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identification in early internationalization firms**

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Measurement Scale of International Opportunity Identification in Early Internationalization Firms

Abstract

Purpose: This paper aims to develop international opportunity identification (IOI) scale through psychometric evaluation in an emerging economy context.

Methodology: Samples consist of international firms operating in the apparel industry in Bangladesh.

Exploratory factor analysis (EFA) was conducted on the first wave of responses to unfold the underlying dimensions of IOI. The second wave of data was used to confirm the validity of IOI scale through confirmatory factor analysis (CFA).

Findings: EFA suggests a unidimensional scale, which is supported by CFA. The relationship between IOI and financial performance is significant and confirms nomological validity. Results also confirm the validity and reliability of IOI scale.

Originality/value: This study indicates that IOI is a reliable and valid scale to measure the strategic action of the international firms operating in emerging economies.

Keywords: international opportunity identification; international opportunity discovery; exploratory factor analysis; confirmatory factor analysis; psychometric evaluation.

Introduction

The concept of opportunity in management literature is well embedded. Opportunity is defined as a set of beliefs, ideas, and actions to create and develop new or existing products and services to enter new or capture existing markets (Shane, 2003). Two prominent schools conceptualize the idea of opportunity in management research. The Kirznerian approach of defining opportunity is objective and associated with the “discovery view” which suggests that opportunities are available in the market for all entrepreneurs. This school highlights the actions, traits, and the ability of entrepreneurs to learn and recognize emerging disequilibrium opportunities (Kirzner, 1997). On the contrary, the Schumpeterian *opportunity* view highlights the creation of opportunity that requires creativity to unbalance the equilibrium in the economy to objectify and exploit those opportunities (Dutta & Crossan, 2005). Sometimes opportunities, which are available to all entrepreneurs, are vulnerable and risky; and sometimes opportunities, which are difficult to imitate, are creative and innovative (Mainela, Puhakka, & Servais, 2014).

The concept of opportunity enjoys the central attention of international entrepreneurship (IE) research. In defining IE, Oviatt and McDougall (2005) argue that IE is the actions of entrepreneurs that include “discovery, enactment, evaluation, and exploration of opportunities across national borders to create future goods and services” (p. 540). Sarasvathy (2001) theorizes opportunity from the causation and effectuation perspectives to explain entrepreneurial contingency. The nexus of international opportunity identification (IOI) in international business is a continuous and ongoing debate (Åkerman, 2015). This heterogeneity arises because of the conceptual foundation of Kirznerian and Schumpeterian view of opportunity. Mainela et al. (2014) have conceptualized international opportunity as a process of a firm that requires “situations that both spans and integrates elements from multiple national contexts in which entrepreneurial action and interaction transform the manifestations of economic activity” (p. 16). On the contrary, Ellis (2011) has conceptualized international opportunity as materialistic outcomes of entrepreneurial actions of exploration and exploitation of opportunities.

The term exploration focuses on entrepreneurial alertness and a deliberate search for activities that lead to the transformation and achievement of economic value (Muzychenko & Liesch, 2015). Exploitation refers to the systematic search of opportunity and includes the evaluation of the feasibility to exploit those opportunities, based on given resources and abilities to create economic value (Wood, Williams, & Grégoire, 2012). Ko and Butler (2006) have merged these two concepts and proposed opportunity perception of entrepreneurs “of a feasible and desirable future state that is different from the current one, by providing the market with an innovative, novel product/service/technology either in an existing or a new venture” (p. 4). Baker, Gedajlovic, and Lubatkin (2005) have highlighted entrepreneurial actions of identifying opportunities from different cross-national variations. For instance, governmental supports, commercial environments, cultural factors and institutional supports have emphasis on opportunity identification process. Seminal work on opportunity such as by Nicolaou et al. (2009) has operationalized opportunities as new business startups, idea generation, and materialization; Zahra, Korri, and Yu (2005) have conceptualized idiosyncratic development of entrepreneurial cognition to identify and exploit opportunities; Dimitratos et al. (2012) have examined opportunity based instrument by examining international entrepreneurial culture; Andersson and Evers (2015) have developed propositions on international opportunity recognition; and Hurmerinta, Nummela, and Paavilainen-Mäntymäki (2015) have conceptualized international opportunity based on potential future market. Yet, none of these seminal works combines the concepts of value, uniqueness, quality, and quantity of international opportunities.

These heterogeneities in the conceptualizations of international opportunities have led to empirical knowledge gap on the operationalization of IOI. Empirical paucity is evident in the validation of IOI construct

in early internationalization contexts (Åkerman, 2015; Mainela et al., 2014; Mostafiz & Goh, 2018). In fact, due to attribution error, few researchers have abandoned the constructs of IOI (cf. Davidsson, 2015; Foss & Klein, 2012). This research seeks to address this research gap and tries to mitigate this heterogeneity by examining the measurement scale of IOI through psychometric evaluation to provide evidence on IOI operationalization. Hence, this study advances the IOI measurement scale. It is a noteworthy contribution to the body of knowledge because IOI is a significantly important process for both early internationalization and late internationalization firms (Mainela et al., 2014). The adequate measurement scale of IOI will merit profound insights for academic practitioners. Furthermore, empirical evidence from an emerging economy's firms will provide critical knowledge in the international business literature. According to Baker et al., (2005), IOI is highly contextual and inescapably subjective. On the one hand, firms from developed countries are more proactive in identifying opportunities. On the other hand, emerging economy's firms are more risk-averse (Coviello, 2015; Mostafiz et al., 2019). Undoubtedly, for new venture creation or expansion of old business requires new opportunities, both in the domestic and international market.

