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Pluripotent Dynamic Capabilities in the Internationalization of Firms

Focus on Learning, Innovating and Networking in SMEs from Sweden

Mohammad Reza Saeedi

2017

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To my family

عقل ہوکتے دار عقل دکر
پیشہ کر کمال شیخ دپیشہ کر
اللہ

*Wisdom is evolved by other wisdoms
The Craftsman is matured by other Craftsmen*

*Rumi,
13th Century - Theologian*

Abstract

Small and medium-sized enterprises (SMEs) are the backbone of the economy; therefore, their internationalization has been a considerable concern for international business (IB) scholars. Particularly, for those economies such as Sweden with small local markets, internationalization of SMEs could be fundamental. The firm-specific advantages (FSAs), including *what the firm has and does*, are crucial for SMEs to overcome in the face of their numerous different obstacles including liability of smallness (LOS), liability of newness (LON) and liability of foreignness (LOF).

Examining the extant literature on the evolution of IB theories indicates that over time, IB scholars have been reaching to *dynamic-based FSAs* (what the firm does) as the source of developing and protecting sustainable competitive advantages (SCA) across national borders in a changing business environment. Recently, the leading IB researchers have also argued that the nature of the dynamic-based FSAs could be *similar to dynamic capabilities*. But, when it comes to determining specific component factors of the dynamic-based FSAs (as dynamic capabilities), there has been little agreement between IB researchers. In other words, *the room of the dynamic capabilities is still dark*. In this respect, shedding light into this room, particularly in the area of IB studies, is crucial. In addition, after determining the component factors of the dynamic-based FSAs, it is also critical to know the likely relationships between the identified component factors as well as their impact on the SMEs' international performance (IP) as an important outcome of the internationalization. This means that there is a potential theoretical gap associated with the conceptualization of the component factors of the dynamic-based FSAs on one hand, and a potential empirical gap on the other. Given both theoretical and empirical research gaps, the purpose of this study is to examine, from a theoretical perspective, the nature of the dynamic-based FSA and its related component factors in the IB context, as well as empirically explore how SMEs' IP is influenced by the identified component factors of the dynamic-based FSAs.

To perform this study, first of all, based on lenses of the resource-based view (RBV) and dynamic capability view (DCV), the literature on organizational capability in the context of the IB studies was systematically reviewed to fill the theoretical gap. Consequently, three component factors of the dynamic-based FSAs including networking capability (NC) as a relational-based FSA, innovative capability (IC) as an innovative-based FSA and absorptive capacity (ACAP) as

a learning-based FSA were identified, all of which are pluripotent and dynamic in nature. Then, a deductive approach was followed to develop several hypotheses and the associated conceptual model. Furthermore, a survey strategy, collecting data from 330 Swedish internationalized manufacturing SMEs, was applied to accomplish the purpose of the study. Then, the Partial Least Squares Structural Equation Modeling (PLS-SEM) as a quantitative method was used to analyze the collected data.

The results of the PLS-SEM analysis show that the SMEs' international performance (IP) is positively influenced by the three identified component factors, whether directly or indirectly. In this regard, ACAP and NC are the two reliable predictors (directly) of the SMEs' IP. The results indicate that innovative capability does not have direct impact on the SMEs' IP, and that its effect is fully transmitted on IP only by the mediating effect of the networking capability. Further analysis showed that ACAP, as an endogenous latent variable, additionally has a positive indirect association with SMEs' international performance (IP). Moreover, the results also indicate that innovative capability (IC) is directly and positively affected by ACAP (the *innovating-by-learning effect*). It was also empirically revealed that ACAP is a very strong predictor for networking capability (NC), which is labeled as the *networking-by-learning effect*. Another major finding was that in internationalized SMEs, NC is strongly, directly and positively affected by IC; this effect also is termed as the *networking-by-innovating effect*. The overall picture resulting from the PLS-SEM analysis indicates that learning-based FSA (ACAP) in internationalized SMEs is a wellspring to develop both innovative-based FSA (IC) and relational-based FSA (NC), as well as influence SMEs' IP. Furthermore, these results suggest that the relational-based FSA (NC) is a vital *gateway* to transmit the effect of the other two component factors on IP and, at the same time, directly influence IP.

Key words: Internationalization of SMEs, Firm-specific advantages, Dynamic capabilities, Absorptive capacity, Networking capability, Innovative capability, and PLS-SEM.

Sammanfattning

Mindre och medelstora företag (SME-företag) utgör ryggraden i ett lands ekonomi; därför har SME-företagens internationalisering varit en mycket viktig frågeställning för forskare inom internationellt företagande. Speciellt för de ekonomier, som likt Sverige har en liten hemmamarknad, kan internationaliseringen av SME-företag vara av fundamental betydelse. De företagsspecifika fördelarna (*eng. firm-specific advantages, FSA*), som bygger på *vad företaget har och gör*, är avgörande för att SME-företagen ska kunna komma över ett stort antal hinder, som inkluderar nackdelar av att vara liten, nackdelar med att vara ny på marknaden och nackdelar av att ha utländskt ursprung.

Befintlig litteratur om teoriutvecklingen inom internationellt företagande visar på att forskningen har gått mot ett synsätt där *dynamikbaserade företagsspecifika fördelar* (*eng. dynamic-based FSA*) (som har fokus på vad företaget gör) utgör källan till utveckling och försvar av hållbara konkurrensfördelar – konkurrensfördelar som fungerar över landsgränser i en föränderlig affärsomgivning. På senare tid har även ledande forskare inom internationellt företagande argumenterat för att karaktären på de dynamikbaserade företagsspecifika fördelarna är *lika (med) karaktären på dynamiska förmågor*. Men när det kommer till frågan om att bestämma vilka de specifika komponenterna av dynamikbaserade företagsspecifika fördelar (uttryckta som dynamiska förmågor) är, så har det varit en avsaknad av samstämmighet mellan olika forskare inom disciplinen. Med andra ord så är *rummet för dynamiska förmågor fortfarande mörkt*. Därför är det av högsta betydelse att kunna sprida ljus in i detta rum, speciellt inom disciplinen internationellt företagande. Därutöver, efter att ha bestämt komponenterna i konceptet dynamikbaserade företagsspecifika fördelar, så är det också av avgörande betydelse att kartlägga de troliga relationerna mellan komponenterna, liksom deras påverkan på SME-företags internationella prestationer, vilka utgör en viktig del i bedömningen av internationaliseringen. Detta pekar på att det finns ett potentiell teoretiskt gap kopplat till konceptualiseringen av komponenterna som bygger upp dynamikbaserade företagsspecifika fördelar å ena sida och ett potentiellt empiriskt gap å andra sidan. Givet dessa båda teoretiska och empiriska gap är denna studies syfte att kartlägga, från ett teoretiskt perspektiv, karaktären på dynamikbaserade företagsspecifika fördelar och dess komponenter i kontexten internationellt företagande. Syftet är också att empiriskt kartlägga hur SME-företags internationella prestationer (*eng. performance*) är påverkade av de identifierade komponenterna som sammantaget bygger upp de dynamiska företagsspecifika fördelarna.

