

The Effects of International Entrepreneurial Orientation and Entrepreneurial Activities on SMEs' Export Performance

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Abstract

Purpose – Without question, globalization has presented different opportunities to entrepreneurs seeking to expand their companies in foreign markets. The aim of this study is to examine the relationship between entrepreneurial orientation, entrepreneurial activity, information internalization, and product differentiation in export oriented firms. As such, entrepreneurial activities are divided into exploitative and exploratory opportunities. These opportunities are crucial in improving firms' performance.

Design/methodology – A structural questionnaire was developed using 21 factors/indicators from previous researches. The subjects of this study were recruited using convenience sampling in export SMEs in the Seoul Metropolitan Area. Data were collected through visits or e-mails from the export managers, executives, and CEOs of export SMEs in advance. 321 questionnaires were collected over a period of one month. 316 questionnaires were used in the final analysis.

Findings – First, International Entrepreneurial-orientation (IE) has a positive effect on the exploration and exploitation of business opportunities. Second, the exploration and exploitation of business opportunities have a positive impact on information internalization. Third, information internalization has a significant effect on product differentiation and plays a mediating role in seeking opportunities, utilizing opportunities, and differentiating products.

Originality/value – This study contributes to the development of academic discussions by explaining existing research gaps. First, there is currently a lack of research focusing precisely on the product differentiation capability of SMEs in manufacturing field in terms of IE. To bridge these gaps, we examined the entrepreneurial factors impact on product differentiation and tries to expand the discussion about the internationalization of SMEs, which were mainly focused on IT companies, and manufacturing companies. Second, there is no intuitive explanation regarding international entrepreneurial activity in terms of exploration and exploitation within existing. In this study, international entrepreneurship activities were classified in terms of exploration and exploitation.

Keywords: Entrepreneurial Exploitative activity, Entrepreneurial Explorative Activity, International Entrepreneurial Orientation, Information Internalization, Product Differentiation

JEL Classifications: M10, M15, M16

1. Introduction

In the modern globalized market environment, the concept of domestic and foreign economic borders is gradually disappearing. Therefore, it is becoming increasingly vital to

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seize new opportunities in overseas markets and respond to rapid environmental changes by internalizing information to ensure the survival of firms. In particular, SMEs are constrained by their limited size and resources (Coviello and McAuley, 1999). However, they are able to promptly take advantage of opportunities and relocate their resources in an environment that is rapidly shifting in terms of dynamic capabilities (Covin and Slevin, 1989; Jayaswal, Verman and Wadhvani, 2008; Lumpkin and Dess, 2001).

Studies on foreign expansion of SMEs usually examine the key success factors (Avlonitis and Salavou, 2007; Kamukama, Ahiauzu and Ntayi, 2011; Lumpkin and Dess, 2001) or investigate the internalization process of such firms based on resource view (Francis and Collins-Dodd, 2000; Autio et al., 2000). In addition, researchers present international Entrepreneurial-Oriented (IE) as a major influencing factor, and mostly study financial performance of exporting firms as a dependent variable (Ucbasaran, Westhead and Wright, 2001; Zahra, 2005). Although there are not many studies on adaptive processes and entrepreneurship of business opportunities, some studies have shown that IE is important in terms of exploration and exploitation (Wensley et al., 2011; Zahra, 2005). Business activities, such as the aggressive exploration and exploitation of opportunities and bold investment, are important for securing and utilizing external resources for SMEs (Kim and Mauborgne, 2000), especially for improving performance (Zott and Amit, 2010).

Nevertheless, existing literature on IE and adaptive process for business opportunity of SMEs has a dearth of discussion in terms of the extent and depth of the subject. Thus, to view the process in an integrated manner regarding the relationship of SMEs' entrepreneurial processes and their internalization performance, this study tries to apply the concept of "adaptive processes"-exploitation and exploration- in capturing business opportunities. Exploration refers specifically to the development of completely innovative, new alternatives or opportunities with uncertainty, while exploitation means the improvement and full exploitation of business opportunities that are firm-holding or grasping.

On the other hand, existing research on the export performance of SMEs have proposed the 'born-global' concept based on the dynamic capability mainly for IT companies' and their performance has mainly focused on financial aspect. Additionally, product differentiation which is the core competence of the manufacturing industry as a business performance has been discussed as a subcategory of competitive advantage or innovation performance (Naidoo, 2010; Torugsa, Donohue and Hecker, 2012).

This study is different from previous studies because it contributes to the development of academic discussions by explaining existing research gaps in following paragraph. First, there is currently a lack of research focusing precisely on the product differentiation capability of SMEs in manufacturing field in terms of IE. To bridge these gaps, we examined the entrepreneurial factors impact on product differentiation and tried to expand the discussion about the internationalization of SMEs, which were mainly focused on IT companies, and manufacturing companies.