Theoretical background and measurement scale

The conceptualization of international opportunity has developed from three seminal underpinnings of opportunity: opportunity creation, opportunity recognition, and opportunity discovery. When the founders or entrepreneurs have a higher tolerance of ambiguity and risk-taking propensity, they tend to create new opportunities, for example, establishing a new venture. The identification of opportunity is highly dependent on the nature of the firms. Early internationalization firms are more eager to exploit opportunities than incremental firms. Accelerated internationalization firms behave more aggressively in dealing with unexpected events (Hohenthal, Johanson, & Johanson, 2003). These firms follow the Kirznerian approach of discovery of opportunities in the international market; subsequently develop it and learn by exploiting the opportunity for future international expansion. The process of discovery and learning improves the knowledge-base of the firm for international sustainability.

Venkataraman (1997) conceptualizes opportunities as the discovery, evaluation, and exploitation of future goods and services. The persuasion of opportunities is embedded in the entrepreneurial characteristics (Stevenson & Jarillo, 1990). Consequently, the entrepreneurs often practice new venture creation and enter new market to pursue new opportunities. It is a situation “in which new goods, services, raw material, market and organizing methods can be introduced through the formation of new means, end, or means-ends relationships” (Eckhardt & Shane, 2003, p. 336). The belief system of entrepreneur drives them to weigh up resources in

different values when resources are orchestrated to economic value. Three elements take place while delineating opportunity perspective: opportunity identification, development, and evaluation (Ardichvili, Cardozo, & Ray, 2003). They also highlight three distinct processes of initiating opportunities: perception, discovery, and creation (Ardichvili et al., 2003). Opportunity identification emerges in the development phase. It is a phase where a “firm continuously and proactively process essential task to the formation of a business” (Ardichvili et al., 2003, p. 109). Evaluation is “an overarching process of interrogation of the opportunity which seeks to identify sub-optimally deployed resources” (Ardichvili et al., 2003, p. 113).

The central attention of international opportunity is delivered from exploitation and exploration of opportunities. The exploration indicates the heterogeneity and quantity of opportunities identified, also known as recognition of opportunities (Hills & Shrader, 1998). Operationalization of opportunity recognition includes new major business opportunities and improvement of existing parts in last five years (Hills & Shrader, 1998). The number of new venture ideas and opportunities are operationalized as indicated by Singh et al. (1999). Ardichvili et al. (2003) have suggested that opportunities are not fully identified but can be developed subsequently, which requires creativity and innovation. IOI is a strategic and a continuous process of the firm. It requires resource flexibility to confirm the desirability and feasibility of opportunities in the firms. Resource flexibility also delivers success by endowing quick response to emerging opportunities in the international market (Sanchez, 1995). The feasibility and desirability of opportunities are crucial in IOI process, especially in the idea generation process (Mitchell, Shepherd, & Sharfman, 2011). Desirability delivers attractiveness, i.e. profit potentials, and feasibility confirms perceived practicability of opportunities.

To capture the dynamic nature of IOI, it is important for entrepreneurs to practice strategic flexibility of resources in the organization. This is because resources are limited and difficult to imitate, especially in small firms. Sometimes opportunities are valuable and rare, which are not available to every entrepreneur. To sustain in the international market and respond to the volatility, entrepreneurs need to focus on multiple opportunities to achieve resilience. Another critical factor is the timing of identifying opportunities. Previous studies have shown that environmental dynamism plays a significant role in IOI process (Ringov, 2013). Sometimes, an entrepreneur may lose opportunities in such situations, while others may create opportunities. If budding entrepreneurs do not act carefully and rapidly, then others (mostly experienced entrepreneurs) will seize those opportunities. Hence, adaptivity and responsiveness are crucial and essential aspects in the beginning years of internationalization (Rindova & Kotha, 2001).

In the beginning years, firms separate themselves by offering new, unique, and innovative products/services. The level of innovativeness adds an edge in market penetration and helps firms to differentiate themselves (Fiet, Clouse, & Norton Jr, 2004). It delivers the “newness” of a new venture by introducing the firm in global industry (Puhakka, 2007). It is no wonder that innovative opportunities are valuable. In fact, few innovative opportunities with variety and large number of other opportunities create the sustainable long-term commitment of the firm in the international market (Shepherd & DeTienne, 2005). The opportunities at hand are the results of the previous identification process, and if the entrepreneurs find the opportunities attractive, then they objectify and create economic value from those opportunities. Considering the above discussion of quality, novelty, innovativeness, attractiveness, feasibility, objectification, and the quantity of international opportunities, Table 1 highlights the items of IOI, which are being investigated in this study. In the context of emerging economies, the fundamental question addressed in this research is: What is the right scale to measure IOI and what are the themes that are embedded in the scale?

(Table 1 goes here)

Methods

Samples were collected from an emerging economy by using questionnaire survey. Random sampling method was used to select 600 firms from the apparel industry of Bangladesh. These firms were listed in BGMEA (Bangladesh garment manufacturing and exporters association) and BKMEA (Bangladesh knitwear manufactures and exporters association). These firms were 100% export oriented from inception as per government rules policy and operated as small-medium sized organization (Faroque & Morrish, 2016; Rahman & Al Amin, 2016). Two waves were used to collect samples. The first wave of sample consisted of 185 firms, and 168 firms (after data screening) were used for exploratory factor analysis (EFA). The second wave of samples consisted of 223 firms, and 205 firms were used to perform confirmatory factor analysis (CFA). Entrepreneurial perception was captured to measure the scale of IOI. The data was collected during the last quarter of 2017.