Ett första steg i genomförandet av studien har varit att systematiskt studera litteraturen inom området organisatoriska förmågor (*eng. organizational capabilities*) i kontexten internationellt företagande för att fylla det teoretiska gapet. De teoretiska linserna som har använts kommer från det resursbaserade synsättet (*eng. resource-based view*) och dynamiska förmågor synsättet (*eng. dynamic capability view*). Som ett resultat av denna litteraturstudie identifierades tre komponenter som bygger upp dynamikbaserade företagsspecifika fördelar:

nätverkande förmåga (eng. *networking capability*) som är en relationsbaserad företagsspecifik förmåga, innovativ förmåga (eng. *innovative capability*) som är en innovationsbaserad företagsspecifik förmåga och absorptionskapacitet (eng. *absorptive capacity, ACAP*) som är en lärandebaserad företagsspecifik förmåga. Alla dessa tre komponenter är av pluripotent och dynamisk karaktär. I ett nästa steg användes en deduktiv ansats för att formulera ett flertal hypoteser som byggde på en konceptuell modell. Därefter genomfördes en survey med 330 tillverkande SME-företag med internationell verksamhet för att kartlägga de samband som pekats ut i studiens syfte. Ett nästa steg var att analysera dessa data med strukturekvationsmodeller som bygger på partiella-minsta-kvadrat-metoden (eng. *partial least squares structural equation modelling, PLS-SEM*).

Resultaten från PLS-SEM analysen visar att SME-företags internationella prestationer är positivt påverkade av de tre identifierade komponenterna (som bygger upp de dynamiskbaserade företagsspecifika förmågorna), endera direkt eller indirekt. Absorptionskapacitet och nätverkandeförmåga är två tillförlitliga prediktorer för SME-företags internationella prestationer. Studiens empiriska resultat visar vidare att innovativ förmåga inte har en direkt påverkan på SME-företags internationella prestationer utan att effekten av innovativ förmåga går indirekt via nätverkandeförmåga för att i ett nästa steg påverka internationella prestationer. Fortsatt analys visar att absorptionskapacitet, som en endogen latent variabel, i tillägg har en positiv indirekt koppling till SME-företags internationella prestationer. Därutöver indikerar också resultaten att innovativ förmåga är direkt och positivt påverkad av absorptionskapaciteten (*innovation-via-inlärnings-effekten*). Det finns också empiriska belägg för att absorptionskapaciteten mycket starkt predikterar nätverksförmåga, vilket kallas för *nätverkande-via-inlärnings-effekten*. Ett annat empiriskt huvudresultat är att bland internationaliserade SME-företag är nätverkandeförmåga direkt och positivt påverkat av innovativ förmåga; den effekten är också benämnd som *nätverkande-via-innovation-effekten*. Den övergripande bilden från PLS-SEM analysen indikerar att inlärningsbaserade företagsspecifika framgångsfaktorer (absorptionskapacitet) bland internationaliserade SME-företag är en källa för att utveckla både innovationsbaserade och relationsbaserade företagsspecifika framgångsfaktorer (innovativ förmåga respektive relationsförmåga) liksom för att påverka SME-företags internationella prestationer. Ytterligare pekar de empiriska resultaten på att relationsbaserade företagsspecifika fördelar utgör en vital portgång för att överföra effekten av de två andra komponenterna på internationella prestationer och på samma gång direkt influera SME-företags internationella prestationer.

Nyckelord: Internationalisering av SME-företag, Företagsspecifika fördelar, Dynamiska förmågor, Absorptionskapacitet, Nätverkandeförmåga, Innovativ förmåga, PLS-SEM.

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Mohammad Reza Saeedi

Linköping, Sweden, January 2017

Abbreviations used in this study

ACAP	Absorptive Capacity
Aq	Acquisition
A-R-A	Activities, Resources and Actors
As	Assimilation
AVE	Average Variance Extracted
BGs	Born Globals
BPs	Business Partners
C1,2,3	Cluster 1, 2, 3
CA	Competitive Advantage
C _a	Cronbach's alpha
CFs	Contextual Factors
CEO	Chief Executive Officer
CMB	Common Method Biases
CO	Coordination
CR	Composite Reliability
CSAs	Country Specific Advantages
DB-FSAs	Dynamic Based-Firm-Specific Advantages
DC	Dynamic Capabilities
DCV	Dynamic Capability View
EU	European Union
Ex	Exploitation
FDI	Foreign Direct Investment
FSAs	Firm-Specific Advantages
GDP	Gross Domestic Product
HCMs	Hierarchical Component Models
HTMT	Heterotrait-Monotrait Ratio
H-O	Hecksher–Ohlin
HOC	Higher Order Component
HR	Human Resources
IB	International Business
IC	Innovative Capability
ICO	Internal Communication
IE	International Entrepreneurship
Int_Exp	International Experience
I-M	Innovation Related Internationalization Models
INVs	International New Ventures
IO	Industrial Organization
IP	International Performance
IORs	Inter-Organizational Relationships
IT	Information Technology
JM-M	Johanson and Mattson's (1988) model

LC	Learning Capability
LOCs	Lower-Order Components
LOF	Liability of Foreignness
LON	Liability of Newness
LOO	Liability of Outsidership
LOS	Liability of Smallness
LSAs	Local Specific Advantages
LSEs	Large-Scale Enterprises
LVs	Latent Variables
MBV	Market-Based View
MNEs	Multi-National Enterprises
MU	Market Uncertainty
NBG	Non-Born Global
NC	Networking Capability
NE-M	Network Embeddedness Model
NLB	Non-Location-Bound
OECD	The Organization for Economic Co-operation and Development
OC	Operational (Ordinary) Capability
OLI	Ownership Location Internalization
PK	Partner Knowledge
PLS	Product Life Cycle
PSAs	Partnership-Specific Advantages
PLS-SEM	Partial Least Squares Structural Equation Modeling
RBV	Resource-Based View
R&D	Research and Development
RQ	Research Question
RS	Relational Skills
RSA	Relationship-Specific Advantage
SCA	Sustainable Competitive Advantages
SCP	Structure-Conduct-Performance
SMEs	Small and Medium-sized Enterprises
SPSS	Statistical Package for the Social Sciences
SCB	Statistics Sweden agency
SRMR	Standardized Root Mean Square Residual
TCE	Transaction Cost Economics
TE	Total Effect
Tr	Transformation
U-M	Uppsala Model
VAF	Variance Accounted For
VIF	Variance Inflation Factor
VRIN	Valuable, Rare, Imperfect imitable and Non-substitutability

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1 Introduction

1.1 Background, problem and gaps

Small and medium size enterprises (SMEs)¹ are the major source of economic development, job creation, entrepreneurship, social integration, and innovation throughout the world. Since the backbone of the world's economy relies on SMEs, they are the main force for global change. Given the centrality of SMEs in performing entrepreneurial activities, it could therefore be said that SMEs are “the agents of change”, as Schumpeter (1934) pointed out for entrepreneurs.

According to an OECD (2007) report, more than 95 percent of the world's businesses are SMEs. In the European Union (EU), 99.8% of enterprises are SMEs (firms with less than 250 employees), creating more than 90% of new jobs as well as more than 60% of economic value added (Filipe et al., 2016; Muller et al., 2016). For EU countries, in 2014, almost 67% of total employment was generated by SMEs (Muller et al., 2016). In Sweden, as a small open economy among EU members, SMEs are also the backbone of its economy. SMEs in Sweden are fundamentally associated with their contributions to employment. Of every 100 employees in Sweden, 25% are working in micro (0-9 employees) businesses, 21.5% in small (10-49) firms, 18.1% in medium (50-249) companies and 34.6% in large-scale enterprises (LSEs)² (250+). This means that in Sweden, 65.4% of the country's labor force is employed by those firms with less than 250 employees (OECD, 2014). The contribution of SMEs to the GDP of Sweden is about

¹ The European Commission defines SMEs as businesses which employ less than 250 staff and have an annual turnover of less than EUR 50 million, and / or their balance sheet total is less than EUR 43 million (European Commission, 2005).