Second, there is no intuitive explanation regarding international entrepreneurial activity in terms of exploration and exploitation within existing research thereby creating a research gap. In this study, international entrepreneurship activities were classified in terms of exploration and exploitation. In this way, it is possible to capture the mechanism by which the international entrepreneurship of Korean manufacturing companies produces tangible results, and analyzing their differences.

This study aims to examine the following: To identify the effects of IE on the exploration and exploitation of opportunities. To explore the mechanisms by which the exploration and exploitation of opportunities influence firm performance by helping SMEs overcome their resource scarcity. This study is expected to provide strategic implications for the generation

of sustainable performance. In particular, it examines the relationship between international entrepreneurial orientation, entrepreneurial activity, information internalization, and product differentiation in export firms based on survey data. In this paper, we tried to find answers to the following research questions. 1) How does SME's IE capture opportunities? 2) What is the most efficient and effective way to engage in entrepreneurial activities? 3) What is the process for SME's IE to bring product differentiation performance? Which of the indirect and direct processes through internalization is important?

We assume that entrepreneurial orientation has a positive impact on the performance of SMEs in relation to exploration and exploitation. Through the balanced ambidextrous adaptation process of business opportunities, SMEs can adequately promote their product competitiveness. In addition, the process of seeking opportunities for SMEs has proven to be effective for their performance only through the process of information internalization. These findings contribute to the overall body of knowledge in many ways.

This study looked at international entrepreneurial orientation from the viewpoint of the ambidextrous opportunity-seeking process in terms of exploration and utilization. Through this, it is expected to consider how these impacting factors interact and work together during the entrepreneurial process and bring performance to SMEs. Furthermore, this study is expected to expand academic discussion in this field. From a practical point of view, this study is expected to enhance the competitiveness of small and medium export manufacturing companies by clarifying more efficient ways to explore opportunities.

2. Theoretical Background and Hypothesis Development

2.1. Exploration and Exploitation during the International Entrepreneurial Activities

International Entrepreneurial Orientation (IEO) reflects "the firm's overall innovativeness and pro-activeness in the pursuit of international markets. It is associated with innovativeness, managerial vision and proactive competitive posture" (Knight and Cavusgil, 2004, 129). It features the nature of both Entrepreneurial Orientation (EO) and International Entrepreneurship (IE).

Entrepreneurial Orientation (EO) can be explained in terms of exploration and exploitation. It is characterized by companies' inclination to identify and seize opportunities. 'Capturing opportunities' can be divided into the behavior of companies exploring new opportunities in the market as well as exploiting their resources. By exploring and exploiting opportunities, companies can improve their performance and maintain a competitive advantage (Hitt et al., 2001; Lee Yea-Rim, 2019; Venkataraman and Sarasvathy, 2001).

The concept of exploration and exploitation was first presented in the field of organizational learning by March (1991). It has been extended to many areas, including knowledge management and corporate strategy implementation. Explorative activity serves to introduce new knowledge from the outside and apply it to existing knowledge. Meanwhile, exploitative activity is used to create new knowledge by recycling existing resources and experience (Rosenkopf and Almeida 2003).

This paper attempts to demonstrate the process of IEO within Korean manufacturing companies being internalized through explorative and exploitative entrepreneurial behaviors, thus leading to product differentiation.

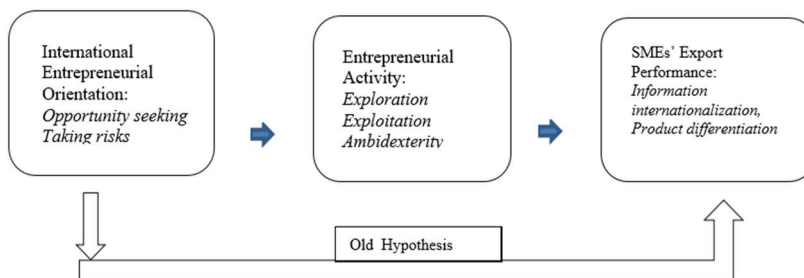
2.2. Research Framework for International Entrepreneurship Activities

The concept of entrepreneurial orientation refers to the entrepreneurial tendency for firms

to pursue product or technological innovation, take risks, and behave in a proactive manner (Lumpkin and Dess, 1996; Miller, 2011). The characteristics of entrepreneurial orientation can be explained as the inclination to act autonomously, the tendency to innovate and take risks, the propensity to behave aggressively toward competitors and chase market opportunities. This perspective is gaining much importance in this era of globalization within which firms only differ by the degree to which they engage in activities to overcome this change in the environment (Lumpkin and Dess, 1996; Smallbone, Leig and North, 1995).