This study adopted seven items to measure IOI from multiple sources. The first two items of IOI explain innovativeness and creativity, such as item a) *How many business ideas did you identify in the past five years?* (Singh et al., 1999; Gordon, 2007), and item b) *How many international business opportunities were considered as novel or innovative?* (Puhakka, 2007; Ucbasaran et al., 2009). The third item represents the feasibility of the opportunity: *How many novel or innovative international business ideas were considered feasible and desirable?* (Ko & Butler, 2006). Fourth and the fifth items represent the objectification of the

opportunity, such as item d) *How much did you modify/develop an international opportunity from idea generation to opportunity objectification?* (Singh et al., 1999; Gordon, 2007); and item e) *How much are you able to shift organizational resources to capitalize on emerging opportunities in international markets?* (Faroque & Morrish, 2016). Item six represents the timing of identifying the opportunity: *How quickly can you adapt to external changes in the international market and respond to external international opportunities?* (Faroque & Morrish, 2016). The last two items describe the quantity of the opportunity, such as item g) *How many international business opportunities did you identify in the past five years?* (Arenius & De Clercq, 2005; Ko & Butler, 2006; DeTienne & Chandler, 2007; Gordon, 2007; Ucbasaran, Westhead, & Wright, 2009); and item h) *How many international opportunities have you pursued/exploited in the past five years?* (Singh et al., 1999; Gordon, 2007; Hills, Shrader, & Lumpkin, 1999; Fuentes et al., 2010; Ucbasaran et al., 2003; Mitchell & Shepherd 2010). As mentioned earlier, these items represent the quality, novelty, innovativeness, attractiveness, feasibility, objectification, and the quantity of international opportunities.

Face validity assessment

We confirmed the face validity of IOI scale in two stages. The first stage was the qualitative stage. Ten entrepreneurs commented on the relevance, appropriateness, ambiguity, and the difficulties of the items at the first stage. This study achieved low level of ambiguity and difficulties to understand the scale due to the adaptation of IOI scale from previous studies. The second stage was the quantitative stage. The item impact technique was used to assess the quantitative face validity of IOI scale. In this stage, ten entrepreneurs responded on the importance of the IOI construct on a 5-point Likert scale where 1= not important and 5= completely important. This study achieved the minimum impact score of 1.5 as adequate, suitable, and usable item score (Hajizadeh & Asghari, 2011; Maasoumi et al., 2013).

Content validity assessment

Both qualitative and quantitative assessments were conducted to confirm the content validity of IOI scale. In the qualitative phase, four successful entrepreneurs and six doctoral students in international business had assessed and commented on the allocation, wording, and scaling of IOI measurement. Colton and Covert (2007) guidelines were followed to assess the qualitative content validity of IOI scale, and potential actions were taken if disagreements by consensus.

Content validity ratio (CVR) and content validity index (CVI) were conducted to confirm quantitative validity index. Ten experts assess the essentiality (CVR) of the items of IOI construct on three-point Likert scale ('not essential = 1; useful but not essential = 2; and essential = 3). This study had followed Lawshe (1975)

guideline and formula ($CVR = (n_e - (N/2))/(N/2)$) to compute CVR (N = total number of expert; n_e = number of experts who scored essentially). The minimum threshold of CVR for 10 respondents is 0.62 (Lawshe, 1975).

CVI confirms the degree of simplicity, relativity, and clarity of the items in the scale. Same ten experts responded for CVI assessment of the items of IOI scale on four-point Likert scale, where 1 = not relevant, and 4 = mostly relevant. Polit and Beck's (2006) guidelines were followed to conduct CVI analysis. Minimum threshold value of 0.78 (if ten responded) was achieved to confirm the adequacy of CVI of the items of IOI scale. Table 3 highlights the results of CVR and CVI.

Construct validity assessment

We computed Cronbach's alpha and construct reliability (CR) to confirm the internal consistency of the construct. Both Cronbach's alpha and CR values were more than 0.7 and considered adequate (Hair et al., 2010). We performed EFA by adopting maximum likelihood assumption to assess the construct validity of IOI scale (Sharif et al., 2018). SPSS version 24 was used to conduct EFA analysis. Responses collected in the first wave were used to perform EFA. The informants were the entrepreneurs of the firms. We used Varimax rotation to perform EFA. For EFA, we administered 300 questionnaires and received 215 responses. After handling missing data and multivariate/univariate outliers, we had 195 valid responses for EFA. Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of Sphericity were conducted to assess the adequacy and appropriateness of the data in EFA. Eigenvalues and scree plot were used to determine the number of components (dimensions). Hair et al. (2010) guidelines were followed to limit the threshold for factor loading to 0.50.

The second wave of data was used to perform CFA analysis. We administered 300 questionnaires to new firms from the first wave and collected 230 responses. We performed missing data analysis, normality test, and multivariate/univariate analysis. After handling the missing data, we had 183 valid cases for CFA. We used AMOS version 24 to perform CFA (Arbuckle, 2013). The X^2 goodness of fit indices, normed X^2 ($CMIN/df < 3$), root-mean-square error of approximation (RMSEA < 0.08), Tucker-Lewis index (TLI > 0.9), standardized root-mean-square residual (SRMR < 0.1), incremental fit index (IFI > 0.90), comparative fit index (CFI > 0.90), and goodness-of-fit index (GFI > 0.90) (Hooper, Coughlan, & Mullen, 2008; Schreiber et al., 2006) were used to confirm the adequacy of the model fit. Both Fornell and Larcker (1981) and Ho (2013) guidelines were adapted to confirm the adequacy level of convergent and discriminant validity. The measurement items of IOI scale are reflective measurement items. Formative items are suitable in order to develop a new theoretical model/scale (Mostafiz et al., 2019). IOI is a developed concept, and the measurement items are adopted from multiple sources to produce a holistic IOI construct. Reflective measurement model specification supports this argument

(Bagozzi & Yi, 2012). This study neither develops a completely new construct nor a new theory, and therefore, avoids formative measurement specifications.

Results

The overall response rate of this study was approximately 74% (first wave and second wave). Table 2 represents that approximately 30% firms were small medium-sized firms with less than 500 employees. Almost 50% firms were operating their business (exporting) in less than 10 countries. The data characteristics also highlight that 23.54 % firms were six to ten years old and only 12% firms were more than 20 years old.

