified	Not specified, but broad view

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			research and practice	<p>benefits, value, performance, and success in projects.</p> <p>The article identifies areas for further research, including the stakeholder perspective on value, but it does not focus specifically on how to measure value creation.</p> <p>Reviews value creation models, which will deal with measurement in more detail (Table 4).</p>						<p>value differs across stakeholder s, as individuals or groups of individuals subjectively perceive value (European Standard, 12973-2000, 2000). What is regarded as valuable to one stakeholder might be regarded as the opposite to another stakeholder (Breese, 2012: 349; Lim and Mohamed, 1999: 244). In the literature we find a strong argument for regarding customers and regarding this external stakeholder deciding success (Baccarini, 1999; Lim and Mohamed, 1999; Pinto and Slevin, 1988; Shenhar and Levy,</p>		<p>House: "The value of this project is captured by Australia as a nation, yet many of the current 'beneficiaries' of this project did not participate in the original value-creation process. This demonstrates the need to consider project success as an ongoing and long term (emergent) process of value creation, as compared to the traditional output measures</p> <p>P743</p>				

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										1997), which we see resembled in the investor evaluation of project success (Zwikael and Smyrk, 2012). However, focusing on the customer might be too simplistic P743-744						
51. Lier and Dohmen	2007	System Sciences, 2007. HICSS 2007. 40th Annual Hawaii International Conference on	<u>Benefits management and strategic alignment in an IT outsourcing context</u>	Benefits management and strategic alignment together improves the outsourcing success.	N	Pt	Benefits from outsourcing activities shall be strategically aligned with the organisation strategic direction (Discussion)	Yes	Benefits interrelations shall be considered (Table 1) Measurable benefits can be translated into Service Level Agreement (SLA) to ensure benefits from the outsourced party	Benefits shall be owned by somebody to be realised (Table 1)	Continuous assessment t (Table 1) but not specified a certain person.	Not specified. but the literature spotlighted the Cranfield process	Benefits shall be translated into KPIs at the end (Table 1)	IT Projects	Stakeholder satisfaction of benefits realisation according to plan – not clear	Not specified.
52. Liles	2003	SC2003	<u>Using Benefits Management : A Case History</u>	Setting baseline of the current performance; identifying the expected level of KPIs in the future Benefits Management is changing PM from waterfall approach to be evolutionary approach.	D	Pt	Project	Yes	Balanced Scorecard as an approach for mapping benefits Organisational learning benefits → Customer Satisfaction → Financial Benefits	Yes, all relevant stakeholders	Not mentioned	Not specified	Not specified	IT Project in Financial Services	Increased Customer Satisfaction, Reduced Time-to-Market and Increased Revenue	Quantitative
53. Lin and Pervan	2001	A Review of IS/IT Investment Evaluation and Benefits	<u>A review of IS/IT investment evaluation and benefits management</u>	Not accessible												

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		Managemen t Issues, Problems and Processes	<u>issues, problems and processes</u>													
54. Lin and Pervan	2003	Information and Managemen t	<u>The practice of IS/IT benefits management in large Australian organizations</u>	A survey to find benefits management practices. pactices of benefits management are used in Australian firms. But lack of uniformity in their formality (Abstract)	N	Pt	Assumes early on	No	no	Yes, users and business owner – P20	Reviews can be done by external organisatio ns or by the organisatio n itself. the focus on realisation of benefits and technical performanc e of IT. the tools are internal reviews and formal meetings	Measures added before the project	The reviews are done after 29% after 3 months of implementing the projects 23% after 6 month The main reason is to identify lessons learned; not to explore more benefits (P22).	IT Projects	(examples competitive advantage, process efficiency, cost reduction, strategic alignment, service quality, and satisfying information needs) P18-19	All
55. Lin, K., Lin, C.,Tsao, H-Y	2005	Journal of Information Science and Technology 2 (4), 44-71.	IS/IT Investment Evaluation and Benefits Realisation Practices in Taiwanese SME's	Survey of adoption of investment evaluation methods (IEM) and BRM methods in IS/IT investments in B2B electronic commerce. More on uptake of methods than the detail of measurement. Comparison of results with 4 other studies, p52-53.	d	pt	Assume early on.	Not specified	Not specified	Not specified	Not specified	52.4% had a formal process to identify and realise any further benefits after implementatio n	Not specified	IS/IT	IEM methods ROI, NPV, PP (packback ?payback? period) 48.8% included intangible benefits – of these 24.4% did not use an IEM or BRM. p55 Use of IEM or BRM made it more difficult to overstate the benefits p55	All
56. Love and Irani	2004	Information & Managemen t	An exploratory study of information technology evaluation and benefits	Article explores benefits management practices and technology evaluation among	D but leading to n especially in respect of: "develop an	Pt	Investment justification may be the result of "assigning arbitrary values to benefits and costs" p228. A	Not strictly specified but the research instrument allows respondent	Not specified	Not specified	The research targets project managers, architects, contractors,	Authors quote David (1990) about "the diffusion of technology in the industry" and the	Not specified	IS/IT use in the SME Construction sector	Not specified but respondents use the survey instrument to review a variety of benefits but no measures	Implied Qnf Qnnf QI

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			management practices of SMEs in the construction industry	construction SMEs in respect of IT/IS projects. Background and context is the IT productivity paradox. Surveys Australian construction SMEs, operationalising 8 research variables.	expected IT benefits and costs manageme nt plan that also incorporate s anticipated indirect costs" p239.		form of "creative accounting". "Over 50% [of SMEs surveyed] prepare an IT benefits delivery plan prior to, and during, system design and implementation. Evaluation processes employed are linked to size (turnover and employee headcount)	s to 9 strategic benefits, 9 tactical benefits and 13 operational benefits. Some of these may be seen as intermediat e benefits which support wider strategic benefits.			engineers, QsS because of the nature of the sector. Research reports that subjects tend to review success after projects are completed and use this as an "opportunit y for learning" rather than "ex-ante evaluation" p239.	observation that benefits do not emerge until the "diffusion rate surpasses 50%" p227.			are specified	
57. Love et al	2014	Automation in Construction	<u>A benefits realization management building information modeling framework for asset owners</u>	Benefits realisation process as a "learning process" p1. Article is discussion of BIM (Building Information Modelling) and its contribution. It should not be seen as a "discrete IT project" but as a "business change program" p1. Benefits will materialise over time.	(n)	Pt pm po	Benefit measurement is not located within the IT project, save for traditional expectations about cost and time. Benefits are realized when assets are operational and the information models are helping asset owners to rectify problems, schedule maintenance etc. In other words to improve operational efficiency.	Implied because BIM is an enabling technology and is a means to an end	Interdependenc ies exist between specification of the correct data and information in the BIM and future operational activities.	"Asset owner" is the key stakeholder by default, because the benefits will be realized by the owner over the life time of the asset.	"Only business managers and users can release the benefits of BIM: The benefits that can be derived from BIM materialize through changes and innovations in ways of working so only managers, users and customers and suppliers with an asset owner's supply chain can make these	Yes, but not specified in any form of detail.	Article is discussion of BIM (Building Information Modelling) and its contribution to asset design, construction, operation and maintenance. It therefore, takes as given, the idea that benefits are measured and assessed well into operation handover and beyond. Benefits of a "strategic and organisational nature may not come to fruition early in project	BIM - Construction	In the context of this article: FM labour utilisation; Time to close out a works order; Utility cost reduction and energy savings; material wastage; fuel savings (transport); regulation compliance; improved inventory; configuration management	Qnf Qnnf