Studies usually view firm innovation from the viewpoint of dynamic capability (Coviello and Jones, 2004; Morgan, Rime and Strahan, 2004; Winter, 2003). Some have tied dynamic capability to entrepreneurship as well as examined the role of entrepreneurship in gaining competitive advantage (Kamukama, Ahiauzu and Ntayi, 2011). These studies have stated that because entrepreneurial orientation is sensitive to changes in external information and technology, entrepreneurs pursue new businesses or markets aggressively. Hence, we incorporate the concept of entrepreneurial activity in SMEs' export. There are many benefits and barriers for SMEs' international expansion. However, they are searching for entrepreneurial opportunity. The motivation for SMEs' international expansion can be found in many literatures; overcoming domestic competition, seeking new opportunity, client following, foreign market attractions, and government support. Therefore, SMEs make rational decision in selecting entrepreneurial activities to minimize risk and utilize potential benefits. The main idea of this paper is to encapsulate international entrepreneurial activities beyond entrepreneurial orientation for SMEs' export performance. The conceptual framework for this study is explained in Fig. 1.

Fig. 1. SMEs' International Entrepreneurial Orientation-Activity-Performance (OAP) Research Framework



Entrepreneurial activity is defined as an essential contributor to economic development achieved through the methods, practices, and decision-making styles of the entrepreneur (Okhomina, 2010). It includes the constant pursuit of growth, business model innovation, profit generation, and overseas market development for market survival. In other words, they are the series of processes that capture the opportunity to survive in the global market and utilize human and material resources, including technology (Kim and Mauborgne, 2000; Porter and Kramer, 2002; Smallbone, Leig and North, 1995; Watson, Hogarth-Scott and Wilson, 1998). In particular, these entrepreneurial activities should involve a firm's internally and externally dynamic activities for management to explore and exploit.

SMEs entering foreign markets lack the resources to gain competitive advantage. However, managers with risk-taking entrepreneurial orientation do not fear market failure owing to resource constraints. Rather, they strive to quickly overcome such constraints by aggressively seeking opportunities (Phan, 2004). Additionally, they engage in exploratory activities to seek

new opportunities and acquire relevant external information as well as strive to secure market differentiation by exploiting internal resources through their bold thinking and innovative behavior (Song and Di Benedetto, 2008). In this context, the organization will be created, resources will be intensively allocated, and the business plan will be established. Martin and Javalgi (2016) analyzed the moderating role of competitive intensity between entrepreneurial orientation and marketing capabilities for better international new venture performance.

The contribution of this OAP framework can be found in three folds. First, this framework incorporates the direct and indirect relationship between entrepreneurial orientation and SME's export performance. Following the conventional approach, the construct of entrepreneurial orientation has positive impacts on SMEs' export performance. However, in this study, the research construct of entrepreneurial activities are introduced and they are classified into two interdependent sub-constructs of exploratory and exploitative opportunistic activities. Second, following this framework it is possible to test the power of entrepreneurial activity as intermediate variable between entrepreneurial orientation and SMEs' export performance. In other words, it is possible to test the power of activity variables for export performance in SME study. Third, within the research construct of entrepreneurial activity, it is possible to test the entrepreneurial orientation as antecedents of entrepreneurial activity. Further, which one, exploratory or exploitative activity has more explanatory power to make impacts on SMEs' export performance.

2.3. International Exploration and Exploitation Activities

In the field of management strategy, it has been argued that it is important for a company to achieve its own performance and survival by ensuring that an appropriate balance of exploration and exploitation is performed. Existing research has suggested that the concept of exploitation and exploration is important in many fields such as technology innovation and partnership. Companies have shown progressive or radical use of information and exploration through exploration and exploitation in carrying out management activities (Benner and Tushman, 2003; Chae, Koh and Prybutok, 2014). In the same vein, the opportunity-seeking aspect in which companies capture information and opportunities plays an important role in determining the performance of the company. This can lead to significant differences in productivity and efficiency.

From the international entrepreneurial perspective, the exploration and exploitation is discussed in few studies as follows. Empirical studies have explored the concept of exploration and exploitation from a variety of perspectives on corporate management as product development (Lisboa, Skarmeas and Lages, 2011), customer relations (Wensley et al., 2011) and dependent variables of corporate entrepreneurship orientation (Kim Young-Kyun, 2013). Politis (2005) argued that exploration and exploitation has a moderating effect on the relationship between entrepreneurs' career experiences and knowledge. Zahra, Korri and Yu (2005) proposed the cognitive approach of IE as a theoretical framework.