(Table 2 goes here)

Table 3 represents the results of CVR and correspondent CVI score for eight items of IOI. Both CVR and CVI were assessed by ten experts to confirm the essentiality, clarity, relevance and simplicity. Results show that the impact score of each item is higher than 1.5 and the CVR and CVI of IOI scale also have higher value of 0.62 and 0.78 respectively. Both CVR and CVI values achieved the adequacy (Lawshe 1975; Polit & Beck 2006). These results lead to no exclusion of items from IOI scale.

(Table 3 goes here)

EFA and CFA analyses

The KMO measure of sampling adequacy value was 0.927, Bartlett's Test of Sphericity ($X^2 = 1571.502$, $df = 28$, p -value = 0.000). These results confirmed that the data was appropriate for EFA analysis. Table 4 represents the results of EFA analysis. The total variance explained by one factor was 73.56%. The result shows that the factor loading of each item has achieved a minimum threshold value of 0.50, which indicates no exclusion of items due to lower factor loading.

(Table 4 goes here)

Figure 1 highlights the measurement model of IOI. The results show that model fit indices for IOI scale has adequate goodness-of-fit. The model fit of CFA analysis shows that $CMIN/df = 2.243$, (Chi-square = 44.538, $df = 20$), $GFI = 0.944$, $CFI = 0.946$, $NFI = 0.908$, $IFI = 0.947$, $TLI = 0.924$, and $SRMR = 0.043$. The Cronbach's alpha reliability of the construct is 0.850. These results of EFA, CFA, and reliability suggest that the scale is adequate and realizable to measure IOI. We did further analysis to identify the impact of IOI on financial performance to check the nomological validity of IOI measurement scale (Podsakoff & MacKenzie, 1994). To test the relationship between IOI and financial performance, we collected objective financial data from the finance managers of the company for the last five years. We measured the financial performance of the firms

based on return on assets (ROA) and return on equity (ROE). The result shows significant impact of IOI on financial performance. Figure 2 represents the result of IOI impacts on performance.

(Figure 1 goes here)

(Figure 2 goes here)

Discussion

This study aimed to perform a psychometric assessment of IOI scale in an emerging economy context. The samples were collected from early internationalization firms. Face validity, construct validity, and construct validity were assessed to confirm the scale. This study supports the theoretical assumptions of Singh et al. (1999), Ko and Butler (2006), DeTienne and Chandler (2007), Puhakka (2007), Gordon (2007), and Faroque and Morrish (2016) in conceptualizing IOI and empirically tests the scale. This study articulates that IOI is a valid scale which captures the nobility, value, and feasibility of international opportunity.

The CVR and CVI results show that the items of IOI scale achieve simplicity, relevancy, clarity, and essentiality. The Cronbach Alpha and Construct Reliability values also confirm the internal consistency of the scale. The EFA result proposes one factor for IOI scale. The CFA suggests the adequacy of the model fit of IOI scale. The factor reflects the theoretical definition of opportunity and the assumption to operationalize IOI, and provides support to the construct validity of IOI. We also investigate the effects of IOI on financial performance. The results of the investigation show that IOI significantly improves financial performance ($\beta=0.26$, $p<0.05$) of the firms. This results support the nomological validity of IOI scale in the context of emerging economies.

The themes highlighted in Table 1 include: (1) innovativeness and creativity, (2) feasibility of opportunity, (3) objectification of opportunity, (4) time to identify opportunity and (5) quantity of opportunity. Innovation is an inherent aspect of firms where entrepreneurs use certain mechanisms to identify the opportunities from resource constrained and uncertain business environments. Innovation plays a significant role to overcome this situation (Reuber et al., 2018). New opportunities can be delivered from new market entry, introduction of new products/services, sources of cheap/unique raw materials, and supplies. These practices of identifying new opportunities require continuous search and alertness (Sambasivan, Abdul, & Yusop, 2009). However, chances of interruption still may impede the IOI process due to knowledge gap and resources constraints (Dimov, 2011). All opportunities are not unique and valuable. However, entrepreneurs are rational and large number of opportunities increase the chances of success in the market. Yet remarkably, it is

reasonable to capture the entrepreneurial perception on the quantity of new opportunities while measuring the holistic nature of opportunities.

Opportunities create economic value only when the idea generation becomes opportunities objectification. Even though ideas are scarce and unique but the failure to objectify opportunities lead to unsubstantial prospect. Entrepreneurs objectify opportunities when they bring appropriate economic benefits, which are attractive and unique (Baker et al, 2005). However, not all unique ideas are considered as correct opportunities (Timmons & Spinelli, 2006). This identification is a linear process where managers develop multiple ideas before they recognize opportunities (Singh, 2001). For example, in the knowledge-based service organization, the importance of opportunity is significant (Kim & Lee, 2010).

The premise of existing research on international opportunity highlights that identification of international opportunity is a cognitive activity of international entrepreneurs (Reuber et al., 2018). Entrepreneurs tend to identify international opportunities when the market is imperfect or provides any exogenous shocks (Alvarez, Barney, & Anderson, 2013). Opportunities must exist objectively in the market and should be feasible and desirable to entrepreneurs to pursue (McMullen & Shepherd, 2006). At the same time, there should be a product-market fit to capture targeted customers (Wood, McKelvie, & Haynie, 2014). It is imperative for firms to identify a suitable geographic market in a given time (Williams & Gre´goire, 2015). Entrepreneurial characteristics such as mental model (Maitland & Sammartino, 2015b) and their heuristics behavior improves the IOI process (Maitland & Sammartino, 2015a). At the same time, entrepreneurs need formal network to recognize opportunities (Quer et al., 2010). Clark, Li, and Shepherd (2018) have conceptualized international opportunity as a new market entry. This could be a new research direction of this study which incorporates market entry in IOI process and sees how it could benefit the IOI scale while fitting new product/service in a new international market.