² Enterprises with more than 250 employees.

57% (Lejárraga et al., 2014). Therefore, the future prosperity of Sweden is highly dependent on the growth of SMEs.

The percentage of world GDP is increasingly growing based on the cross-border trading (Ghemawat, 2011). And, engaging in, particularly, outward international business (IB) activities, is a substantial way of surviving and growth, whether for LSEs or SMEs.

Given the importance of SMEs in the economic body of countries, consequently, they will be the substantial players in international business (IB) activities to capture potential opportunities (Ruzzier et al., 2006). In their descriptive article, Cernat et al. (2014) stated that in 2011, more than 33% (over 500 billion Euros) of total export outside the EU borders was performed by 600,000 SMEs (81% of EU exporter enterprises). In this respect, at least 6000,000 jobs have been created throughout Europe by these SMEs only through exporting outside the EU. This is even more important because emerging markets, by 2030, will account for about 60% of the world's GDP (Cernat et al., 2014).

Moreover, the EU survey on the level of internationalization of European SMEs indicates that the rate of employment growth and innovation in internationalized SMEs is higher than for those which are not involved in IB activities (European Commission, 2010). This implies that SMEs are a considerable engine for the internationalization and associated value in EU countries. However, still there are *millions of SMEs* (a large gap) that have not been engaged in the process of internationalization, particularly outwardly, toward export outside of the EU (Cernat et al., 2014).

When it comes to Sweden, with its limited domestic market size, the role of the SMEs' internationalization in the overall economy would be more important than in those countries with bigger domestic market demands. In other words, in a small economy the investment in SMEs' internationalization needs to be followed stronger. In line with this fact, Autio (2000) argued that in a small economy, the internationalization of SMEs is an effective strategy for economic growth. Given this reality, in Sweden, as the largest exporting economy among the Nordic countries, the national economy to a large extent (50% of GDP) is dependent on the internationalization (e.g., export) of enterprises, whether LSEs or SMEs (OECD, 2015). However, while *LSEs dominate the national exports*, SMEs have performed better in their outward IB activities. For instance, exporter SMEs have been better at value creation per

employee as well as job creation. In addition, exporter SMEs have also performed better than non-exporter SMEs (Nordic Council of Ministers, 2014). However, like in other EU countries, in Sweden, thousands of SMEs are still not involved in internationalization processes.

As was noted above, internationalization of the firm (large or small) has been considered one of the most attractive strategies and drivers to access and acquire more international opportunities. However, being involved in international markets is more challenging for SMEs because of their resource limitations (Knight and Kim, 2008).

Compared with LSEs, SMEs, especially intrinsically for their IB activities, are faced with different types of *limitations and challenges* to possess resources, information, financial capital, management time, capabilities, management experience, international market knowledge, networks, opportunities and so on (Lu and Beamish, 2001; Tang, 2011). IB scholars have highlighted several types of SME liabilities which are the main barriers for internationalization. These are *liability of smallness (LOS)*, *liability of newness (LON)*, *liability of foreignness (LOF)* and *liability of outsidership (LOO)* (Autio et al., 2000; Johanson and Vahlne, 2009; Zaheer, 1995). In addition, the new global economy setting caused by globalization and technological changes has influenced international businesses dramatically. Changes in transportation systems, information technology, e-business, and product life cycles, in turn, have resulted in changes in the economic environment, along with a different organizational life and structures. This change has been the only constant phenomenon in the new global economy (Brown and Eisenhardt, 1998).

Globalization has created a kind of environmental complexity and associated threats to perform business activities, but entrepreneurial opportunities, on the other hand, have also increased dramatically (Ireland et al., 2001). In the wake of these continual changes, SMEs, in order to survive, should adapt to the highly dynamic environment, e.g. international markets, through their new transformation (Schwandt and Marquardt, 2000). This means that the rapid and continual change of international business environments is also another considerable challenge for the internationalization of firms, and particularly for SMEs. These challenges, even in a competitive economy, can be problematic. For instance, despite the fact that it is within the EU and is a leading country in innovation, Sweden's *international performance* (e.g., export performance) has been *deteriorating* since 2008. In other words, recent evidence suggests that Sweden has lost its

international market shares, particularly in the *manufacturing sector* (European Commission, 2015; OECD, 2015). Given these problems, research on the internationalization of SMEs has been of increased interest both for policy makers and academic researchers.

Considering the above limitations, problems and challenges for SMEs in the IB context on the one hand, and the existence of successful SMEs in international markets on the other, several fundamental questions could be asked. For instance, how can SMEs, in the IB context, be overwhelmed regarding the cost of liability of foreignness (LOF)? What kinds of capabilities are the critical sources of the sustainable competitive advantage (SCA) across national borders? Why does the international performance of SMEs differ? Answering these seemingly simple but fundamental questions - and many other similar questions which are related to the SMEs' challenges in international markets - is, of course, not easy. It is beyond the scope of this study to answer all the above questions comprehensively, but these types of questions could be useful to determine a better way to solve the problem.

Obviously, the internationalization of SMEs could be affected by many factors, whether inside or outside the firm. In this regard, according to the mainstream literature on IB, in order to be successful in international markets, a firm could be affected by two main strategies: a *shelter-based strategy* and an *efficiency-based strategy* (Rugman and Verbeke, 1989). The first strategy focuses on home country (location)-specific advantages (CSAs), e.g. unique characteristics such as access to specific resources, special knowledge, information, and supporting institutions that positively facilitate international expansion of the firm (Gerke and Benson-Rea, 2012; Li et al., 2011; Rugman, 2009). The second strategy (efficiency-based strategy) emphasizes an idiosyncratic set of *the firm-specific advantages (FSAs)* such as organizational capabilities, competencies and knowledge-based assets like the internal sources of sustainable competitive advantages (SCA) in international markets.

International expansion and growth of the local SMEs is positively influenced by CSAs as an outside driver of internationalization. On the contrary, FSAs are an inside driver of the internationalization and growth of SMEs (Gerke and Benson-Rea, 2012). Obviously, both strategies are important, but *the focus of this study is limited only to the firm-specific advantages (FSAs) as a firm-level phenomenon*. The FSAs refer to strategic intangible resources, such as unique organizational capabilities possessed by the firm (Almodóvar and Rugman, 2014;

Hillemann and Gestrin, 2016). In line with this definition, Rugman and Verbeke (2008) argued that the concept of *organizational capabilities* is the *reinvented* form of the FSAs concept. Focusing on the firm-specific advantages (FSAs) as an internal factor or factors could be an effective strategy to explain the differences in the internationalization of a firm for the following reasons: (1) the FSAs, as the unique source of superiority, could be critical to overcome the firm's (large and small) liability of forgiveness (LOF) (Almodóvar and Rugman, 2014; Hymer, 1960, 1976; Zaheer, 1995); (2) a firm that possesses sustainable FSAs, on the one hand, would be able to apply international market opportunities, and on the other, to neutralize its competitive threats; (3) the FSAs are vital to address the highly dynamic IB business environment (Dunning, 2000); (4) timely development and deployment of the FSAs by a firm ensure its SCA in today's global economy across national borders (Teece, 2014a; Verbeke et al., 2014); and (5) those firms with strong FSAs would be able to create market imperfection rather than looking for it (Bukley 2009).