Cognitive approach explains the way companies behave in seeking opportunities. Both modes of action have different advantages and are in a bilateral relationship. Seeking and exploiting opportunities are both incompatible and have been considered to have ambidexterity (Levinthal and March, 1993). These two activities are mutually independent rather than two extremes of one dimension (Piao, 2010). Combining these opposite strategies is possible (March, 1991). For example, Mudambi and Swift (2014) found that the concurrent use of exploitative and explorative R&D contributes to enhancing firm performance. Therefore, to this study will suggest new entrepreneurial orientation that have a positive influence on the exploration and exploitation of business opportunities. Based on this, the following hypotheses were established.

H1-1: Entrepreneurial orientation has a positive effect on opportunity exploration.

H1-2: Entrepreneurial orientation has a positive effect on opportunity exploitation.

2.4. Information Internalization

The internalization of information is the act of locating and recognizing external knowledge to acquire and implement as internal knowledge to enhance business activities such as process improvement and product development (Cohen and Levinthal, 1990). It is one of the most important internal competencies for export-oriented firms in which information internalization needs to be earned through a difficult process owing to its structure. Under this process, members acquire knowledge tacitly as opposed to naturally. Moreover, the degree to which acquired knowledge is internalized differs across firms in the same environment. Similarly, the effective internalization of information within firms differs even when exposed to identical situations and environments.

Scholars attribute the main cause of this difference to absorptive capacity (Cohen and Levinthal, 1990; Lyles and Salk, 1996; Zahra and George, 2002). Lane et al. (1998) found that organizational structure, processes, and policies affect knowledge transfer, sharing, creation, and integration. They also emphasized that the role of individuals develops, advances, and maintains the ability to internalize information. As such, the role of individuals, along with the firm's tendency and organization's structural support, can determine the extent of the internalization of information. While the exploration and exploitation of business opportunities refers to the exploration and exploitation of external resources. Information internalization means strengthening competencies to generate performance through the internal acquisition of external resources. Therefore, external resources have a positive effect on information internalization, as the exploration and exploitation of opportunities improve internal absorptive capacity. Studies by Hambrick and Mason (1984) and Jaworski and Kohli (1993) on export firms revealed that creative activities are strengthened with more exploration and exploitation opportunities and found a positive effect in this relationship through the mediation of information internalization. The following hypotheses were thus established based on these previous studies.

H2-1: Opportunity exploration has a positive effect on information internalization.

H2-2: Opportunity exploitation has a positive effect on information internalization.

2.5. Product Differentiation

Product differentiation means introducing new products to existing markets or existing products to new markets. It can occur when a firm manufactures existing products with improvements or under a new process (Wong, 2012). As such, product differentiation has a close relationship with the concept of entrepreneurial orientation in its tendency to take risks and (Sun and Wing, 2005). Firms with high entrepreneurial orientation are aggressive in their new product development (Mu and Di Benedetto, 2011), as such, entrepreneurial orientation has a positive relationship with the performance of product differentiation (Wong, 2012).

Entrepreneurial orientation is typically measured by innovativeness, pro-activeness, and risk-taking degree (Martin and Javalgi, 2016). Innovativeness refers to the tendency to be creative and experimental during the application of new products or services. It also encourages originality, technological leadership, and R&D in new process development. Risk-taking degree refers to the tendency to take bold actions such as entering unknown markets,

allocating vast resources to new venture businesses with uncertain prospects, and taking out excessive loans. The pro-activeness variable refers to the opportunistic and future-oriented tendency to apply new products and services early as well as anticipate future demand (Lumpkin and Dess, 1996; Li, Huang and Tsai, 2009). Overall, entrepreneurial orientation is thus a concept that aims to beat competitors by continuously exploring opportunities and solutions outside the firm's current business domain (Lumpkin and Dess, 1996). Therefore, the higher entrepreneurial orientation, the more frequently the firm generates and utilizes opportunities (Chandra, Styles and Wilkinson, 2009). Indeed, a firm with entrepreneurial orientation can strengthen its core competencies (Zahra, Sapienza and Davidsson, 2006). From this perspective, firms with higher entrepreneurial orientation are expected to have higher absorptive capacity to enable the exploration, modification, and exploitation of external knowledge.