Conclusion

This study aims to measure the IOI scale in an emerging economy context. The study is an initial attempt to validate IOI scale which consists of the entrepreneurial idea, the level of innovativeness, quality, quantity, feasibility, and the objectification of international opportunities. The results of EFA and CFA suggest that IOI is a valid and reliable scale to measure international opportunities. The result of the path analysis also confirms that IOI is crucial element in international business context. Although this study only considers early internationalized firms, however, the scale is also suitable for late internationalized firms; because IOI is not a

contingent but a continuous process. Future research in international business could be benefited from IOI scale by operationalizing in multiple contexts to extend opportunity research in international business literature. This research is limited by the samples from emerging market only. IOI is contextual and therefore, the results might be different in developed economies. Hence, future research should consider diversified sample, which will merit more profound insights into IOI literature. It is notable to mention that the samples of this study lead to another limitation of *multiplicity*. This study only captures data from firms that survived in the international market. Multiplicity teaches us to consider the uncertain journey from opportunity identification to successful performance (Dimov, 2017). Longitudinal research on IOI can merit profound insights into this research issue. Future research can take the challenge to investigate unsuccessful firms due to opportunity identification failure.

References

- Åkerman, N. (2015). International opportunity realization in firm internationalization: Non-linear effects of market-specific knowledge and internationalization knowledge. *Journal of International Entrepreneurship*, 13(3), 242-259.
- Andersson, S., & Evers, N. (2015). International opportunity recognition in international new ventures—a dynamic managerial capabilities perspective. *Journal of International Entrepreneurship*, 13(3), 260-276.
- Alvarez, S. A., Barney, J. B., & Anderson, P. (2013). Forming and exploiting opportunities: The implications of discovery and creation processes for entrepreneurial and organizational research. *Organization Science*, 24(1), 301–317.
- Arbuckle, J. L. (2013). IBM SPSS Amos 22 User's Guide: IBM Corporation.
- Ardichvili, A., Cardozo, R., & Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing*, 18, 105–123.
- Arenius, P., & De Clercq, D. (2005). A network-based approach on opportunity recognition. *Small Business Economics*, 24(3), 249-265.
- Baker, T., Gedajlovic, E., & Lubatkin, M. (2005). A framework for comparing entrepreneurship processes across nations. *Journal of International Business Studies*, 36(5), 492-504.
- Bagozzi, R. P., & Yi, Y. (2012). Specification, evaluation, and interpretation of structural equation models. *Journal of the Academy of Marketing Science*, 40(1), 8-34.
- Casson, M. (1982). *The entrepreneur: An economic theory*.
- Christensen, P. S., Madsen, O. O., & Peterson, R. (1994). *Conceptualizing entrepreneurial opportunity recognition*. Westport, CT: Quorum Books.
- Christensen, P. S., Peterson, R., & Madsen, O. Ø. (1990). Opportunity identification: The contribution of entrepreneurship to strategic management. *Institute of Management, University of Aarhus*.
- Clark, D. R., Li, D., & Shepherd, D. A. (2018). Country familiarity in the initial stage of foreign market selection. *Journal of International Business Studies*, 49(4), 442–472.
- Colton, D., & Covert, R. W. (2007). *Designing and constructing instruments for social research and evaluation*: John Wiley & Sons.
- Coviello, N. (2015). Re-thinking research on born globals. *Journal of International Business Studies*, 46(1), 17-26.
- DeTienne, D. R., & Chandler, G. N. (2007). The role of gender in opportunity identification. *Entrepreneurship Theory and Practice*, 31(3), 365-386.
- Dimitratos, P., Voudouris, I., Plakoyiannaki, E., & Nakos, G. (2012). International entrepreneurial culture—Toward a comprehensive opportunity-based operationalization of international entrepreneurship. *International Business Review*, 21(4), 708-721.
- Dimov, D. (2011). Grappling with the unbearable elusiveness of entrepreneurial opportunities. *Entrepreneurship Theory and Practice*, 35(1), 57–81.
- Dimov, D. (2017). *The Reflective Entrepreneur*, Oxon: Routledge.
- Davidsson, P. (2015). Entrepreneurial opportunities and the entrepreneurship nexus: A re-conceptualization. *Journal of Business Venturing*, 30(5), 674-695.
- Dutta, D. K., & Crossan, M. M. (2005). The nature of entrepreneurial opportunities: understanding the process using the 4I organizational learning framework. *Entrepreneurship Theory and Practice*, 29(4), 425-449.
- Eckhardt, J. T., & Shane, S. A. (2003). Opportunities and entrepreneurship. *Journal of Management*, 29(3), 333-349.
- Ellis, P. D. (2011). Social ties and international entrepreneurship: Opportunities and constraints affecting firm internationalization. *Journal of International Business Studies*, 42(1), 99-127.
- Faroque, A. R., & Morrish, S. C. (2016). Networks, Dynamic International Opportunity Recognition and Performance Among International New Ventures. In *Looking Forward, Looking Back: Drawing on the Past to Shape the Future of Marketing*. Springer International Publishing, 795-804.
- Fiet, J. O. (2002). *The systematic search for entrepreneurial discoveries: ABC-CLIO*.
- Fiet, J. O., Clouse, V. G., & Norton Jr, W. I. (2004). *Systematic search by repeat entrepreneurs. Opportunity identification and entrepreneurial behavior*. New York: Information age publishing.
- Davidsson, P. (2015). Entrepreneurial opportunities and the entrepreneurship nexus: A re-conceptualization. *Journal of Business Venturing*, 30(5), 674-695.
- Foss, N. J., & Klein, P. G. (2012). *Organizing entrepreneurial judgment: A new approach to the firm*: Cambridge University Press.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.