As was noted above, the FSAs are unique resources which are possessed by the firm. Given the resource-oriented nature of the FSAs, the resource-based view (RBV) would be the main landscape for that. On this basis, among driver theories and approaches, the *resource-based view (RBV)* and its related extensions (the modern RBV) like *dynamic capability view (DCV)* might be suitable theoretical perspectives to help understand the FSAs and related problems properly, particularly when they are related to building and protecting the firm's sustainable competitive advantage (SCA) and performance.

Putting all IB theories under the microscope of the RBV and DCV indicates that *FSAs are the core component* of the majority of these theories, although the nature of the FSAs, in each IB theory, might not be similar. In other words, IB scholars have applied FSAs, however in diversified meanings in a firm such as technical knowledge, market knowledge, technological innovation, patented technology, and organizational capabilities, which are a mix of "what the firm has and does" (Dunning, 2000; Hymer, 1960; Rugman and Verbeke, 2003). In this regard, a question that naturally arises is *what types of FSAs, as the source of competitiveness, should be considered in a firm (e.g., SMEs)?*

Examining the extant literature on the evolution of the IB theories shows that there is no definitive answer to this question. For the majority of the IB theories, however, it seems that

among associated researchers there is a new emerging consensus about a new dynamic component. That is, they believe that considering *dynamic-based FSAs* as a new dynamic component to enrich internationalization theories is vital. In other words, IB scholars are looking for a future-oriented critical resource endowment which is dynamic by nature. *Dynamic-based FSAs* enable the IB theories to explain the internationalization behavior of different types of firms (SMEs and LSEs). Furthermore, IB scholars are seeking a dynamic concept that empowers the firm to address the dynamic changes in the IB environment.

The second consensus among these IB researchers is that the nature of this *dynamic-based FSA* is somehow similar to *dynamic capabilities*, a new interpretation of the FSAs which is different from its traditional meaning encompassing a wide range of resources and capabilities. This means that, over time, IB researchers have shifted from the mix of “what the firm has and does” to “what the firm does” as a specific ownership advantage. Here, “what the firm does” refers to the organizational capabilities (e.g., dynamic capabilities). Beleska-Spasova et al. (2012) stated that empirical findings resulting from the IB literature show that *dynamic-based FSAs*, as intangible knowledge-based resources, are more important than other types of resources in explaining the international performance of the firm. Particularly, *dynamic-based FSAs* would be more critical for SMEs which suffer from the liability of smallness (resource restrictions).

Despite the consensus obtained by IB scholars regarding the necessity and existence of the *dynamic component*, such as dynamic capabilities like the firm’s ownership-specific advantages, there is still the important issue that *little is known about the component factors³ of dynamic capabilities (or dynamic-based FSAs)*. In other words, there is no consensus regarding the certain forms (component factors) of dynamic capabilities. In this regard, the following questions, for example, could be asked. What are the most important forms (component factors)

³ Wang and Ahmed (2007, p 32) in their study (within the field of strategic management) applied the label of “*component factors of dynamic capabilities*”.

of the dynamic-based FSAs? What kinds of organizational capabilities are they? Are they functional or firm-level by nature? What about their characteristics?

Looking at the literature on IB theories reveals that associated scholars have suggested different organizational capabilities. For instance, Narula and Verbeke (2015) highlighted the ownership issues associated with business networks and addressed *partnership capability* to enrich internalization theory. In another study, *absorptive capacity (ACAP)*, as a learning-based dynamic component for “O” advantages in the OLI model (eclectic paradigm), was suggested by several authors as resulting from the new interpretation of “O” advantages (Cantwell and Narula, 2004, 2003; Madhok and Phene, 2001). Similarly, *absorptive capacity (ACAP)* was recommended by Oviatt and McDougall (2005) to enhance the capacity of the international entrepreneurship theory. Moreover, Vahlne and Johanson (2013) provided opportunity development capability and networking capability as appropriate dynamic capabilities in the new version of the Uppsala model (U-M). Furthermore, the authors of the flagship network theory stated that *network partnership* as a dynamic element should be considered to overcome the environmental constraints (Girod and Rugman, 2005) in the context of IB activities. Specifically, Teece (2014) argued that they are dynamic capabilities (sensing opportunities, seizing opportunities, and managing threats/transforming) that, as the firm’s ownership advantage, can guarantee the development of the SCA in international markets. As shown above, it is not easy to determine the component factors (certain forms) of the dynamic-based FSAs among diversified organizational capabilities. This is because each has emphasized different aspects of organizational capabilities as a critical resource endowment. That is, there is a fragmented body of the literature on DC, within IB studies, which remains disconnected, and consequently has resulted in a lack of integrated understanding about a synthesized approach on the component factors of the dynamic capabilities (dynamic-based FSAs).

This means that DC in the context of IB studies is still a “black box”, because there is a diversified understanding about the concept of DC and its component factors. Accordingly, this situation has created a kind of confusion within the field. This problem, however in the strategic management field, is highlighted by Peteraf et al. (2013) as an “elephant in the room of dynamic capabilities”. The problem within IB studies could be far more severe. This may mean that there is a *theoretical gap* here, and in order to achieve consensus about the certain component factors

(forms) of the dynamic capabilities (dynamic-based FSAs), more research should be performed. In this regard, to identify the component factors of the dynamic-based FSAs, IB researchers within the field, first of all, should shed light into the room of dynamic capabilities. In other words, in order to identify the certain component factors of dynamic capabilities within the IB context, a search should be systematically performed.

As argued above, conceptualizing the component factors of DC in IB context studies is essential research, however not sufficient. It is not enough because the contribution of the identified component factors of the dynamic capabilities of the firm's international competitiveness could also be explored empirically, particularly in SMEs. In other words, conceptualizing the component factors of the DC is a necessary precondition for testing its impact on the internationalization of the firm. Then, it is important to understand whether identified component factors of the dynamic capabilities are to gain and maintain the SMEs' competitiveness across borders. Which identified component factors would be most effective? Are they important drivers for superior performance in SMEs? What about the direction of the component factors' impact on the international performance of the firm? Meanwhile, if identifying component factors of the DC is a research gap, the impact of these identified component factors on the firm's international performance could also be an another research gap, however empirically.

If this is the case, one can argue, in the field of IB research, that there are many studies that have specifically focused on the dynamic capabilities and their impact on different internationalization aspects. That is true, but a closer look at these studies reveal that they have only provided isolated insights into the different types of organizational capabilities and their association with the internationalization outcomes, e.g. international performance (Gassmann and Keupp, 2007). In addition, in the context of SMEs, these studies have generally paid less attention to the link of dynamic capabilities and international performance (IP) empirically (Lages et al., 2009).

So far, the importance of identifying component factors of the DC and their impact on the SMEs' international performance has been discussed, but another major issue is associated with the possible set of interaction(s), if any, between identified component factors of the DC and the mechanism by which they jointly affect international performance.