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											changes. Therefore, IT managers and project team members involved in delivering the building information model cannot be held accountabl e for realizing its business benefits" p5 "explicit lines of accountabil ity (e.g. IT department can be accountabl e for the implementa tion and integration of a building model into the organizatio n but not the benefits"		life" p5. "For the asset owner BIM benefits management is a continuous process whereby benefits will constantly change throughout a facility's life-cycle. For this reason, asset owners need to employ a performance measurement system, such as a 'Balanced Score Card (BSC)' or 'Workflow Measurement Model' [32], to measure the overall business results that emanate from a building information model that is used to manage and maintain the asset" p5.			
58. Marnewick	2016	International Journal of Project Management	Benefits of information system projects: The tale of two countries	Exploration of benefits management experiences in South Africa and Netherlands, suggesting that BM plays a role at project and programme level and "enhancing benefits	D Used the literature to make some normative recommendations e.g. "a project's life should be extended (beyond	Pt, pm Study follows Bradley (2010) in acknowledging that projects and programmes deliver benefits.	Business case	Not specified	Not specified	In some examples projects have been referred to the "project steering committee". .	Benefits should be continuously monitored against the business case. In some cases "benefits tracking is not in place or done"	Article tends to emphasise definition of benefits and measurement of Bs before project rather than emphasising emergent benefits: "It is important that promised	"Organisations should extend the project life cycle beyond the traditional life cycle if they want the realisation of the promised benefits to improve" p756.	Different Sectors The qualitative analysis of interviews reveals various coded themes including that "intangible	Tendency for quantitative measures evidenced by: "The business case must relate both quantitative as well as qualitative benefits" p754.	

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				realisation implies that ROI improves" p748. "There is currently no research on benefits management and the impact that the delivery or non-delivery of benefits has on IS project success and ultimately the success of the organisation" p749 The research supports other findings in that there is good awareness of the importance of BM but inconsistent application of processes and concerns about the "quality of how the benefits are defined and described" p 757.	execution) to accommodate outcome realization and measurement." p756 (QuotingZwikael and Smyrk, 2012)	But interviews find that: "It must also be noted that organisations attach benefits and benefits realisation to individual projects, irrespective of scope, cost or importance. This is in contradiction with current standards and methodologies , which state that benefits management falls in the domain of programme management" p757 "The analysis indicates that the Project Management Institute is the only professional body that excludes benefits management from the discipline of project management." p759					(diagram p755).. In some cases "benefits are measured only after project completion" (diagram p755)	benefits must be properly formulated at the beginning of the project." P757.	But no specification of how far out. Again the authors recommend: "the traditional project life cycle can be extended to include the delivery and realisation of benefits" p757.		benefits must be converted to Rand value" p754	

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59. Marshal and McKay	2003	7th Pacific Asia Conference on Information Systems, 10-13 July 2003, Adelaide, South Australia	<u>Steps towards effective IT governance: strategic IT planning, evaluation and benefits management</u>	Examining the cycle of It investment and the importance of benefit realisation. Authors call for "an integrated programme of IS/IT planning, evaluation and benefits management that is embedded in the day-to-day routines and rituals of the organisation" p17. Research involves qualitative case studies of six organisations, interviewing the CIO. Paper theme is governance not benefits metrics. "Some of our sample organisations had proactive benefits management processes in place, while others conceded that this was	(d) and (n) Normative in the sense that the authors are seeking validation for their approach to IT/IS governance	Pt But not the specific concern of the authors	Business case	Not specified	Not specified	Stakes	No specific guidance in terms save for the expanding detail of benefits at each phase beginning with building a business case, alignment and prioritisation, evaluation, systems acquisition, and implementation.	Not addressed "Interestingly, our CIOs tended to adopt the satisficing position (i.e. that delivering, say 80% of expected benefits was probably good enough and that the resources consumed in trying to achieve 100% or more would be better diverted elsewhere)" p24	See column left The research indicates the tension between the resources required to do a full audit of the benefits that were promised initially and the idea of satisficing and recognising new opportunities.	Different Sectors/ IT Projects	Not specified	Qnf (implied)

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				important and an area where they needed to improve." p24												
60. Marshal and McKay	2004	Australasian Journal of Information Systems	Strategic IT Planning, Evaluation and Benefits Management : the basis for effective IT governance	SAME PAPER AS ABOVE										Different Sectors/ IT Projects		
61. Mihic et al	2012	Managemen t Journal for Theory and Practice Managemen t	<u>Benefits Management in Energy Efficiency Projects in Serbian Public Buildings</u>	Energy efficiency projects management in public buildings which is integrated with benefits management "guarantees the achievement of maximum benefits for the community" [sic] p65 Paper examines "full realisation of benefits rather than "partial" realisation because of the "rebound effect". In this case behaviour of energy users who adjust expectations post-implementation.	n	Po and pt	Baseline measures captured based on existing buildings and predictions made but outcomes measured post-implementation.	Implied through the full scope of these [energy] type projects	To some extent, yes, as the benefits may result in other domains e.g. health.	Multiple stakeholder sconsiderab ly distant from the immediate beneficiarie s of the project, e.g. the health effects of energy improveme ntprojects/p ortfolios.	"in deciding on the selection of projects to be entered into the portfolio, it is possible to take into account the immeasura ble benefits. In this case, it is necessary to rely on the subjective assessmen t of decision makers about the importance of these benefits for achieving common social objectives." P70.	Not specified	" Evaluation results are collected in a special evaluation report, which serves as a platform of providing post-project benefits. Evaluation reports of individual projects are collected into a unique evaluation report of the entire portfolio" p71.	Energy Projects	Quantitative expression of the state of building energy systems or technical measurements Broader social economic measures. Intangibles should be captured. "Satisfaction with comfort" can be quantified. WTP or contingent valuation to measure "consumer surplus" Economic benefits, environmental	Qnnf Qnf QI translated into monetary measures via WTP/conting ent valuation

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															benefits, improved working and living conditions. Cash value savings. Savings on "state expenditure for health" because of improved conditions.	
62. Mohan et al	2011	ECIS 2011	<u>PREPARING FOR THE FUTURE OF IT PROJECT VALUE REALISATION: UNDERSTANDING BENEFITS MANAGEMENT PRACTICES – DO INCENTIVES AND MANAGEMENT SUPPORT REALLY HELP?</u>	Paper seeks to shed light on: "a) What BM practices enable the realization of IS/IT project benefits? b) What are the critical antecedents of these BM practices? c) How do contextual factors such as incentives and top management support influence the effectiveness of these BM practices? " "Specific BM competences positively impact	(d) leading to some speculation about (n)	Not specified	Not specified	NS	NS	Authors use Cranfield approach to frame the BM practices. The practice of measurement helps to create understanding for stakeholder sviz: "Measurable variables must be developed to allow stakeholders to understand the full scope of the investment and its impact on the realisation of expected	Some discussion of the links between benefits review and incentives. Incentives are considered to have a negative effect on benefits review and as a consequence benefit realisation. Authors link to other research to which shows how project managers may distort messages on measures or omit them if incentives	NS	NS	IT projects	NS	Qnf Qnnf

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				benefits realisation success": BIM, BI , BP and BR all significant effect on BRS but BME (benefit measurement) is not significant. Even so the authors speculate that measurement will help the ability to monitor and review the status of benefits which is an important practice. Two constructs are important; "business process knowledge" and "Business-IT communication" (no page #) "incentives negatively influence the positive effect of benefits review practices in realising project benefits."						benefits. Measures enable the assessment of benefits at any given time. Without precise measures, the stakeholder s are like a ship's captain somewhere on an ocean without a compass" No page number.	are in place and driving behaviour.					
63. Mohan et al	2014	47th Hawaii International Conference on System Science	<u>Exploring the Constituents of Benefits Management : Identifying Factors Necessary for the</u>	Paper tries to address the authors' claim that research in BM is underdeveloped because of too few well defined	(d)	Pt but not really specified because the thrust of the article is about practices or factors expected to be	NS	NS	NS	Generic stakeholder s(see above) can understand the "investment' s full cope"	NS	NS	NS but implied that this is significantly beyond the life-cycle of the project	IT projects	NS	NS

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			<u>Successful Realization of Value of Information Technology</u>	and operationalised constructs. The authors develop a survey instrument which is completed by 456 participants in Germany, Austria and Switzerland. The analysis leads to 7 factors of which factor 5 is "benefits measurement" or BM (more on this in the paper reviewed above) Study "indicate[s] the presence of three specific benefits management capabilities and four contextual factors that facilitate effectiveness of these benefits management capabilities in realising the planned value of IS developments." p4286		important in the realisation of IT value				if there are measurable benefits.						