- Fuentes, M. D. M. F., Arroyo, M. R., Bojica, A. M., & Pérez, V. F. (2010). Prior knowledge and social networks in the exploitation of entrepreneurial opportunities. *International Entrepreneurship and Management Journal*, 6(4), 481-501.
- Gaglio, C. M., & Katz, J. A. (2001). The psychological basis of opportunity identification: Entrepreneurial alertness. *Small Business Economics*, 16(2), 95-111.
- Gordon, S. R. (2007). Interpersonal trust, vigilance and social networks roles in the process of entrepreneurial opportunity recognition. *International Journal of Entrepreneurship and Small Business*, 4(5), 564-585.
- Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). *Multivariate data analysis: A global perspective* (Vol. 7): Upper Saddle River, NJ: Pearson.
- Hajizadeh, E., & Asghari, M. (2011). Statistical methods and analyses in health and biosciences a research methodological approach. *Tehran: Jahade Daneshgahi Publications*, 395.
- Hills, G. E., & Shrader, R. C. (1998). Successful entrepreneurs' insights into opportunity recognition. *Frontiers of Entrepreneurship Research*, 18, 30-41.
- Hills, G. E., Shrader, R. C., & Lumpkin, G. T. (1999). Opportunity recognition as a creative process. *Frontiers of Entrepreneurship Research*, 19(19), 216-227.
- Hurmerinta, L., Nummela, N., & Paavilainen-Mäntymäki, E. (2015). Opening and closing doors: the role of language in international opportunity recognition and exploitation. *International Business Review*, 24(6), 1082-1094.
- Ho, R. (2013). *Handbook of univariate and multivariate data analysis with IBM SPSS*. : CRC press.
- Hohenthal, J., Johanson, J., & Johanson, M. (2003). Market discovery and the international expansion of the firm. *International Business Review*, 12(6), 659-672.
- Hooper, D., Coughlan, J., & Mullen, M. (2008). Structural equation modelling: Guidelines for determining model fit. *Articles*, 2.
- Quer, D., Claver, E., & Rienda, L. (2010). Doing business in China and India: a comparative approach. *Asia-Pacific Journal of Business Administration*, 2(2), 153-166.
- Johanson, J., & Vahlne, J.-E. (1977). The Internationalization Process of the Firm—A Model of Knowledge Development and Increasing Foreign Market Commitments. *Journal of International Business Studies*, 8(1), 23-32.
- Kirzner, I. (1973). *Competition and entrepreneurship*. Chicago: University of Chicago Press.
- Kirzner, I. M. (1997). Entrepreneurial discovery and the competitive market process: An Austrian approach. *The Journal of Economic Literature*, 35, 60-85.
- Ko, S., & Butler, J. E. (2006). Prior knowledge, bisociative mode of thinking and entrepreneurial opportunity identification. *International Journal of Entrepreneurship and Small Business*, 3(1), 3-16.
- Kim, S., & Lee, H. (2010). Factors affecting employee knowledge acquisition and application capabilities. *Asia-Pacific Journal of Business Administration*, 2(2), 133-152.
- Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel psychology*, 28(4), 563-575.
- Maasoumi, R., Lamyian, M., Montazeri, A., Azin, S. A., Aguilar-Vafaie, M. E., & Hajizadeh, E. (2013). The sexual quality of life-female (SQOL-F) questionnaire: Translation and psychometric properties of the Iranian version. *Reprod Health*, 10(1), 25-31.
- Mainela, T., Puhakka, V., & Servais, P. (2014). The concept of international opportunity in international entrepreneurship: a review and a research agenda. *International Journal of Management Reviews*, 16(1), 105-129.
- Maitland, E., & Sammartino, A. (2015a). Decision making and uncertainty: The role of heuristics and experience in assessing a politically hazardous environment. *Strategic Management Journal*, 30(10), 1554-1578.
- Maitland, E., & Sammartino, A. (2015b). Managerial cognition and internationalization. *Journal of International Business Studies*, 46(7), 733-760.
- McMullan, W. E., Long, W. A., & Graham, J. B. (1986). Assessing economic value added by university-based new-venture outreach programs. *Journal of Business Venturing*, 1(2), 225-240.
- McMullen, J. S., & Shepherd, D. A. (2006). Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. *Academy of Management Review*, 31(1), 132-152.
- Mitchell, J. R., & Shepherd, D. A. (2010). To thine own self be true: Images of self, images of opportunity, and entrepreneurial action. *Journal of Business Venturing*, 25(1), 138-154.
- Mitchell, R. J., Shepherd, D. A., & Sharfman, M. P. (2011). Erratic strategic decisions: when and why managers are inconsistent in strategic decision making. *Strategic Management Journal*, 32(7), 683-704.
- Mostafiz, I., & Goh, S. K. (2018). International women entrepreneurs and international opportunity recognition skills for start-up ventures. *Journal for International Business and Entrepreneurship Development*, 11(3), 201-220.