As can be seen from the argument above, (1) a consensus among IB scholars has been, over time, shaped to consider *dynamic-based FSAs (dynamic capabilities)* as a critical element or elements for the current (or new) IB theories to create and protect SCA in international markets, but (2) when it comes to the component factors (certain forms) of the *dynamic capabilities*, particularly in the context of IB, there is still no consensus among IB researchers on the given components of the dynamic capabilities. This may mean that there is a potential *theoretical gap* associated with the conceptualization of the *dynamic-based FSAs*, since (3) the component factors of the dynamic-based FSAs are not clear. Consequently, little is known about the likely impact of the *identified component factors of dynamic capabilities* on the firm's international performance as the outcome of the firm's internationalization, particularly in the context of SMEs. In addition, the likely relationships between different component factors of the identified *dynamic-based FSAs* are also another aspect that should be explored. This implies that there are, therefore, both theoretical and *empirical gaps* that in turn show the need for further attention on the subject. Accordingly, it can be concluded that little research has been done to identify the component factors of the dynamic-based FSAs and their likely internal interactions, as well as their impact on international performance. It also could be said that in this research area there are both theoretical and empirical gaps, and it is the hope bring clarity to these issues through this thesis.

To address the above research gaps the RBV and DCV, in the context of IB, are exploited. For this reason, in the next section the RBV and DCV within the context of the internationalization are discussed. However, it is first of all necessary to determine the definitions of the term “internationalization” in this study.

1.2 Internationalization of the Firm (Focusing on Outward-Driven Activities)

As was noted in the previous section, internationalization is a valuable strategy for SME growth. But, as can be seen, internationalization is a broader concept, and therefore it should be clear what we mean by “internationalization” in this study. Within the internationalization studies there are two main streams. The focus of the first stream is on the process of internationalization, while the second stream focuses on the factors causing the internationalization of the firm (Fletcher, 2001). In this regard, Coviello and McAuley (1999), in their seminal review article, recognized that the term “internationalization” has been defined differently by international business (IB) scholars. Each definition has focused on a different aspect. For instance, based on

Dunning's (1988) perspective, internationalization is considered as the pattern of foreign direct investment (FDI). Melin (1992), in contrast, emphasized internationalization as the process of evolution, and Johanson and Vahlen (1977) stated that it is the process of market commitment in international markets. Johanson and Mattson (1988) suggested that internationalization is the network of business relationships. Moreover, Beamish (1990) believes that it is the process of international transactions in foreign markets. In another study, Welch and Luostarinen (1988, p. 36) defined the concept of internationalization as “the process of increasing involvement in international operations”. This last definition covers different types of international business (IB) activities. Building on this definition, the other IB researchers posited inward internationalization and outward internationalization as the two main types of internationalization of the firm (Fletcher, 2001; Welch and Luostarinen, 1993).

Through inward activities, the firm performs its internationalization by various modes such as direct and indirect imports, inward strategic alliances (e.g., licensing), cooperative manufacturing and purchasing. On the other hand, outward internationalization covers a wide range of modes such as direct and indirect export, outward licensing, franchising, strategic alliances, FDA, etc. In outward internationalization, the firm's revenue is realized through these different outward modes. In this study, like Welch and Luostarinen (1988), internationalization refers to the firms' involvement in international operations; the focus here, however, is only on outward-driven activities, e.g. export. In other words, the inward activities, e.g. import, are excluded from this study. Consequently, international performance (IP) as a dependent variable in this study is the manifestation of outward-driven activities. It is also important to note that in this research, internationalization and international business (IB) activities are used interchangeably.

1.3 RBV, DCV and Internationalization

Building on the earlier work of Penrose (1959), Wernerfelt (1984) and Barney (1991) within the field of strategic management, the resource-based view (RBV) was developed as a specific perspective to explain a firm's sustainable competitive advantage and performance. This view, contrary to the market-based view (MBV), focuses on the inside of the firm as the source of competitiveness and superiority. The RBV considers the firm as a bundle of resources and capabilities which are fundamental determinants for competitive advantage (Barney, 1991;

Grant, 1991; Peteraf, 1993). According to Barney (1991), in a firm, sustainable competitive advantage (SCA) can be realized if the firm's *assets* (mostly intangible forms) have the VRIN characteristics, i.e. valuable (V), rare (R), imperfect imitable (I), and non-substitutability (N). Those intangible resources (e.g., patents, reputation) which are people-independent could be labeled as "what the firm has", while those intangible assets (e.g., organizational capabilities) that are people-dependent can be considered as "what the firm does" (Galbreath, 2005, p. 981). The focus of this study is on the second area ("what the firm does") with focusing on the FSAs (organizational capabilities).

Researchers have criticized the RBV and its challenges; it does not, for instance, address the outside of the firm, contrary to the MBV. This may mean that the traditional RBV is static because it does not consider changes associated with environmental circumstances. Another problem of the RBV is that it only focuses on the current VRIN instead of the future VRIN. In other words, it fails to take future valuable resources into account, providing an alternative form of SCA to the current form of the SCA (Ambrosini et al., 2009). For this reason, building on several theories such as the Schumpeterian approach, evolutionary theory, organizational theory and behavioral theory, a modern approach considering the dynamic dimension was developed by strategic management scholars (Helfat et al., 2007; Teece et al., 1997). This new, *future-oriented* approach is known as the dynamic capabilities view (DCV). It is an entrepreneurial approach that both considers ordinary (operational) capabilities (OCs) and dynamic capabilities (DCs) inside the firm as well as links the internal resources of the firm to the external environment (Teece, 2014). According to the DCV, dynamic capability is defined as the firm's ability "to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (Teece et al., 1997, p. 516).

The importance of the dynamic capabilities (DCs) in the firm has been extensively highlighted by a growing body of the research (Adner and Helfat, 2003; Ambrosini and Bowman, 2009; Eisenhardt and Martin, 2000; Peteraf et al., 2013; Teece, 2009, 2007; Zahra et al., 2006; Zollo and Winter, 2002; Zott, 2003).

When it comes to IB studies, the RBV, and particularly its modern version (the DCV), also plays an important role, whether for the study of SMEs or LSEs. The RBV is a meta-theory for international business theories (Kuivalainen et al., 2010; Peng, 2001). However, the literature

on the RBV indicates that DBV is a useful emerging perspective to understand the internationalization dynamism in firms (Teece, 2014). In this study, dynamic capabilities and dynamic-based FSAs are used interchangeably.

1.4 Research Purpose and Research Questions (RQs)

Given the research gaps highlighted in the earlier section, the purpose of this study is to explore and identify, from a theoretical perspective, the nature of *component factors* of the dynamic-based FSAs and empirically examine their impact on SMEs' international performance.

To perform the purpose of the study, this thesis seeks to address the following research questions (RQs):

Research question one (RQ1): *What* are the critical component factors of dynamic-based FSAs for internationalizing the firm, particularly in the context of SMEs?

Research question two (RQ2): *What* is the impact of identified component factors of dynamic-based FSAs on SMEs' international performance (IP)?

Research question three (RQ3): *What*, if any, is the relationship between the identified component factors of dynamic-based FSAs, and *how* do they impact international performance?

1.5 Outline of the Study

The remainder of the thesis continues with the following chapters:

Chapter 2 – Frame of reference. In this chapter, the main international business (IB) theories have been reviewed. Moreover, in order to find the right positioning, the literature on the RBV, DCV, and organizational capabilities associated with the purpose of the study is discussed. Furthermore, the result of the international business (IB) literature review on the dynamic capabilities (dynamic-based FSAs) is presented. Then, based on the identified component factors of the dynamic capabilities from the literature review, several hypotheses are developed. Finally, according to the developed hypotheses, the conceptual model is suggested.