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64. Mossala m and Arafa	2016	HBRC Journal	The role of project manager in benefits realization management as a project constraint/driver	Survey of BM practices in UAE/Dubai, with 104 responses (P308). Proposes BRM process compatible with the PMBOK p305. Further work with a leading government organisation in Dubai discussed P311+ Lack of BM database and baseline metrics is identified as a concern P314.	D guided by PMI sources for n	Pt, pm po Results suggest BRM used more where there are program and portfolio levels P308	45% identify benefits measures, going down to 30% for benefits transition and 32% for benefits sustainability P308	Distinction made between leading and lagging benefits. Both are actively pursued in the survey organisations	No	Suggestion that stakeholder s can help in the identificatio n of intangible measures, where there are no tangible measures P310	Lack of benefits ownership is identified as a problem P314. Some inconsistency in the article – suggests that project managers should trace benefits (P310), but the article identifies that BM is used more where there are program and portfolio levels	Not covered	Not covered, but benefits sustainability is the final stage in the process (see Q.2)	General – wide variety of different sectors in the sample. One of the recommendations for further research is to compare BM take up in government and private sectors, because of differences in goals P314	Preference for tangible measuresP310. Table 3 gives examples of benefits for tram and swimming pool projects and classifies them as measure/KPI (not clear what the difference is basedon) lead/lag, tangible/intangible	Qnf, Qnnf, Suggestion that qualitative indicators should be measured through survey means (Table 3).
65. Naidoo and Palk, W	2011	African Journal of Business Management, 5 (29), 11696 - 11704.	Exploring formal information technology evaluation practices in African firms.	A preliminary survey of 74 firms from South Africa, Nigeria and Zimbabwe, reveal that while firms are generally aware of formal IT investment appraisal techniques and IT value realisation prescriptions, relatively less formality is actually applied to appraising, managing and realising IT benefits. This research unveils many issues in exploiting IT	d	pt	The literature also prescribes that organisations establish a baseline prior to project initiation to enable measurement of targeted benefits. On a 4-point Likert scale (from “always to rarely”), only 30.8% of organisations always establish a baseline, followed by 34.6% of organisations reporting that they execute this most of the	No	No	Not specified	Surprisingly , when probing only those organizations (n=61) that claimed to have a benefits management process, an overwhelming majority of respondents (51.9%) revealed that either the project sponsor or project manager (25.00%)	Not specified	See Q3	IT investments in different sectors	Many firms identified the more tangible, financial benefits involving cost reduction/avoidance (88.5%), capital saving (59.0%) and lastly, revenue enhancement (65.6%). Among the more intangible non-financial benefits, many firms claimed that they were identifying and monitoring technological and organizational improvements (78.7%),	Qnf, Qnnf, Ql, but not rigorous.

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				benefits, with a majority of firms acknowledging substantial targeted benefits losses. P11696			times. The remaining organisations either establish a baseline some of the times (25.0%) or rarely (9.6%). P11701				was ultimately accountabl e for delivering on the expected benefits given that most projects are disbanded once the technology has been implemente d. Even more irregular, was that only a minority of organizatio ns (19.2%) reported that the Business Unit Head who is ultimately the recipient of the benefits was accountabl e for delivering on the expected benefits, followed by the CFO/Finan cial Controller/ Head of Finance (1.9%), and even 1 organizatio n (1.9%) assigning no real responsibili				process improvements (78.7%) and customer related improvements (70.3%). Despite the recognition given to intangible benefits, it is not clear what techniques were being applied to identify and monitor intangible benefits (Irani and Love, 2001) as only 21.6% of firms reported having a stringent process for clearly separating project outcomes from business as usual outcomes, and rigorously applying a baseline for the reporting of benefits. P11699	

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											ty for the accruing of benefits despite claiming to have a benefits manageme nt process.P1 1699-11700					
66. Nielsen et al	2012	Proceedings of the 20th European Conference on Information Systems	<u>IT benefits management in local government: A comparative case study</u>	Comparative analysis of two Danish municipalities (could only get access to the abstract)	D leading to n (framework produced)	Not specific – focus on IT investment	Not specific in abstract	Not specific in abstract	Not specific in abstract	Not specific in abstract	Not specific in abstract	Not specific in abstract	Not specific in abstract	IT investment in Local Government	Not specific abstract	Comment [AB1]: Shall we scan the abstract only? I am expecting to review the whole paper??
67. Ohene	2013	Master Thesis - KNUST Space University	An Assessment of Benefits Management Practices of Public Procurement Entities in the Procurement of Infrastructura l Projects in Ghana: Case Study of Kumasi Metropolitan Assembly (KMA)	Lack of quantification of benefits was a hinder to develop effective controlling on benefits realisation process. In addition, lack of clarity in defining the stakeholders by names was a challenge for the case. the review was done only on project implementation level was perceived as weaknesses in the government projects	N	Pt and Pm	Programme level	No	No	Only to project team (perceived as a weakness)	Not assessed (perceived as weakness)	Not done (Perceived as weakness)	Not specified	Infrastructural Governmental Projects	Social and environmental benefits	Qualitative and quantitative benefits
68. Otto	2012	Journal of Enterprise Information Managemen t	<u>Managing the business benefits of product data management : the case of Festo</u>	The use of benefits map (benefits dependency network analysis) to show the relationship between IT	D	Pt	Not specified	Yes	Yes, it uses Balanced scorecard to link between benefits. P281 Also, connecting	Not specified	Not specified	Not specified	Not specified	IT Projects in Automation Industry	Financial and non-financial indicators (examples profitability, decreased costs, Agility and Flexibility, Innovation and	All

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				enablers of the Product data management system, enabling changes, business changes, business benefits and business goals.					between business benefits and business goals. (P284)						improved business processes)	
69. Oude	2011	Thesis-Master - Twinte University	Design and evaluate a deployment process for the ES benefits management method	ES Benefits management approach helped to identify additional, feasible, specific, and relevant benefits	D	Not specified	Not specified	Yes	Yes, Benefits Network Diagram is used. Also, the dependency between the benefits have been analysed	Yes, to collect requirement and identify benefits.	Not specified	Yes, benefits can emerge in the implementatio n (it is called Additional benefits)	Not specified	Enterprise Systems	Yes (not clearly stated but mentioned different benefits are identified from workshop)	All
70. Päivärin ta and Dertz	2008	Electronic Government	<u>Pre-determinants of Implementing IT Benefits Management in Norwegian Municipalities : Cultivate the Context</u>	The article identifies that pre-determinants required for effective benefits management in government are of government level policy, municipality-level policy, benefits management process, and benefits management toolbox of methods and techniques The article is thought to be similar to the one below – only access to the introduction was available.										IT investment in Government		
71. Päivärin ta et al	2007	<u>System Sciences, 2007. HICSS ..</u>	<u>Issues of Adopting Ben efits Management Practices of</u>	The research used to Delphi technique to address the question	d	pt	Not specified, but assumptions this is linked to the business case.	Factor 46 was Short and	No	No	Not specific, but clear responsibilities were	Not specified	Not specified	IT investment in Government	'Templates for benefit calculation' was highlighted by 2	Ward and Daniel [14] especially address the challenges to