Flatten et al. (2011) analyzed 269 studies of past absorptive capacity and revealed that the majority of empirical studies used patent number or R&D concentration as proxy variables. This implies that the concept of absorptive capacity is highly related to R&D activities and product development. Indeed, absorptive capacity has been attracting academic attention as a leading factor in the success of product differentiation (Abecassis-Moedas and Mahmoud-Jouini, 2008). The relationship between absorptive capability and product differentiation has been examined in studies of efficiency and effectiveness (Iansiti, 1995). The internalization of information is a similar concept to the absorptive capacity of an organization (Nieto and Quevedo, 2005), a series of mechanisms for product differentiation can be assumed. Hence, the following hypotheses were established based on these previous studies.

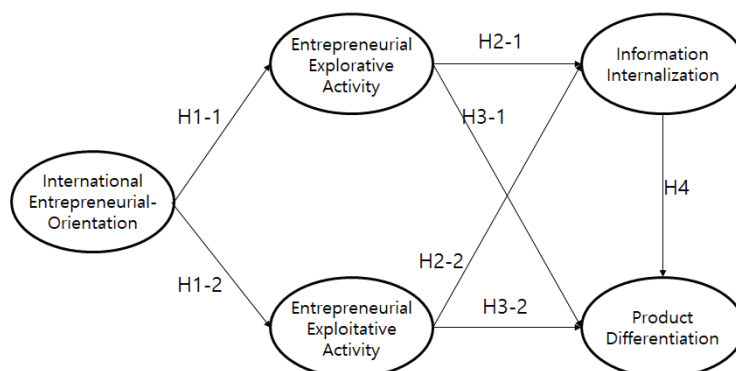
H3-1: Opportunity exploration has a positive effect on product differentiation.

H3-2: Opportunity exploitation has a positive effect on product differentiation.

H4: Information internalization has a positive effect on product differentiation.

In summary, the entrepreneurial activity of firms is expected to have a positive effect on information internalization (Zahra, Sapienza and Davidsson, 2006), and entrepreneurial orientation/activity and information internalization are expected to have a positive effect on product differentiation (Martin and Javalgi, 2016). Fig. 2 shows the conceptual model of this study.

Fig. 2. Research Framework



3. Methodology

3.1. Subjects and Data Collection

The subjects of this study were recruited using convenience sampling in export SMEs in the Seoul Metropolitan Area. For the data collection, the interviewers explained the purpose of the questionnaire and requested the participation of the export managers, executives, and CEOs of export SMEs in advance. Data were collected through visits or e-mails. 321 questionnaires were collected over a period of one month. In the final analysis using the structural equation model, five questionnaires with a low response rate or sincerity were excluded. Hence, 316 questionnaires were used.

All respondents were men, of which 14.9% were CEOs, 34.2% executives, and 50.9% export executives. Approximately half had work experience of fewer than 10 years and half had experience of more than 10 years. The average number of employees was 106. The average age of firms was 16 years; 39.2% of firms were classified as 11–20 years followed by 31.6% for at least 20 years and 29.1% for fewer than 10 years. The average exporting period was 8.9 years; indeed, over two-thirds (67.1%) had been exporting for fewer than 10 years followed by 11–20 years (26.6%). On average, export accounted for 17.9% of total revenue; 39.9% of firms stated that exports accounted for more than 20% followed by 38.6% of firms stating 11~20% and 21.5% below 10%.

3.2. Variable Measurement

The questions used to measure International Entrepreneurial-Orientation (IE), entrepreneurial explorative/exploitative activity, information internalization, and product differentiation had been validated by previous studies. These were modified to meet the purpose of the study and measured on a five-point Likert scale.

Entrepreneurial orientation was based on the study of Anderson and Eshima (2013), who measured innovativeness, pro-activeness, and risk-taking through eight aspects, excluding “the highest executive of the division emphasizes innovation in product and service, marketing, and R&D” within the measurement aspects developed by Covin and Slevin (1989). Anderson and Eshima (2013) stated that numerous studies have measured entrepreneurial orientation excluding the specific measurement aspects of Covin and Slevin (1989) and that the eight measurement aspects are sufficient. Hence, this study structured entrepreneurial orientation into eight aspects and measured it through a five-point Likert scale, with a higher measurement scale indicating higher entrepreneurial orientation.

Opportunity exploration and exploitation were measured based on the study of Kuckertz et al. (2017). The authors explained opportunity recognition as paying attention to potential business opportunities, searching for and collecting information aggressively, communicating, handling customer requests, and evaluating the practicability of potential business activities and opportunities. Based on this conceptual explanation, opportunity recognition was composed of five items and opportunity exploitation of four items to be validated. Likewise, this study composed opportunity exploration into five items and opportunity exploitation into four items and measured these through a five-point Likert scale, with a higher measurement scale indicating the more aggressive exploration and exploitation of opportunities.