Chapter 3– Research methodology. This chapter, first and foremost, has attempted to determine the philosophical worldview, the research type, and the research strategy. Then, the research map is suggested. On this basis, the methods of sampling, data collection, and data analysis, as well as operationalization of the measurements, are discussed. Given the PLS-SEM technique used in

this study to analyze the path model, the associated criteria, conditions, and principles have been addressed. Moreover, in each step the research quality, including reliability and validity, have been discussed. Finally, the methodology of the performed literature review on the organizational capabilities in the context of IB studies is presented.

Chapter 4 – Analysis. In this chapter, the collected survey results are presented. The first part of the data is descriptive, while the second part of the data is associated with the inner model and outer model analyses. Based on the collected data, the path model and hypotheses were tested and analyzed.

Chapter 5 – Discussion. This chapter deals with the analysis of the collected data on the one hand, and theories discussed in Chapter 2 on the other. In this regard, each hypothesis is evaluated based on the associated theories (as discussed in Chapter 2) and analyzed data (as presented in Chapter 4). Furthermore, the indirect effect of the three DB-FSAs on IP have also been discussed.

Chapter 6 – Conclusion and research implications. This chapter focuses on several issues, such as answers to the research questions (RQs), research contribution, managerial implications, research limitations and further research recommendations.

2 Frame of Reference

2.1 International Business Theories and Firm-Specific Advantages (FSAs)

Internationalization of the firm has been an integral part of companies' activities in the new global economy. In order to study the internationalization of firms (e.g., SMEs), it is first of all vital to know related theories. This is particularly critical if a researcher is going to determine or find the right positioning of internationalization among the diverse range of theories within different functional areas in the field of IB.

International business (IB) is a complex and multidimensional concept (Wright and Ricks, 1994), and there is no full consensus on the definition of IB research among scholars in the field. The phrase “international business” should be defined; otherwise, it could be a source of confusion. Some leading scholars (Nehrt et al., 1970; Wright, 1970, p. 110; Wright and Ricks, 1994) of the field define IB research as follows:

“IB research is the scholarly investigation and/or analysis of subjects that meets the following criteria: First, it is concerned with firm-level business activity that crosses national boundaries or is conducted in a location other than the firm's home country. (This activity may be the movement of goods, capital, people and know-how, or it may be manufacturing, extraction, construction, banking, shipping, advertising, and the like.) Second, it is concerned in some way with the interrelationships between the operations of the business firm and the international or foreign environments in which the firm operates”.

However, these authors have also excluded studies associated with international economics (e.g., foreign trade and the international monetary system) from IB research. In line with these efforts, in their book, Rugman and Collinson (2006, p. 5) define IB as “*The study of transactions taking place across national borders for the purpose of satisfying the needs of individuals and organizations*”.

It seems that the concept of internationalization of the firm is found within the field of IB studies, but a closer look at the literature reveals that IB scholars have also frequently been applying the term “internationalization” interchangeably with the term international business

(IB), for instance IB theories with internationalization theories, or IB studies and internationalization studies as well as IB activities with internationalization activities.

But when it comes to the definition of the term internationalization, several definitions have been provided by IB scholars (Coviello and McAuley, 1999; Johanson and Vahlne, 1977; Melin, 1992; Welch and Luostarinen, 1993, 1988). To avoid repetition, these definitions are not provided because the term internationalization was defined in Chapter 1. Like Welch and Luostarinen (1988, p. 36), internationalization in this study is defined as “*the process of increasing involvement in international operations*”. However, as was previously noted in Section 1.2, the inward-driven activities are excluded. In other words, the focus of this study is only on the *outward-driven* activities. Additionally, in this study the terms IB theories and internationalization theories are used interchangeably.

IB studies have a long history and are rooted in international economic and trade theories, such as Adam Smith’s (1776) absolute advantage theory. However, since the early twentieth century, IB studies have been a significant focus of associated scholars of the field (Grosse and Behrman, 1992). A closer look at historical trends of IB theories reveals that IB research experienced a new paradigm in 1960, when Stephen Hymer made his seminal contribution to the studies of foreign direct investment (FDI) of multinational enterprises (MNEs) (Dunning and Pitelis, 2008). Hymer came with a new perspective to look at IB activities; it was a new approach because he focused on a new level of analysis (firm level instead of national level) in his PhD thesis. For this reason, many IB scholars pointed out that Hymer’s contribution is a turning point for IB theory development. Therefore, researchers in the field labeled the first stage of IB studies as the pre-Hymer era. Hymer is, therefore, the intellectual father of the second stage of IB studies. After Hymer, researchers mostly focused on firm-level activities in their studies of IB (Buckley, 2009; Buckley and Casson, 2009; Rugman, 2009; Rugman et al., 2011).

As was noted above, in the classic era (pre-Hymer) a variety of IB theories were developed by economists and international trade scholars to explain international business activities. There are three main dominant IB theories from this period: (1) Adam Smith’s (1776) absolute advantage theory, (2) David Ricardo’s (1819) comparative advantage theory, and (3) Hecksher–Ohlin’s (1933) proportion factor theory (Morgan and Katsikeas, 1997; Mtigwe, 2006).

2.1.1 Adam Smith's (1776) Absolute Advantage Theory

Based on this theory, free trade takes place between two countries solely based on the principle of absolute advantage. The country that has a special ability (absolute advantage) to produce a set of goods and services with lower cost and higher productivity will export to those countries which have a disadvantage to produce a given set of goods and services. According to Smith's theory, each country would be a specialist in some set of products and services, and it would not produce and supply those goods that it has no absolute advantage over. International division of labor and specialization is the core of this theory. A closer look at this theory shows that the firm does not have any clear identity. In other words, based on this theory the firm is the great absent.

2.1.2 David Ricardo's (1819) Comparative Advantage Theory

Ricardo challenged the absolute advantage theory by asking a fundamental question: does trade take place between those countries which have absolute advantage to produce all products? In response to this question, Ricardo argued that if two countries have absolute advantage over all goods and services, these two countries can still possibly gain by trading with each other. Based on the Ricardian model, the level of relative opportunity cost of production (not only specialization) is a significant determinant to import or export-associated goods. From an absolute advantage perspective, the "monetary cost" is the core element, whereas, for comparative advantage theory, the "relative opportunity cost" is the main element to produce a good or service. In other words, countries could be different in their resource endowments such as capital, level of entrepreneurship, labor, and technology. These differences lead to related advantages (efficiencies) or disadvantages in a special area. In accordance with the comparative advantage theory, the basis of "national advantage" is efficiency in production. The level of the analysis in this theory also is "country", and it does not explain the role of firms in IB activities.

2.1.3 Hecksher–Ohlin's (H-O) Proportion Factor Theory

Ricardo's theory explained approximately why international trade is happening, but it did not explain why some relative cost ratios are different for some countries. In this regard, two Swedish economists, Hecksher and Ohlin (1933), published a paper in which they refined the theory of comparative advantage to answer the above question. Then, they developed a new theory in the international business field which was labeled as Hecksher–Ohlin's (1933)

proportion factor theory (H-O model). In Ricardo's model, only labor is assumed in the production factor of goods, while in the H-O model, there are two main production factors, labor and capital (e.g., physical machines and equipment) which are influential in producing final goods. The difference (abundance or scarcity) in endowments of labor and capital factors lead to international trade (export or import). For example, if in a country's resources (labor and capital) are more abundant to produce a set of goods and services, then that country would have more advantages to export those goods. Following Smith and Ricardo's theories, in the H-O model the level of the analysis is also country rather than industry or firm level. According to this theory, it is not clear what the role of the "firm(s)" is as the main actor(s) in IB activities.