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			<u>IT Investments in Municipalities : A Delphi Study in Norway</u>	<p>‘What issues would facilitate adoption and implementation of benefits management of IT investments in Norwegian municipalities?’</p> <p>All three panels highlighted five factors: ease of use, straightforward results, clarity of goals, clear responsibilities to conduct benefits management, and inter-professional co-operation for realizing benefits in municipalities.</p> <p>Amongst the other issues identified were factors related to measurement, eg 44 measurability, which was highlighted by 2 panels.</p>				<p>long term benefit</p> <p>The method should document and measure benefits both in the short term (1 year) and long term (many years), together with analysing the situation before the implementations</p> <p>Only selected by one group</p>				highlighted by all three panels				<p>groups.</p> <p>Irani et al. [5] suggest that the traditional financial measures are irrelevant in the public sector, and that the benefits identification and assessment should focus more on interpretative (qualitative) impacts. Here, the municipal panels (B and C) represent a partially contradictory standpoint, suggesting that both quantitative and qualitative benefits should be identified and sought. Panel A and B refer in addition to “templates for benefit calculation”, indicating that it is important also in the public sector to focus also on the financial benefits, in addition to the qualitative, intangible benefits. P7</p>	<p>identify intangible benefits, suggesting modelling of benefits dependency networks to identify cause-effect relationships among them. In the public sector, this issue can also be approached through imitating other municipalities and exemplary cases, as the municipalities do not have any needs for hoarding up their “best practices”. This competence sharing viewpoint, which may help especially to understand and imitate intangible benefits realization, was, however, only highlighted by Panel A, whereas the municipal focus seems a bit more oriented towards internal work</p>

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																on identifying and realizing benefits in context, in a more self-contained way. P7
72. Peppard , Ward, Daniel	2007	MIS Quarterly Executive	Managing the Realization of Business Benefits from IT Investments	Benefits Dependency Network is proposed in this paper. it consists of ends (the target performance), the ways (the ways the business must work differently), and the means (the enabling IT capabilities)	D	Po	Po	Yes	Yes	Yes, all relevant stakeholder s shall be engaged and involved (Within and after “Organizations also need interim metrics, to assess progress across the range of changes.” The period is not specified	theoretical paper	Different quantified benefits such as lower cost, response rate from the targeting marketing companies, and increased follow-up of leads	All except qualitative (all benefits shall be quantified to be measured)
73. Pina et al	2013	VINE: The Journal of Information & Knowledge Managemen t Systems	Using benefits management to link knowledge management to business objectives	No access										Knowledge Management System		
74. Remeny i and Sherwo od-Smith As well as this article, the book 'Achievi ng maximu m value from informati on systems – a process approac h' covers	1998	International Journal of Project Managemen t	Business benefits from information systems through an active benefits realisation programme	The article introduces Active Benefits Realization (ABR). ABR is a project management process for managing in-formation systems development which is based around the idea of continuous evaluation, active participation of the primary stakeholders including line managers and users, and a direct focus on	n	Pt, although ABR is described as a 'programme'.	In the first stage, 'initialisation of the project' (activity 1), the expected benefits will become clear, followed by activity 2, the 'production of the pictures' – Business Picture, Financial Picture and Project Picture. , in which the benefits targets will be included in the Business Picture. Benefits (point 1.10) are	No	No	In Item 1.11, a stakeholder -benefits matrix is developed.	Through a high degree of openness or glasnost, which involves infor- mation systems professiona ls playing a co- evolutionar y role with line managers and users, as well as financial staff and sometimes customers and other	Term emergent is not used, but ABR project management is based on the principles of formative or continuous participative evaluation for information systems described by Remenyi and Sherwood-Smith." The process is based on seven underlying philosophical propositions or	ABR is specifically designed to remove any potential for the stakeholders to be surprised at the end of the information systems development project. This has the effect that information systems developed using this paradigm will not be discarded before use and they will not require massive rework in the	ICT investments	Business benefits will be stated in terms of the effect of the system. Thus a sales order process system could have business benefits attributed to it such as: 1. Higher average invoice value, 2. Lower administrative costs, 3. Higher rate of cross-selling, 4. Better customer service, 5. Better utilisation of inventory, 6.	Qnf, Qnnf Ql Such benefits will be evaluated on a yes/no binary scale. Others will be qualitative benefits that can only be evaluated on a qualitative scale [very good, good, satisfactory, poor, very poor]. Finally some benefits will be measurable on an agreed numeric

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similar ground.				business benefits realisation. It enables the finally commissioned information system to support the business or organisational objectives by realising the expected information systems. P97			<p>derived from the the outcome definitions specified in point 1.5 of the Business Picture and the chosen solution (1.7).</p> <p>After 3. Agreement to proceed, 4, System development and 5. Evidence collection, In activity 6,</p> <p>Progress is evaluated against the business, financial and project targets, with specific emphasis on business benefits and regulatory action, to ensure information systems development stays on course to deliver business benefits.</p>				<p>sponsors, more effective information systems may be developed. P81</p> <p>In the ABR context the pro- ject manager will report directly to the solution champion who will act as the representat ive of the primary stakeholder s.p93.</p>	<p>principles of information systems management which are:</p> <p>1. Whether or not an information system succeeds is a function of management processes rather than the application of the technology itself; 2. Every information system has multiple stake- holders--both multiple primary and multiple sec- ondary stakeholders; 3. Information system's requirements evolve over time starting from the statement of the information sys tem concept and will continue to evolve until the system is discontinued; 4. Information system's actualisation is frequently a compromise of the requirements of the various sta keholders; 5. Acceptable and effective information system com-</p>	first few weeks or months of operation.P97		<p>Better utilisation of transport, 7. Better job satisfaction of personnel from sales ad- ministration.</p> <p>For benefits to be achieved they need to be measur- able, i.e. a stakeholder should be able to assess whether they have been delivered. Thus it is necessary to establish metrics which may be associated with any benefits that have been specified as possibly stemming from the information system's investment.p88-89</p>	<p>scale. For example, "Average Invoice Value" can be measured on a £ per Invoice scale and a target set to define a satisfactory business benefit result from the in- formation system development project p89</p>

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												promises occur when all the issues are understood by all the stakeholders and when these stakeholders are prepared to ensure the interests of their own personal domain are aligned with the interests of the organisation as a whole; 6. A phased delivery of systems tends to reduce risk and speed up the delivery of required business benefits; 7. A process of continuous and dynamic evaluation and debate between knowledgeable stakeholders provides the best chance for information systems optimisation p82.				
75. Remenyi et al	2007	Elsevier	<u>The effective measurement and management of ICT costs and benefits</u>	This book offers a combination of theory and practice. The theoretical chapters discuss the nature of IT investment and the benefits to be derived from	N, with some worked examples and case studies	Pt, although it is acknowledged that IT projects are always part of wider programmes (p82). No mention of portfolio	see No. 74 above – to be used with ABR project management (Ch. 14). Three difficulties in identifying benefits are outlined	no	no	ICT and Finance Stakeholders listed p37, 38. Conflicts between, and different valuing of	Locus of responsibility with line managers and user-owners p36 The business case for information	There is a third issue that makes benefit identification, and especially early benefit identification, even more elusive and that is the propensity for	Not specified, but in relation to cost, There are two questions that need to be addressed here. At the pragmatic level, the accounting	ICT investments	Summary of the recent history of the development of ICT evaluation is provided in Chapter 1. Covers different methods in detail.	Qnf, Qnnf QI Re. Intangible benefits Although it is difficult to be precise about their actual