Information internalization was measured based on the study of Nguyen, Barrett and Fletcher (2006), who provided measurement items by conceptualizing the process of utilizing information and generating knowledge. Nguyen, Barrett and Fletcher (2006) divided information internalization into two dimensions, namely the conversion of information into

knowledge and information exploitation in which the converted information is used to meet goals, and each were composed into six items. As such, this study selected eight of the 12 items used by Nguyen, Barrett and Fletcher (2006) to meet the purpose of the study. Also, the author measured information conversion and information exploitation using a five-point Likert scale, with a higher measurement scale indicating higher information internalization. Finally, product differentiation was measured based on the study of Ramaswamy (2009). The study was composed of three items measured using a five-point Likert scale, with a higher measurement scale indicating higher product differentiation.

3.3. Reliability and Validity Analysis

In this study, convergent validity, discriminant validity, and reliability analysis were assessed to verify the reliability and validity of the measurement items. Table 1 shows the results of the confirmatory factor analysis using AMOS 22.0, which included factor loading and composite reliability, the average variance expected (AVE) value, and reliability verifying the Cronbach's α of the items that compose the main concepts of the measurement model. Table 1 shows the value of the square root of AVE to verify the inter-concept correlation coefficients and discriminant validity.

Table 1. Confirmatory Factor Analysis

Concept	Item	Factor Loading	Standardized Factor Loading	t-value	Composite reliability	AVE	Cronbach's α
IE	IE_1	1.000	.862		.876	.544	.875
	IE_2	.888	.764	15.515			
	IE_3	.957	.748	15.053			
	IE_4	.821	.729	14.538			
	IE_5	.774	.652	12.508			
	IE_7	.718	.649	12.440			
EEA	EEA_2	1.000	.800		.761	.517	.765
	EEA_3	.751	.623	9.825			
	EEA_5	.949	.723	11.015			
EET	EET_1	1.000	.689		.822	.536	.819
	EET_2	1.127	.781	11.617			
	EET_3	.852	.686	10.500			
	EET_4	.996	.767	11.475			
II	II_2	1.000	.701		.857	.501	.835
	II_3	1.043	.711	10.662			
	II_4	.840	.684	10.209			
	II_5	.809	.708	10.635			
	II_7	1.349	.752	11.063			
	II_8	1.190	.688	10.233			
PD	PD_2	1.000	.808		.776	.635	.776
	PD_3	.999	.785	5.302			

Note: EO=entrepreneurial orientation, OER=opportunity exploration, OET=opportunity exploitation, II=information internalization, PD=product differentiation.

As shown in Table 1, the standardized factor loading of each conceptual measure is at least .624, which is higher than the general standard of .50. In addition, the composite reliability values of all concepts are above the threshold value of .6. The AVE value is above the threshold value of .5 for all the concepts and Cronbach's α is above the threshold value of .7. The results of the above statistical analysis show that the metrics of each concept satisfy convergent validity.

Discriminant validity was verified according to the method of Fornell and Larcker (1981), and the square root of the AVE and correlation coefficient values were compared. If the square root of the AVE of a specific concept is above the correlation coefficient between the relevant concept and another concept, it is regarded as having discriminant validity. As shown in Table 2, the square root of the AVE of all the concepts was above the correlation coefficient between the relevant concept and another concept; therefore, the model was evaluated as having discriminant validity. The AVE values ranged from 0.501 to 0.635, and the squared correlation coefficients ranged from 0.000 to 0.114. Therefore, the maximum value of the correlation coefficient squared was found to be smaller than the minimum value of the mean variance extraction value, indicating that discriminant validity was secured.

Table 2. Inter-concept Correlation Coefficients

	IE	EER	EET	II	PD
IE	.737				
EER	.242 (.000)	.719			
EET	.167 (.013)	.626 (.000)	.732		
II	.392 (.000)	.492 (.000)	.506 (.000)	.707	
PD	.062 (.339)	.269 (.000)	.166 (.023)	.312 (.000)	.796

Note: The value within brackets is the t-value. Diagonal values are the square root of the AVE.

4. Results

Table 2 shows that all the correlation coefficients are positively significant at 10% level. Product differentiation was most correlated with information internalization, followed by opportunity exploration, opportunity exploitation, and entrepreneurial orientation. Information internalization was more correlated with opportunity exploration and exploitation than with entrepreneurial orientation. Entrepreneurial orientation was more correlated with opportunity exploration than with opportunity exploitation. Fig. 3 shows the structural equation model for predicting the causal relationships among the concepts and Table 3 presents the causality estimates.