Reviewing these three theories (the dominant sounds of the *pre-Hymer period*) reveals that researchers have tended to explain a kind of "advantage" as a required condition for being successful in national competition. This advantage is linked to production factors (e.g., labor and capital) to produce goods and services. Needless to say, the level of analysis in these three theories is "nation" (macro), and they try to explain the movement of capital from one country to another. According to these traditional perspectives, the firm is postulated as a representative which "operates as a single plant" or as "an obvious fact that required no explanation" (Buckley and Casson, 2009, p. 1573). In other words, *the firm is a "black box"* and availability of resources and capabilities is the same for all firms within the home country (Buckley, 2009; Rugman and Verbeke, 2008). IB scholars in this period did not directly address the role of the firm in IB activities. For this reason, Penrose, in her substantial research (*The Theory of the Growth of the Firm*), has demonstrated that the "firm is not a firm". She criticized the common meaning of the firm in the dominant literature of economics (Penrose and Pitelis, 2009, p. 11). As such, the firm in the three IB theories discussed above is also not a firm because it does not reflect the activities within the firm. Given the importance of the "firm" in IB activities, thereafter a new paradigm shift was initiated by Hymer in the 1960s in which the black box of the firm was opened to explain foreign direct investment (FDI) of MNEs. In accordance with this new perspective, the focus of IB theory is on the firm, since it then provided the bricks and mortar for following IB theories. The next section discusses other IB theories in which the level of analysis is mostly firm level.

2.1.4 Hymer's (1960) Monopolistic Advantage Theory

The Monopolistic Advantage Theory developed by Stephen Hymer (1960), the intellectual father of modern IB theories, and published by his supervisor Charles Kindleberger (1976), is rooted in the industrial organizational school of thought. This is a microeconomic theory which explained the foreign direct investment for MNEs in a new way by focusing on firm-level analysis (Buckley, 2009). Hymer pointed out that in international markets, MNEs face the “cost of doing business abroad”; afterwards, Zaheer (1995) relabeled these kinds of costs as liability of foreignness (LOF). LOF includes different types of costs which are related to a *lack of market knowledge such as knowledge about local customers and local legal systems* (Rugman and Verbeke, 2008). According to Hymer, (e.g., MNE) in order to overcome LOF a firm should possess and leverage *unique sources* of superiority (monopolistic advantages) in the home market before going abroad. These unique resources were labeled by Hymer as *firm-specific advantages (FSAs)*, including superior knowledge and technological innovation, superior manufacturing processes, brand names, scale of economies, differentiated products, organizational talents, marketing skills and patented technology (Caves, 1971; Hymer, 1976).

Based on the classical theories, there was perfect competition in the market, but monopolistic advantage theory changed this perspective and came up with a different assumption: the existence of *market imperfections*. In this regard, MNEs would be able to leverage their monopolistic advantages by FDI in local markets to gain their economic benefit. These non-tradable advantages create an opportunity for market imperfection and thus to compete better in local markets (Buckley, 2009; Caves, 1971). As such, this theory explains the reasons behind the successful existence of firms in international competition. However, there are some exceptions; monopolistic advantage theory is not able to explain the behavior of all types of internationalized firms. For instance, it fails to explain how international new ventures (INVs) or born global SMEs are able to engage in international investment activities before developing their monopolistic advantages in their home markets (Buckley and Casson, 2009; McDougall et al., 1994). The core of monopolistic advantage theory is *FSAs* analysis for MNEs (Rugman et al., 2011; Rugman and Verbeke, 2008). The degree to which the FSAs (monopolistic advantage) are possessed by a firm leads it to be more successful in its IB activities. On this basis, the firm's ability to combine these different monopolistic advantages ensure the success of the firm's

internationalization activities (Lall, 1980). However, the way of creating monopolistic advantages is not explained by this theory.

Taken together, the above discussion shows that monopolistic advantage theory highlights the *unique resources*, such as superior knowledge, as important firm-specific advantages (FSAs).

2.1.5 Vernon's (1966) International Product Life Cycle Theory

International product life cycle theory was developed by Raymond Vernon (1966), who subsequently clarified his theory in his later work (Vernon, 1979, 1971). This theory has attempted to provide a pattern for IB activities as well as an explanation of international capital flow. The theory is macro-economic in nature, and based on this theory two factors, economies of scale and innovation, are significant. As the name of the theory implies, the cycle of product development is the basis for international business activities. The model describes the evolution process of IB activities over time. In this regard, Dunning (2000) states that life cycle theory has a longitudinal dimension. According to international product life cycle theory, each product has four stages over its life cycle, namely (1) introduction, (2) maturity, (3) standard and (4) decline. Based on this model, for each stage of the product cycle, there is an appropriate country with which to make direct foreign investment (FDI) with and protect the market of the product over time.

In each stage of the product life cycle, associated costs are different. These differences in costs of production (e.g., labor and capital) lead to move MNEs' investment to country by country. For instance, in the introduction stage of the product, the U.S as a home market plays the main role to develop, introduce and export the new product because of the level of innovation, knowledge and other advantages. Likewise, for the mature stage, another developed country such as the UK could be a good place to have FDI. Finally, in the standardized stage, which is more cost-based, a developing country would be better to have lower-cost production. According to this model, those products which are in the declining stage could still be useful for poor countries. The theory also tries to introduce the dynamics of comparative advantage in different stages of the product life cycle. It also addresses the location determinants for FDI (Buckley, 2009). As was noted, the theory explains the movement of capital across country

borders, but it could at the same time be a focus on the firm level, because of using the product life cycle as its fundamental assumption. This theory, indirectly addresses the evolution process of some functions such as marketing and production structure over the product life cycle.

Soon after, IB scholars criticized the life cycle theory; eleven years later, the author (Vernon, 1979) of the theory came with his critical explanation about the lack of adequacy of the theory. He states that the theory could explain and predict the FDI in other countries only three decades after World War II. Vernon pointed out that environmental characteristics have changed; particularly, differences in industrialized countries' markets have decreased, and innovation is now not just a home-based option. Therefore, in the new conditions the main assumptions of the original theory are absent. On this basis, the theory has lost its power to anticipate all kinds of FDI done by MNEs. Aside from this, MNEs have developed their global networks such as new networks of production, operation and even innovation. As such, the patterns of decision making and managing production costs have changed, and consequently, the product life cycle does not explain the FDI in this new situation. In this regard, Vernon also concluded that the product life cycle hypothesis could only "explain and predict a certain category of FDI" (Vernon, 1979). Furthermore, other researchers have addressed some shortcomings of the theory. For example, the findings of McDougall et al. (1994) suggest that the international product life cycle fails to explain the behavior of new international ventures (INVs) which have been engaged in FDI in the early stages of their new product development.