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				<p>it, while the practical chapters provide guidelines about issues such as business case accounting, ranking and scoring techniques and user information systems surveys (xiii).</p> <p>It is therefore a rich source of information on benefits measurement</p>		management – only that organisations use a portfolio of ICT expertise (p37)	Information systems reach, tangible and intangible benefits and evolution of benefits p27 +			benefits between different stakeholders emphasised	systems development needs to be created by line managers, maybe with the help of the other principal stakeholders who will use the system to improve their personal or group efficiency and effectiveness.p38.	<p>benefits to evolve. The benefits of ICT are not stable; some benefits dry up while others, which may originally not have been foreseen, materialize some time after the original investment.</p> <p>Information systems will generally have some easy-to-identify or obvious initial benefits that will be sustainable over a period of time. As the development project proceeds and the ramifications of the system are more fully understood, new ideas about potential benefits will start to become apparent. This will have been due to the process of creative dialogue between the principal stakeholders, which will bring to light new business processes and practicesp29</p>	<p>system needs to be able to relate costs over a long time period and in different locations. Project accounting systems can do this, but many organizations either do not have such systems or are unable to capture the data necessary to drive them. At a deeper level, the time horizon for a given cost needs to be determined. It does not make sense to track post-implementation costs indefinitely. At some point the 'project' must cease and the system become part of normal operations. The question is where should the cut-over point be? It should be remembered that many of the dis-benefits and risk related costs associated with projects may show up in the later phases of the project. The risk of late failure always</p>		<p>A taxonomy of techniques is provided p48+ Fundamental methods, composite methods (usually used in ICT evaluation) and meta approaches</p> <p>There are several different methodologies available to assess the performance of IT. The following are a few of the most commonly used:</p> <ol style="list-style-type: none"> 1. Strategic match analysis and evaluation 2. Value chain assessment (organization and industry) 3. Relative competitive performance 4. Proportion of management vision achieved 5. Work study assessment 6. Economic assessment – I/O analysis 7. Financial cost benefit analysis 8. User attitudes 9. User utility assessment 10. Value added analysis 11. Return on management 12. Multi-objective, multi-criteria methods 	<p>value, especially in financial terms, intangible benefits can make a critical contribution to the success of an organization. Intangible benefits may often be quantified by using measuring instruments such as questionnaires, but it is quite difficult to make a creditable connection between what can be measured with such devices and the impact on the corporate financial results. This whole area of intangible benefits is one of the major problems that make benefit measurement and management hard.p29</p> <p>Putting a financial estimate to intangible benefits –</p>

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													needs to be considered.p89-90..		p111. Techniques are related to business functions – eg product design, marketing, operations. P112+ Techniques are classified as objective and subjective p118 Balanced Scorecard referred evaluated on p122.	negotiation or imputation p150.
76. Rodrigues and O'Neill	2012	Information Resources Management Journal (IRMJ)	Framework based on benefits management and enterprise architecture	No access (this paper is duplicated with the below one)										Banking		
77. Rodrigues and O'Neill	2013	Managemen t Science, Logistics, and Operations Research	Framework Based on Benefits Management and Enterprise Architecture: The Private Cloud in the Business Strategy	No access										theoretical paper		
78. Sahraoui et al	2008		Chapter 15 - t-Government for benefit realisation: A research agenda	Transformation government (t-government) is evaluated based on the benefits from the IT initiatives while e-government is evaluated based on the technical	N	Portfolio, program and Project (similar to MSP and MoP)	Portfolio level for identifying strategic objectives of the IT government initiatives	No	None	Citizens and Business	Not specified	Not specified	Not specified	theoretical paper	Developmental and social benefits.	Quan and Qual benefits

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				specifications. Benefits are defined on strategic level												
79. Sanchez and Robert	2010	Project Management Journal	Measuring portfolio strategic performance using key performance indicators	"From a project portfolio perspective, it is not enough to track the performance of projects in isolated way" Abstract. Organisational KPIs are the main source for creating and planning for benefits of new projects. The paper developed the "project-benefit-objective" tool to plat the benefits on a timescale and connecting them with associated projects (P67). the tool looks like Gantt chart.	N	Portfolio, programme, and Project (similar to MSP and MoP certificates)	Portfolio level (Strategic benefits – organisational KPIs) 2)Setting or validating portfolio objectives 2) setting or validating key benefits 3) Linking projects, key benefits and objectives 4) visualising the streams 5) determining the contribution of the achievement of portfolio objectives	Yes	Yes, the tool developed is to show the relationship between IB and OB for several projects on a portfolio level.	Not specified	Portfolio level management	Not specified	Until the benefits are matured (fully integrated with KPIs)	theoretical paper	Quantified and qualitative benefits Qualitative benefits are quantified to be measured The key benefits are those contributing the corporate vision.	Qnnf, QI
80. Sapountzis et al	2008	"Project Management Advances, Training & Certification in the Mediterranean" 29-31 May 2008, Chios Island, Greece	<u>The development of a Benefits Realisation Management Process to drive successful programmes and projects</u>	The paper summarises the BeReal process and the research programme involved.	N using BeReal	Pt, pm	In Phase 1 benefits are identified and included in the business case, and in phase 2 benefits mapping takes place.	No Reference to a benefit dependencies mapping exercise, in Phase 2 of BeReal (P83), but no details about this.	No	Stakeholders classified as providers, acceptors, supporters, controllers	Not specified who should assess benefits within the project – although the importance of clear ownership is stressed.	The evaluation was concerned with both planned and unplanned benefits. Emergent benefits are part of Phase 3 of BeReal P83.	With such a large investment into LIFT and so many benefits expected there is a need to evaluate how successful LIFT has actually been. However as stated in the House of Commons (2006) report "It will be many years before the expected benefits of delivering services to local	Healthcare	A typology of benefit types is provided on P78, derived from a range of academic sources. The benefit types are tangible, intangible, by organisational or business impact, by stakeholder or actor-oriented, unplanned/emergent.	Qnnf, QI