- Mostafiz, I., Islam, Y., & Sharif, S. P. (2019). Partial Least Squares Structural Equation Modeling in Asian Tourism and Hospitality Research: A Systematic Review. In *Quantitative Tourism Research in Asia* (pp. 207-221). Singapore: Springer.
- Mostafiz, I., Sambasivan, M., & Goh, S. K. (2019). Impacts of Dynamic Managerial Capability and International Opportunity Identification on Firm Performance. *Multinational Business Review*, 27(4).
- Muzychenko, O., & Liesch, P. W. (2015). International opportunity identification in the internationalisation of the firm. *Journal of World Business*, 50(4), 704-717.
- Nicolaou, N., Shane, S., Cherkas, L., & Spector, T. D. (2009). Opportunity recognition and the tendency to be an entrepreneur: A bivariate genetics perspective. *Organizational behavior and human decision processes*, 110(2), 108-117.
- Oviatt, B. M., & McDougall, P. P. (2005). Defining International Entrepreneurship and Modeling the Speed of Internationalization. *Entrepreneurship Theory and Practice*, 29(5), 537-554.
- Podsakoff, P. M., & MacKenzie, S. B. (1994). An examination of the psychometric properties and nomological validity of some revised and reduced substitutes for leadership scales. *Journal of Applied Psychology*, 79(5), 702.
- Polit, D. F., & Beck, C. T. (2006). The content validity index: are you sure you know what's being reported? Critique and recommendations. *Research in nursing & health*, 29(5), 489-497.
- Puhakka, V. (2007). Effects of opportunity discovery strategies of entrepreneurs on performance of new ventures. *Journal of Entrepreneurship*, 16(1), 19-51.
- Rahman, M. H., & Al Amin, M. (2016). An Empirical Analysis of the Effective Factors of the Production Efficiency in the Garments Sector of Bangladesh. *European Journal of Advances in Engineering and Technology*, 3(3), 30-36.
- Reuber, A. R., Knight, G. A., Liesch, P. W., & Zhou, L. (2018). International entrepreneurship: The pursuit of entrepreneurial opportunities across national borders. *Journal of International Business Studies*, 49(Special Issue), 395-406
- Rindova, V. P., & Kotha, S. (2001). Continuous "morphing": Competing through dynamic capabilities, form, and function. *Academy of Management Journal*, 44(6), 1263-1280.
- Ringov, D. (2013). Dynamic capabilities and firm performance: The role of routinization, managerial discretion and environmental dynamism. *Working paper, ESADE Business School, Ramon Llull University, Barcelona, Spain*.
- Roberts, N., Campbell, D. E., & Vijayasarathy, L. R. (2016). Using Information Systems to Sense Opportunities for Innovation: Integrating Postadoptive Use Behaviors with the Dynamic Managerial Capability Perspective. *Journal of Management Information Systems*, 33(1), 45-69.
- Sambasivan, M., Abdul, M., & Yusop, Y. (2009). Impact of personal qualities and management skills of entrepreneurs on venture performance in Malaysia: Opportunity recognition skills as a mediating factor. *Technovation*, 29(11), 798-805.
- Sanchez, R. (1995). Strategic flexibility in product competition. *Strategic Management Journal*, 16(S1), 135-159.
- Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243-263.
- Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of educational research*, 99(6), 323-338.
- Schumpeter, J. (1934). *The Theory of Economic Development, 1st edn.* . Cambridge: MA: Harvard University Press.
- Shane, S. A. (2003). *A general theory of entrepreneurship: The individual-opportunity nexus.*: Edward Elgar Publishing.
- Sharif, S. P., Mostafiz, I., & Guptan, V. (2018). A systematic review of structural equation modelling in nursing research. *Nurse Researcher*, 26(2), 28-31.
- Shepherd, D. A., & DeTienne, D. R. (2005). Prior knowledge, potential financial reward, and opportunity identification. *Entrepreneurship Theory and Practice*, 29(1), 91-112.
- Singh, R., Hills, G. E., Hybels, R. C., & Lumpkin, G. T. (1999). Opportunity recognition through social network characteristics of entrepreneurs. *Frontiers of Entrepreneurship Research*, 228-241.
- Singh, R. P. (2001). A comment on developing the field of entrepreneurship through the study of opportunity recognition and exploitation. *Academy of Management Review*, 26(1), 10-12.
- Stevenson, H. H., & Jarillo, J. C. (1990). A paradigm of entrepreneurship: Entrepreneurial management. *Strategic Management Journal*, 11(5), 17-27.
- Timmons, J. A., & Spinelli, S. (2006). *New Venture Creation for the 21st Century* (7 ed.). New York: McGraw Hill.

- Ucbasaran, D., Westhead, P., & Wright, M. (2009). The extent and nature of opportunity identification by experienced entrepreneurs. *Journal of Business Venturing*, 24(2), 99-115.
- Ucbasaran, D., Westhead, P., Wright, M., & Binks, M. (2003). Does entrepreneurial experience influence opportunity identification. *The journal of private equity*, 7(1), 7-14.
- Venkataraman, S. (1997). The distinctive domain of entrepreneurship research. *Advances in entrepreneurship, firm emergence and growth*, 3(1), 119-138.
- Von Hippel, E. (1994). "Sticky information" and the locus of problem solving: implications for innovation. *Management Science*, 40(4), 429-439.
- Williams, D. W., & Grégoire, D. A. (2015). Seeking commonalities or avoiding differences? Reconceptualizing distance and its effects on internationalization decisions. *Journal of International Business Studies*, 46(3), 253–284.
- Wood, M. S., McKelvie, A., & Haynie, J. M. (2014). Making it personal: Opportunity individuation and the shaping of opportunity beliefs. *Journal of Business Venturing*, 29(2), 252–272.
- Wood, M. S., Williams, D. W., & Grégoire, D. A. (2012). *The road to riches? A model of the cognitive processes and inflection points underpinning entrepreneurial action*: Emerald Group Publishing Limited.
- Zahra, S. A., Korri, J. S., & Yu, J. (2005). Cognition and international entrepreneurship: implications for research on international opportunity recognition and exploitation. *International Business Review*, 14(2), 129-146.

List of Tables:

Table 1 International opportunity identification scale

Items	Authors	Themes
a) How many business ideas did you identify in the past five years	Singh et al. (1999) and Gordon (2007).	Innovativeness and creativity
b) How many international business opportunities were considered as novel or innovative?	Puhakka (2007) and Ucbasaran et al. (2009).	Innovativeness and creativity
c) How many novel or innovative international business ideas were considered feasible and desirable?	Ko and Butler (2006).	Feasibility of opportunity
d) How much did you modify/develop an international opportunity from idea generation to opportunity objectification?	Singh et al. (1999) and Gordon (2007).	Objectification of opportunity
e) How much are you able to shift organizational resources to capitalize on emerging opportunities in international markets?	Faroque and Morrish (2016).	Objectification of opportunity
f) How quickly can you adapt to external changes in the international market and respond to external international opportunities?	Faroque and Morrish (2016).	Timing to identify opportunity
g) How many international business opportunities did you identify in the past five years?	Arenius and De Clercq (2005), Ko and Butler (2006), DeTienne and Chandler (2007), Gordon (2007), and Ucbasaran, Westhead, and Wright (2009).	Quantity of opportunity
h) How many international opportunities have you pursued/exploited in the past five years?	Singh et al. (1999), Gordon (2007), Hills, Shrader, and Lumpkin (1999), Fuentes et al. (2010), Ucbasaran et al. (2003), and Mitchell and Shepherd (2010).	Quantity of opportunity