As shown in Table 3, the fit of the structural equation model that predicted the causal relationships among the concepts was good: chi-square=488.363 ($p=.000$, $df=182$), GFI=.901, NFI=.913, CFI=.937, TLI=.937, RMR=.040, and RMSEA=.073. The results of predicting the causal relationships among the concepts shows that the entrepreneurial orientation of export SMEs has a significant positive effect on both opportunity exploration ($B=.275$, $t=3.889$, $p<.001$) and opportunity exploitation ($B=.184$, $t=3.031$, $p<.01$). This shows that a firm with higher entrepreneurial orientation aggressively explores and utilizes business opportunities.

Fig. 3. Analysis Model

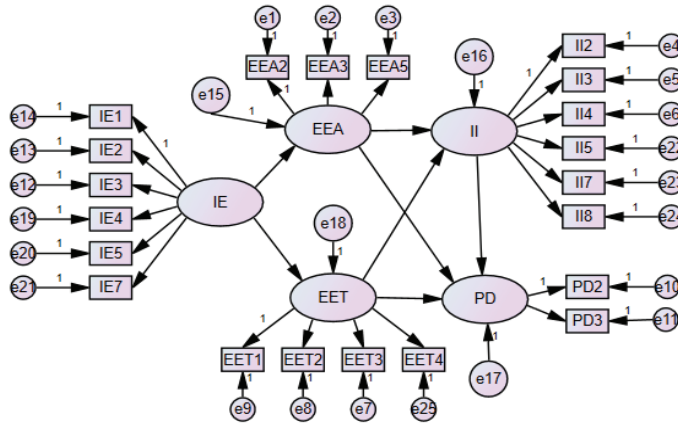


Table 3. Structural Equation Model Results

Relationship	Estimated Coefficient (B)	Standard error	t-value	p-value
IE→EER	.275***	.071	3.889	.000
IE→EET	.184**	.060	3.081	.002
EER→II	.245***	.052	4.709	.000
EET→II	.317***	.060	5.289	.000
EER→PD	.171	.091	1.877	.061
EET→PD	-.054	.101	-.538	.590
II→PD	.399**	.139	2.873	.004
Goodness-of-fit statistics	chi-square=488.363(p=.000, df=182), GFI=.901, NFI=.913, CFI=.937, IFI=.937, RMR=.040, RMSEA=.073			

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

The opportunity exploration ($B=.245$, $t=4.709$, $p<.001$) and opportunity exploitation ($B=.317$, $t=5.289$, $p<.001$) of export SMEs were both found to have a significant positive effect on information internalization, suggesting that a firm that engages more aggressively in opportunity exploration and exploitation is more likely to convert information into knowledge and thereby aggressively apply this acquired knowledge to improve firm performance.

Information internalization was found to have a positive effect on product differentiation, but neither opportunity exploration nor opportunity exploitation had a significant effect. This result indicates that firm which are more aggressive in converting information into knowledge and seeks to apply this knowledge to improve firm performance have a higher product differentiation. In addition, opportunity exploration and exploitation had a direct effect on information internalization, but no effect on product differentiation. Therefore, the mediating effect of information internalization could be predicted. As such, this study utilized bootstrapping to analyze the significance of the indirect effect of opportunity exploration/exploitation on product differentiation. As shown in Table 4, the indirect effect ($B=.093$, $p<.01$) through which opportunity exploration affects product differentiation via information internalization and the indirect effect ($B=.127$, $p<.01$) through which opportunity exploitation affects product differentiation via information internalization is significant.

Therefore, opportunity exploration and exploitation were revealed to affect product differentiation through the mediation of information internalization.

Table 4. Results for the Indirect Effects

Route of indirect effect	Estimated coefficient	Bootstrap		p-value
		Lower	Upper	
EER→II→PD	.098**	.033	.201	.005
EET→II→PD	.127**	.049	.277	.003

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

These results show that entrepreneurial orientation was found to have a positive effect on the exploration and exploitation of business opportunities. These findings play a positive role by improving the performance of export firms through the conversion of information into knowledge and applying this knowledge to improve firm performance.

In this study, extensive efforts were made to reduce Common Method Bias (CMB), ranging from the survey design to post analysis. For example, during the post-analysis step, Harman's single factor test was conducted. Harman's Single Factor Test showed that one factor accounted for 43.77% of the total variance, meeting the general standard of less than 50%. In addition, at the questionnaire preparation stage, variables for measuring latent factors were arranged randomly. As the non-response rate was low, it was judged that there no distortion issues of sample data arose due to non-response convenience. There was no systematic difference between non-responders and respondents.