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													communities through LIFT can be realised." P81			
81. Schwabe, P Bänninger	2008	Hawaii International Conference on System Sciences, Proceedings of the 41st Annual	<u>IT-Benefits-Management in the Swiss Financial Sector</u>	<p>The article covers a an interview survey of 31 Swiss banks and insurance companies on their BM practices, in 2004.</p> <p>Comparisons are made with the results of surveys by Ward et al and Lin and Parven.</p>	D, with recommendations based on findings n	Pt, but with the project selection process covered as part of pm and po. Many of the interviewees were project portfolio managers (p3).	<p>The interviews were structured based on the Cranfield model. In the project proposal section 24 out of 31 identified what measures are necessary to achieve the benefits but only 11 of the proposals included information on how to measure the improvements.</p> <p>The article identified that BM after the project proposal had been approved was weak. The importance given to different BM phases was analysed, with a downward trend (P8).</p>	<p>No</p> <p>But</p> <p>'In a combined analysis of <u>Figure 1</u> and <u>Figure 2</u> we conclude that the respondent s distinguish between financial benefits which should be quantified, and other "qualitative benefits" that cannot be quantified. The intermediate form of benefits that can be quantified, but not in financial terms, appears to be outside the scope of almost all companies. ' P3</p>	No	<p>A lack of stakeholder involvement in structuring and classifying benefits was identified.</p> <p>The majority of the institutions (58%) still rely on the responsible applicant to identify the benefits on their own. A quarter of the responding organizations use surveys and experts in an active communication process.P4 .</p> <p>In 52% of the organizatio</p>	<p>20 out of 31 responses identified that responsibilities for BM were included in project proposals, but responses elsewhere suggest that this did not lead to benefits monitoring and active management P4.</p> <p>The majority of the institutions (58%) still rely on the responsible applicant to identify the benefits on their own. A quarter of the responding organizations use surveys and experts in an active communication process.P4 .</p> <p>In 52% of the organizatio</p>	<p>Benefits result from changes, and organizational changes require actions from the affected users. Nearly half of the companies (15) involve the end users early in the project. The same number of companies try to communicate the projects' core intention to the end user. P5</p> <p>Thus, if an organization is reviewing benefits, most will do so later than recommended by Ward (three months, [2]). No company proposed to do several benefits reviews, as</p>	<p>The majority of all companies (58%) revisit the benefits once at the project end and then stop caring about benefits. 19% trace benefits until it becomes clear how they will influence the next budget, i.e., at the most one year; the remaining 23% trace benefits up to three or five years (as it is required by their investment calculation). 42% of all companies typically adjust the benefits during the project execution phase 22% never adjust the benefits and 35% depend on the specific situation. P5</p> <p>Thus, if an organization is reviewing benefits, most will do so later than recommended by Ward (three months, [2]). No company proposed to do several benefits reviews, as</p>	Financial Services	Two thirds of the companies (21) regarded qualitative benefits equally important as quantitative benefits, in the majority because strategic benefits are typically strategic (13). One third (10) regarded quantitative benefits as more important, because qualitative benefits are difficult to capture (5) and because, in the end, only money counts (5). P3	Qnf, Qnnf, Ql.

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											ns the applicant or the project sponsor (i.e., typically a manager) is responsible for realizing the benefits; one third of the organizatio ns regard users as responsible since they reap the benefits. Only four organizatio ns (13 %) hold the project manager directly accountabl e for the benefits. Thus, once the benefits plan moves on to execution, benefits manageme nt is not part of an ongoing IT-project any longer. This observation is supported by the fact that only 19% of all responding companies trace benefits over the		suggested by Farbey [10]. P6			

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											whole project life cycle.P5					
82. Serra and Kunc	2016	International Journal of Project Management	<u>Benefits Realisation Management and its influence on project success and on the execution of business strategies</u>	Identifies 7 dimensions of project success, where “manage and avoid undesired outcomes” requires measuring dis-benefits and “outputs support business to produce expected outcomes”, “Provide expected return on Investment” and “Outcomes adhere to Business case” require measurement of benefits. Therefore, it makes the measurements of benefits fundamental for the assessment of all the 4 dimensions of project success that are related to the creation of value to the business.	d	Pt level	During the appraisal occurs before the beginning of each project in order to support the approval of the business case.	Y - project outputs enabling business changes or directly delivering intermediat e benefits. Business changes can also deliver intermediat e benefits, regardless whether they are enabled by project outputs or not. Can cause side effects and consequen ces that can realise further intermediat e benefits.	Y - “Intermediate benefits contribute to the achievement of end benefits”	Sponsor, Customer and Project Team	Sponsor, Customer and Project Team – after project closure	Yes	Not mentioned	theoretical paper	Not mentioned	Not mentioned
83. Serra, C. E. M	2015	PMI Global Conference Proceedings, London, UK.	Benefits Realisation Management and Strategic Project Success - Analysis of UK, USA and Brazil,	Identifies 7 dimensions of project success, where “manage and avoid undesired outcomes” requires measuring dis-benefits and “outputs support business to produce expected	d	Pt level	at the very beginning of the change process	Y - changes create desired outcomes, which prepare operations to realise intermediat e benefits that can be also generated	Y - The intermediate benefits in turn realise end benefits.	Program and Project Governanc e, Program and Project Manageme nt, Benefits Owner	Sponsor, Customer and Project Team – after project closure	Yes	Not mentioned	theoretical paper	Not mentioned, but Value must be clearly measurable	Not mentioned

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				outcomes”, “Provide expected return on Investment” and “Outcomes adhere to Business case” require measurement of benefits. Therefore, it makes the measurements of benefits fundamental for the assessment of all the 4 dimensions of project success that are related to the creation of value to the business.				straight away from the project outputs.								
84. Serra, C.E.M.	2015	CRC Press	Benefits Realization Management : Strategic Value from Portfolios, Programs, and Projects	Identifies OB as the main targets to be pursued by the strategy execution process.	d	Pt, Pm, Po – Emphasis that benefits should be preferable cascaded from strategic end benefits	Benefits are identified during the strategic planning process. The OB will be the measures to track the success of strategy execution.	Y	Y – Describes the process to break OB (end benefits) down in to IB and further.	It has an entire section describing the main roles and responsibilities involved with the BRM process. The roles are divided into three groups, where benefits owners are usually accountable for benefits measurement	An organisational role is assigned in the benefits realisation plan to do so (usually the benefit owner is accountable for the measurement). The assessment happens as determined in the benefits realisation plan, since each benefit may have a different realisation profile	Benefits must be reviewed periodically and new benefits may be identified during this process.	It depends on the benefit realisation profile as determined in the benefit realisation plan.	General	Mentions several references, including Ward & Daniel 2012, Giaglis, Mylonopoulos and Doukidis 1999, Pereira Diamond 2015, Bradley 2010, OGC 2011, Remenyi et al 1995 and emphasises that organisations should develop their own Benefits Catalogue	All
85. Smith et al	2008	<u>Management of</u>	<u>Benefits realisation management</u>	The study used a quantitative method to	D based upon question on	pt	The research used a 4 step model	No	No	No	Who is accountable for	However, 74% of participants' organisations	Not specified	IT Project Managers in South Africa	41% developed KPI's for intangible	Assumption that metrics should be

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		<u>Engineering & Technology, 2008. PICMET 2008. Portland International Conference on</u>	<u>in information technology projects</u>	identify BM practices amongst 54 IT project managers in South Africa. 'The results of the research indicate that IT projects in South Africa do not fully utilise the identified processes of benefits realisation methodology. Instead, projects seem to be selective in their application of the elements of benefits realisation management. The results also indicate that while organisations may have the selected benefits management elements in place, this may not necessarily mean that they have a formalised benefits realisation management process in place. The focus is still largely on delivering the artefacts of IT projects - on time, on budget and according to specifications – rather than on delivering	good practice in bm (n) derived from the literature		developed by Bennington and Baccharini, with a fifth stage of post implementation evaluation, added by Ashurst and Doherty. P1443. Data is provided on BRM practices at different stages (P1453). In benefits identification, 72% assigned KPI's or targets to the selected benefits and 41% developed KPI's for intangible benefits, such as staff morale P1446.				project benefits? 21% project sponsor 13% client 11% project manager 17% other P1448. 63% of projects undertook benefits monitoring	do not have a formal process in place that identifies any further benefits after implementatio n. Of the 26% that had such a process in place, all of them indicated that their organisations take action after implementatio n to realise these additional benefits. P1450		benefits, such as staff morale P1446. About 36% of participants do not assign non-financial KPIs for the intangible benefits identified in their pre-project evaluations, which implies that even if IT projects specify the intangible benefits, they may not necessarily be using appropriate metrics. P1447	identified for all benefits. Suggests Qnf, Qnnf.	