Table 2 Data characteristics of the sample ($N = 378$)

Characteristics	Number of Enterprises	Percentage (%)	Cumulative
<i>No of employee</i>			
<150	3	0.79	0.79
151 - 200	7	1.85	2.64
201 - 500	91	24.07	26.71
501 - 1000	82	21.69	48.40
1001 - 2000	95	25.13	73.53
> 2001	99	26.19	100
<i>Number of export markets</i>			
1 to 5	47	12.43	12.43
6 to 10	171	45.23	57.66
11 to 15	136	35.97	93.63
More than 15	24	6.34	100
<i>Firm age</i>			
1 to 5	77	20.37	20.37
6 to 10	89	23.54	43.91
11 to 15	88	23.28	67.19
16 to 20	76	20.10	87.29
More than 20	47	12.43	100

Table 3 CVR and individual CVI for the IOI scale items

Items (<i>N</i> =10)	CVI			CVR
	Simplicity (1-4)	Relevancy (1-4)	Clarity (1-4)	Essential (1-3)
1. How many business ideas did you identify in the past five years?	0.75	1	0.91	0.89
2. How many international business opportunities did you identify in the past five years?	0.72	0.73	0.97	0.82
3. How much did you modify/develop an international opportunity from idea generation to opportunity objectification?	0.72	1	1	0.78
4. How many novel or innovative international business ideas were considered feasible and desirable?	0.78	1	0.88	1
5. How much are you able to shift organizational resources to capitalize on emerging opportunities in international markets?	1	0.79	0.85	0.97
6. How many international opportunities have you pursued/exploited in the past five years?	0.82	1	1	1
7. How many international business opportunities were considered as novel or innovative?	0.87	1	0.85	1
8. How quickly can you adapt to external changes in the international market and respond to external international opportunities?	1	0.78	0.93	0.79

Table 4 EFA factor loadings of items in the IOI with one factor

Item No	Factors of IOI scales	Mean (<i>N</i> = 195)	SD	Communalities (h ²)	Factor loading Factor 1
Factor 1:	International opportunity identification (% of variances = 76.907, eigenvalue = 6.153)				
1	How many business ideas did you identify in the past five years.	5.34	1.15	0.793	0.891
2	How many international business opportunities did you identify in the past five years?	5.41	1.09	0.756	0.869
3	How much did you modify/develop an international opportunity from idea generation to opportunity objectification?	5.36	1.09	0.779	0.882
4	How many novel or innovative international business ideas were considered feasible and desirable?	5.33	1.06	0.761	0.872
5	How much are you able to shift organizational resources to capitalize on emerging opportunities in international markets?	5.30	1.07	0.739	0.860
6	How many international opportunities have you pursued/exploited in the past five years?	5.39	1.03	0.661	0.813
7	How many international business opportunities were considered as novel or innovative?	5.39	1.06	0.668	0.829
8	How quickly can you adapt to external changes in the international market and respond to external international opportunities?	5.47	1.05	0.709	0.842

List of Figures:

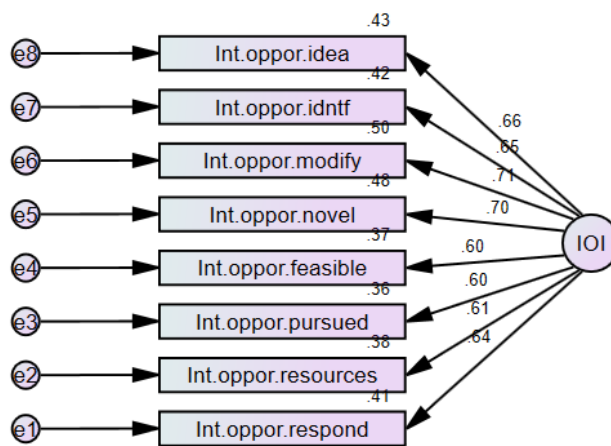


Figure 1: CFA measurement model of IOI scale. Note: $X^2 = 44.853$, $CMIN/df = 2.243$, $CFI = 0.946$, $IFI = 0.947$, $GFI = 0.944$, $SRMR = 0.043$, $RMSEA (90\% C.I.) = 0.080. (0.050-0.115)$.

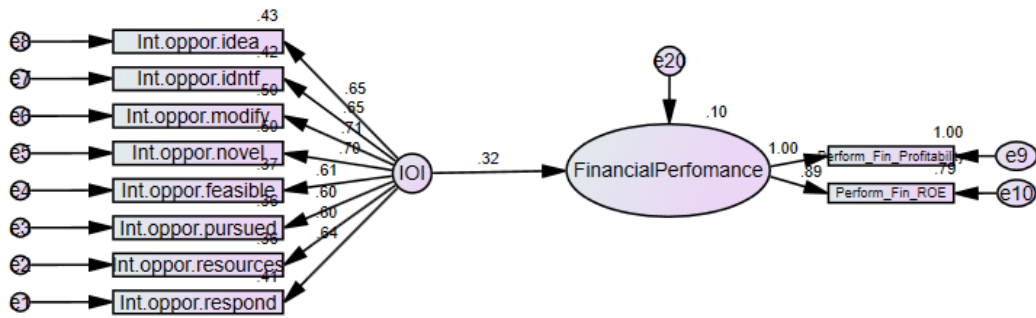


Figure 2: Path analysis ($N=183$). Note: $X^2 = 57.696$, $df = 34$, $CMIN/df = 1.697$, $CFI = 0.968$, $IFI = 0.969$, $GFI = 0.943$, $SRMR = 0.041$, $RMSEA$ (90% C.I.) = 0.062 . ($0.033-0.089$).