5. Conclusion

This study seeks to understand the role of direct and indirect entrepreneurial factors and their impact on performance towards product competitiveness, with emphasis on ambidextrous adaptive process. Based on existing studies, the relationships among these concepts were hypothesized and data were collected through questionnaires. Structural equation modeling was used to validate the research model. The results of the empirical analysis are as follows. First, entrepreneurial orientation was found to have a positive effect on both explorative and exploitative activities. This finding indicates that the more the entrepreneur engages in proactive, risk-taking, and creative behaviors, the more likely he or she can secure the competitiveness of the firm to enter foreign markets and seek new opportunities. Second, the exploration and exploitation of business opportunities were found to have a positive effect on product differentiation only through information internalization. After the process of modifying and accumulating all information and experience earned from exploring and exploitation opportunities (Martin and Javalgi, 2016), SMEs can derive competitive advantage from foreign markets.

From the above results, the answers to the research questions were derived as follows: The SME's IE has the same significant impact on enterprise performance in each of the two modes of action -exploration and exploitation. Therefore, SMEs need to take an ambidextrous and balanced strategy in adaptive process of exploration and exploitation to enter overseas market and capture business opportunities. In addition, in order for the SMEs' IE to be derived as a valid outcome, it is necessary to undergo internalization process of obtained information and knowledge.

Existing research on SME's entrepreneurship, innovation and dynamic capacity has mainly

focused on high-tech industries which are represented by high-velocity (Brown and Eisenhardt, 1997). However, this study confirmed that IE of manufacturing companies also brings about innovation through product differentiation, exploration and exploitation. In other words, the dynamicity of the corporate management environment is rapidly increasing, and the agile response through IE to the external environment plays an important role not only in IT companies but also in manufacturing companies.

This study is academically meaningful for the following reasons. First, it reveals the factors affecting the differentiation strategies of SMEs. Moreover, few previous studies have revealed the relationship between entrepreneurial orientation and information internalization in exports of SMEs, or the series of paths for establishing export differentiation strategies by internalizing external information. Second, it empirically explained the relationships among international entrepreneurial orientation, entrepreneurial activity, information internalization, and product differentiation in export firms. Although studies have discussed the relationship between entrepreneurship and firm performance, no research has thus far revealed the structural relationship between entrepreneurial orientation and entrepreneurial activity, information internalization, and product differentiation in SMEs. While companies can gain efficiencies in the short term by taking full advantage of the opportunities they have, they can benefit from finding new opportunities if they take risks and explore new prospects. (March, 1991).

This study also provides the following practical implications. First, export SMEs need to establish strategy regarding entrepreneurial activities and make aggressive efforts to increase their IE. The findings of this study showed that the higher the IE of export firms, the higher is their market-linking ability through the adaptive process of opportunities in pursuit of overseas expansion. This result is consistent with the relationship between IE and entrepreneurial activity revealed by Martin and Javalgi (2016). Therefore, continuous support and effort are required for SMEs to fully use their internal resources as well as explore business opportunities and internalize obtained information. In addition, firms need to display bold entrepreneurial behaviors such as introducing new products and services, actively pursuing opportunities in anticipation of future demand, entering new markets, and investing vast resources in uncertain businesses. As such, increasing the IE of export firms bring explorative and exploitative adaptation of business opportunities, which plays an important role in the development of innovative products that can survive in foreign market.

Second, the internalization of information by export SMEs is an important determinant of their strategic competencies. The findings of this study revealed that without the process of internalization of acquired information, entrepreneurial activity does not appear as valid performance. This result shows consistency on Zahra, Sapienza and Davidsson (2006) that the ability to internalize information has a positive influence on organizational commitment. When exporting SMEs improve their ability to internalize information, their strategic capabilities rise, including those related to their technical ability, marketing, and market linkages. Considering the above results, SMEs can strategically capture opportunities and cope with rapidly changing environment in the process of overseas advancement. While through the process of internalizing acquired information and knowledge, it is possible for SMEs to effectively differentiate products in overseas markets in the future.

This study has some limitations, which offer research directions for future studies. It collected data on export firms in Korea; however, there was a limit to data collection in terms of its number of samples and duration of the survey. Future studies will need to collect more samples that allow various analyses such as cross-sectional study. This study assumes that the data used represented all manufacturing firms in Korea, and it is expected that the data will be supplemented later. Also, in future studies, by obtaining a broader range of data it should

be possible to develop a more structured research model considering higher-order and second-order variables.

Moreover, to measure firm performance, product differentiation was set as the variable. However, other qualities of export firms could be considered such as management skills. In future studies, it is necessary to consider variables based on different theories. Finally, since this study is based on manufacturing companies in Korea, generalization as a whole company is limited. Therefore, in order to generalize the results, it is necessary to divide the scope of the research into manufacturing companies and service companies, or to extend them to other industries.

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