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				business benefits. IT project managers seem to recognise the need for an improvement in benefits realisation management techniques but that will obviously require a change in organisational mindset as to the value that IT can deliver'. P1454												
86. Summers	2011	Portsmouth University	<u>Benefits management : The keystone of project management</u>	Author asks "Can benefits management be used a driver to improve project management performance?" Article states the author's personal experience in raising awareness about BM in a UK local authority	d	Pt pm	NS	NS	NS	Service Managers, elected officials	NS	NS	NS	Unitary Local Authority	NS	NS
87. Viklund	2008	Master Thesis - Goteborgs University	Benefits Management and its applicability in practice	Masters Thesis: "there is a need for adjustments regarding the attitude towards benefits and what an organization put into the concept	d	Pt pm	Largely descriptive account of Ward and Daniel (2006) Emphasis on the difficulty in estimating outcomes from	Implied through BDN of Ward & Daniel (2006), especially at stage 3 where "interim	NS, save for BDN in Cranfield Model	Generic understanding of stakeholder as per Cranfield model	When: "First cut" business case. At the BR stage in the CranfieldM odel.	n	Following the Cranfield Model but no specific : "The identification, tracking and realization of benefits continues throughout the	IT projects in Car Industry	Emphasis on efficiency measures. Several respondents in the study wanted better ways of managing intangibles.	Qnf, Qnnf QI

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				business benefit. It is also of great importance that there is a clear traceability of each benefit through the whole project regarding where in the business it will occur and who in the organization that should be responsible for its delivery" pii. The gap between theory and practice in BM is not as great as the authors thought at the beginning of the study Authors suggest that intangible benefits/ soft benefits are poorly defined in their study of Volvo and that this "could contribute to an improved benefits realisation process" p34			projects (uncertainty)	targets and measures are established "to evaluate progress towards key milestones or final implementa tion"			"Involve all key stakeholder s"p53.		program and will probably continue after it has formally closed, when managers with responsibility for operations or service delivery increasingly take on the task of ensuring that the planned benefits are being monitored and optimized."p19.			
88. Ward and Daniel	2012	John Wiley	<u>Benefits management : how to increase the business value of your IT projects</u>	As the book which covers the Cranfield Method, this source is a key source, in terms of methods used	N supported by d	Pt, pm and po. Chapter on 'from projects to programmes to portfolios' P273-298	The Cranfield method has as its first stage 'identifying and structuring the benefits' and the business case	No. The BDN includes causal links, but does not identify	No	No, but stakeholder s are classified according to their positions on	Benefits owners need to be assigned (P103), and maintain this role	The final stage is 5. Establishing the potential for further benefits, p79	Timing of review is discussed (P223-224).Attribution issue is acknowledged	IS/IT, but wider perspective as well. Ch.8, the importance of context,is concerned with different	The book sets out a method for levels of benefit, from observable, to measurable, to quantifiable to financial. P132-	Qnf, Qnnf, Ql. Observable but not meaurable benefits are

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				for metrics. The 2 nd edition contains more detail than the first on measurement			should include the benefits, using existing measures where possible P135.	categories of benefit of this nature.		benefits (P175).	over the lifecycle.		– ideally monitor value over extended period, even several years. (P224). At portfolio level annual review of investments completed in previous year (P224)	sectors, sizes and types of project.	150	'softer' and less easily measured (P134)
89. Ward, J., De Hertogh, S., Viane, S.,	2007	Proceedings of the 40 th Hawaii International Conference on Systems Science.	Managing the benefits from IS/IT investments: an empirical investigation into current practice.	This research repeated the survey from 1994 (see below), this time with organisations from the UK and Benelux. It covers similar issues in relation to measurement	D leading to n.	Pt, po The main goal of project portfolio management is to create an optimal portfolio of IS/IT investment projects, based on a balance between the desirability (e.g. strategic alignment and return on investment (ROI)), and the feasibility (e.g. risk and size of the investment) of the proposed IS/IT projects. Section 3	Overall, there is some evidence that over the past decade organizations have somewhat improved on their efforts to identify and structure benefits associated with their IS/IT investment projects. However, the numbers also reveal that organizations still fail to take a full range of business benefits into account. Section 5.3	No	No	No	Notice that assigning explicit accountability to business managers for realizing specific benefits is performed by only 36% of the respondents. Over the past ten years, this crucial practice shows only a minimal improvement of 4%.Section 5.5	Not explicitly covered. However... From the survey we see an overall progress towards more and better evaluation and review of IS/IT investment projects with respect to elements of time, cost and technical quality. Also, more organizations now transfer lessons learned to future projects. Yet, despite a clear indication of its importance, the evaluation and review of the business benefits is neither that broadly, nor that satisfactorily adopted. Section 5.6	No	General	No more than 35% claim to be successful in identifying all available benefits for a project and only 31% believe they quantify benefits adequately. These are marginal improvements - 7% and 1%, respectively - compared to 1996. Section 5.3	Not specific
90. Ward, J.,	1996	European Journal of	Evaluation and realisation of	This paper summarises a survey	D leading to n.	pt	The research identified that often measures	No	No	No	In over 80% (50) of cases the	The majority of respondents, 86% (51/59),	Not specified	IT projects in different sectors	Cost/benefit analysis and return on	Qnf, Qnnf, QI all mentioned.

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Taylor, P., Bond, P.,		Information Systems, 4, 214-225.	IS/IT benefits: An empirical study of current practice.	undertaken in 1994 into the practices of large organisations in the UK on realisation of IS/IT benefits. It is structured according to the Cranfield model, and includes questions on practice of measuring benefits. The article concluded that existing practice could be improved on a number of counts			were not identified prior to implementation. P222, Fig 13				organizatio n appoints a business project manager. However, the responses indicate that the role is most often concerned with managing the interface between the IS/IT group and the business, rather that actively managing a business project in order to deliver actual business benefits (see Figure 10). Over two-thirds of the survey respondent s indicated that specific responsibilities for realising business benefits (identified in the project justification) were not allocated to managers. Similarly,	believed that it is not possible to anticipate all potential benefits at the project approval stage. However, only 19% (11/59) of respondents claimed to have a process for taking advantage of this fact in order to identify further benefits after implementatio n, and take action to realise these benefits. The implication is that there are often more benefits to be gained after implementatio n, Evaluation and realisation of IS/IT benefits J. Ward et al. 223 but that current practices mitigate against exploring these potential further benefits.		investment (ROI) were the most commonly mentioned appraisal techniques for deciding upon IS/IT investments (Figure 8). P220	Common problems with the methods were that they were unable to take account of the full range of potential benefits, especially intangible benefits. Some respondents went as far as stating that the 'wrong' projects were approved as a result. P220	

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											over twothirds of respondent s did not produce a plan for delivering benefits. P221					
91. Waring et al	2015	Evidence Based Information Systems	Benefits Realisation in Acute Hospitals in England–A Strategic Management Perspective	The intention of the study is to gauge the extent to which the various participating NHS Trusts place importance on benefits realisation, whether developments have been initiated to support benefits realisation and if the approach is becoming embedded in organisational practice. 492 questionnaires were sent to three distinct groups of senior staff in each NHS Acute Trust in England: □ Directors of Nursing (or comparable role) □ Directors of Finance □ Directors of IT (or comparable role) P6. 106 completed responses When IT or change	D with n judgements	Pt but broader focus on change management	Not specified	No	No	Questions on consultation with patient representatives, but not specifcally on benefits measures	Staff within my area of responsibility are able to realise benefits from IT projects through the use of metrics to measure success 18% strongly agree 51% agree 18% neutral 13% disagree 0% strongly disagree P14 Role disparities become noticeable here, with IT Directors being twice as likely to have received training in benefits realisation compared with Nursing and Financial counterpart	Not specified	Benefits realisation continues to be monitored up to one year after an IT project is completed 9% strongly agree 25% agree 31% neutral 30% disagree 5% strongly disagree P11.	Medical Systems - NHS	Not specified	Not specified

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				management projects are undertaken we put metrics in place to measure our success in achieving the stated benefits of the projects 12% strongly agree 53% agree 21% neutral 14% disagree 0% strongly disagree P11							s, differences between the groups being significant at the 5% level, the relative differences are also presented in Figure 2.P10					
92. Wijesinghe et al	2015	26th Australasian Conference on Information Systems	Defining the optimal level of business benefits within IS/IT projects: Insights from benefit identification practices adopted in an IT Service Management (ITSM) project	Aim of the paper is to examine benefit identification practices using a case study of a financial services organisation. Part of a larger study examining ITIL and change management. Very little mention of measures. Paper concentrates on identification.	(d)	pt	Coverage of outcome/benefit identification but not measurement per se: "Engagement of key stakeholders in the benefit identification process plays a key role in project success" But this will "not guarantee the most effective set of benefits" because some are unpredictable (see are measures added column?) The authors report that best practice guidelines from comparable organisations resulted in a "list of measures"	NS	NS	Continuously involve impacted stakeholders on the evaluation of business objectives with IS/IT changes. This may help to uncover hidden beliefs about how benefits can be achieved and disbenefits managed, but nothing on actual metrics. CIOs in different SBUs, Chief technology officers, Process owners and users of IT/IS "benefit	Stakeholders ongoing	Citing Ward, Taylor and Bond (1996) the authors' state that "IS/IT benefits continuously evolve throughout the lifespan of the project and hence it is difficult to predict a unique set of benefits in advance for planning purposes"	NS	IT Projects- ITIL Projects in Financial Services Sector Industry	NS	NS

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										owners"						
93. Winter et al	2006	International Journal of Project Management	Focusing on business projects as an area for future research: An exploratory discussion of four different perspectives	Four perspectives on project management from outside the "engineering" PM literature. Exploratory work to develop conceptual perspectives. Perspectives include service delivery, PSO, intervention perspective and value creation	(n)	Pt	NS But increasingly focused on the customer and the customer's customers	NS	NS	Customer stakeholder (esp. In value creation perspective).The intervention perspective encourages a broader range of stakeholder s with very different assessment s of value.	NS	NS but implied in understanding the broader dimensions of stakeholders	NS	theoretical paper	NS	NS
94. Yates et al	2009	5th Nordic Conference on Construction Economics and Organisation	<u>BeReal: Tools and methods for implementing benefits realisation and management</u>	The paper summarises the BeReal programme. There is much overlap with Sapountis et al. above. ICT focus in this paper.	N using BeReal	Pt, pm	See Sapountis above, and P230 for the 4 stage model	See Sapountis above	No	Focus on different stakeholder interests – concept of collaborative environment	Not specified	The evaluation was concerned with both planned and unplanned benefits. Emergent benefits are part of Phase 3 of BeReal P230.	BeReal proposes 5 year and 10 tear operational evaluations P229	Healthcare	Not specified	Not specified
95. Young and Jordan	2008	International Journal of Project Management	Top management support: Mantra or necessity?	TMS is the "most important CSF for project success and is not simply one of many factors" p713 The implication is that boards and senior management need to	(d)	pt	NS	NS	NS	NS	Who: Paper refers to the lack of involvement by top management in managing/a ssessing benefits and some research which indicates that it is the	NS	Implied in literature review that the time is considerable viz: "It takes a relatively long time to realise benefits from an IS investment thus the majority of the benefits of an	IS projects	NS	NS

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				<p>recognise that they have more influence than they perhaps thought.</p> <p>TM have not focused on benefits; instead managing the traditional triple constraint.</p> <p>Research fails to distinguish between PM success and project success (former is triple constraint; latter is benefit realisation)</p> <p>Author sets aside the idea that project staff are the key condition for project success and suggest:</p> <p>"It is suggested that once a minimum level of competency has been recruited, project success is almost entirely determined by the quality of</p>							province of technical experts (see Thomsett(1989) Symrk (2002)		IS investment are realised after a project team has disbanded" p714.			

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				TMS" p720												
96. Zwikael and Smyrk	2015	International Journal of Project Managemen t	Project governance: Balancing control and trust in dealing with risk	<p>This article is concerned with governance arrangements for benefits realization.</p> <p>102 project manager-supervisor dyads took part in the study.</p> <p>Results suggest that trust of the project owner in the project manager is more effective in a turbulent environment, whereas more control by the project owner of the project management process is a superior management approach in a more stable project setting. Abstract, P852</p>	<p>d</p> <p>Deductive method</p> <p>Leads to n</p>	Pt	Not specified	No	No	No	Argues that a 'project owner' should take responsibility for benefits realization, as the funder is too senior and busy and the project manager is preoccupie d with delivery.	Not covered	Not specific	The research categorised projects according to risk. Based on the analysis of the moderating effect of risk on both project performance-control and project performance-trust, it is suggested that the relationship between the project owner and project manager should be different in different risk contexts (see Qu. 1)	Not specified	Not specified

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											al., 2010), and so a functional manager is often a good candidate to fill this role.P855					
97. Zwikael, O., Smyrk, J	2011	Springer	Project management for the creation of organisational value	The book Input-Transform-Outcome (ITO) Model of a Project. Inputs (Economic resources); Process (Work); Outputs (Artefacts); Utilisation; Target Outcomes (p25), leading to benefit streams, as notional flows of value, which the funder believes is a return on investment (P276). As such, the book proposes a specific framework within which to measure benefits.	N, illustrated with case studies.	Pt level – programs are seen as required for the coordination of projects and programs are handled in a similar way to projects and portfolios are the projects accepted for funding (P132-3)	The first stage in the life of a project is 'start' in which the identification of target outcomes (generally up to 5 per project (P148)) is undertaken, which should meet criteria of importance, measurability, lag and plausibility (P149). The business case is judged according to the anticipated worth of a project, as flows of benefits, disbenefits, costs and risk (P175).	Lag is used in relation to target outcomes (P149).	No	Benefits are defined in relation to the interests of the funder (P276)	The business case is assembled by the project champion and approved by the project funder (P138). Over the project life-cycle the project owner and project manager have key roles, in monitoring and management of the project and the project owner is expected to secure the flow of target outcomes before handover (P265)	'Fortuitous outcomes' are contrasted with 'target outcomes'	By the time of the final stage of realising outcomes, the worth of a project is expected to be clear, comparing target values with actual values (P268). Benefits are conceptualised as 'flows' incorporating a temporal element (P54).	Generic. Examples are given from different industries and the book is underpinned by research in different industries and countries (P330)	Target outcomes are seen as being diverse but measurable (P149). Benefits contribute to 'worth' which is expressed as a judgement about net value (P309), which appears to be expressed in financial terms (See P268, for example), although the limitations of financial units are highlighted (P54-57) and conditions for the compression of benefits, disbenefits and costs into NPV (P56).	Qnf for worth, under certain conditions (P56). Qnnf and Ql for outcomes, as measurability can include a qualitative gauging of attributes (P297).



Measures for benefits realization.

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