Irrespective of the above criticisms about the product life cycle theory, in terms of entry mode, the only entry mode in this model is FDI, and it does not explain other possible entry modes such as export and licensing. When it comes to SMEs, the application of this theory would be more limited, because SMEs have resource limitations and mostly start with non-equity entry modes to go abroad. The theory does not directly explain the necessary *FSAs* to go abroad; however, indirect *innovation* could be considered as *FSAs* for success abroad.

2.1.6 Knickerbocker's (1973) Oligopolistic Reaction Theory

Oligopolistic reaction theory was developed by Knickerbocker (1973). The focus of the theory is on the strategic behavior of the firm. According to this theory, MNEs, in order to enter international markets, imitate the behavior of their competitors to make FDI. Especially when

MNEs experience the problem of uncertainty to estimate the production costs for their FDI in a given country, they exhibit follow-the-leader behavior to take lower risk-taking for their decision. For this reason, this theory has been labeled by IB scholars as *follow-the-leader theory*. This behavior (imitating competitors' behavior) is specific to those companies with "oligopoly" as their characteristic. The core components of oligopolistic reaction theory are oligopoly, uncertainty and risk aversion (Head et al., 2002; Knickerbocker, 1973). Different studies have approved the findings of Knickerbocker; Head et al. (2002), for example, found that the combination of three principal elements of oligopolistic reaction theory - risk aversion, uncertainty, and oligopoly - explain the reasons behind the MNEs' decision to follow their rivals (leaders) in international markets. In this regard, the profit (or loss) of the follower firm in its FDI depends on the situation of the leader firm in that country. It is also important to note that *the firm's ability to imitate its leading rivals' behavior* is the core of the FSAs in this theory. However, when it comes to the internationalization of SMEs, oligopolistic reaction theory fails to explain the IB behavior of all types of firms. For instance, in their seminal article, McDougall et al. (1994) discuss the challenges of the theory to predict and explain the pattern of INVs' international investment. They have highlighted the decision of some real cases (as exceptions) that have been internationalized within their industry without following any rivals in international markets. In this regard, as a conclusion, it could be said that for those entrepreneurial firms (e.g., SMEs) in which risk-taking is their main characteristic, the oligopolistic reaction theory would be meaningless because the theory is developed based on risk aversion.

2.1.7 Internalization Theory

Internalization theory/advantage is an economic theory, and much of the literature on MNEs has been allocated to this theory during the last 30 years (Dunning and Lundan, 2008a; Teece, 2014a). The theory was developed by Buckley and Casson (1976), who applied the theory of Coase (1937) in the context of IB activities. In addition, the theory is also rooted in Penrosean foundations and Stephen Hymer's (1960, published 1976) contribution on MNEs' FDI. In this regard, Kindleberger (2002) states that the internalization theory had been noted by Hymer, where he talked about operational coordination in MNEs. Buckley and Casson (2009) believe that classical theories of the IB and the theory of monopolistic advantages try to explain the

existence of the firm and MNEs, respectively, while internalization theory explains the existence and functioning of MNEs (Buckley and Casson, 2009; Rugman and Verbeke, 2003). Moreover, the theory is applied to organize MNEs' transactions across borders (Narula and Verbeke, 2015).

Afterward, the works of several other IB scholars such as Rugman (1981), Dunning (1980), Rugman and Verbeke (2003, 1992) and Hennart (2009, 1982) added more richness to internalization theory. For instance, Rugman (1981) developed a firm-country matrix with the two dimensions of *firm-specific advantages (FSAs)* and country-specific advantages (CFAs). *FSAs*, on the horizontal axis, refer to the firm's *unique resources*, whereas *CSAs*, on the vertical axis, are defined as the *country factors* which affect the international business transactions of the firm. In this framework, the *FSAs* include the two sides of strong and weak (compared to the firm's rivals). Similarly, the second dimension of *CFAs* is also formed from the two sides of strong and weak. From the intersection of the *FSAs* (weak-strong) and *CSAs* (weak-strong) a 2-by-2 matrix, with four cells, is formed to classify the various combinations of *FSAs/CSAs* in a firm. Each cell explains a specific situation of the firm location. This conceptual framework has been applied to analyze internationalization of the MNEs. This matrix is shown in **Figure 2-1**.

	Low	High
High		
Low		

Figure 2-1: The Firm-Specific Advantages (FSAs)/Country-Specific advantages (CSAs) matrix, adapted from Rugman et al. (2011).

The core component of internalization theory is *FSAs*. In the modern internalization theory literature, *FSAs* refer to a bundle of knowledge in different forms, such as *organizational capabilities* (e.g., learning and relational capabilities) (Rugman and Verbeke, 2003). Resources like brand, corporate culture, innovative capabilities and know-how are different forms of *FSAs*. These *FSAs* as unique and non-tradable resources of the firm play a vital role in the performance of MNEs. In addition to *FSAs*, some other location-related specific factors also are important.

These are (1) industry-specific factors, (2) national-specific factors, and (3) regional-specific factors. These factors are, within the literature, known as the concept of country- (or local) specific advantages (CSAs/LSAs) (Buckley and Casson, 1976; Lee and Rugman, 2012; Rugman, 1981). In accordance with this view, the stock of the FSAs and CSAs (e.g., natural resources, low-cost labor) are two main determinants to deploy value-added activities in the process of MNEs' internalization (Rugman and Verbeke, 2003, 1992; Verbeke and Kano, 2015). It is also important to note that FSAs and CSAs could influence each other mutually (Narula and Verbeke, 2015). In this respect, Rugman and Verbeke (1992) classified FSAs into two types, location-bound (LB) FSAs and non-location-bound (NLB) FSAs. NLB-FSAs (e.g., different capabilities, R&D knowledge) could be transferred across borders by the intra-firm network of MNEs, whereas LB-FSAs are not transferrable to other locations (Rugman et al., 2011).

Internalization is a tool of internal transactions (across national borders) to overcome natural and non-natural market imperfections in international markets. According to the internalization theory, if a firm possess the ability to create, transfer, deploy, recombine and exploit the firm's specific advantages (FSAs), its survival, growth and profitability over competitors would be guaranteed (Grøgaard et al., 2012; Rugman et al., 2011; Teece, 2014a). Dunning (2000) addresses the two types of internalization theory, namely *orthodox* and *dynamic*. In orthodox internalization the core subject is to capture the benefits of the coordination and transactional activities associated with the governance of the MNEs, as well as reduce transaction and coordinating costs. The *dynamic internalization* theory, in contrast, has a focus on the Schumpeterian view in order to capture benefits of learning and innovation-based advantages. Furthermore, Dunning criticizes the orthodox internalization theory as static (*relying on lower-order FSAs*) and says it does not explain how the firm is going to organize and generate its future assets. In other words, the role of *higher-order FSAs (dynamic-based FSAs)* such as dynamic capabilities are not considered in the orthodox internalization theory.

A closer look at the nature of FSAs in the internalization perspective, particularly the modern view, reveals that it is somewhat consistent with the conventional literature on the RBV, especially when it is linked to the *dynamic capabilities* literature as the representative of the modern RBV (Dunning, 2000). In line with this reasoning, Rugman and Verbeke (2008) pointed out that the concepts of capabilities and competencies are the new “reinvented” forms of the

FSAs. Nevertheless, Teece (2014a) believes that internalization theory has little to say about dynamic capabilities in detail and, still, there is a *large gap in this area*.

In this regard, other proponents of the theory, in order to display the adequacy of internalization theory in the IB field, have attempted to come with new interpretations of or enter new elements into the theory. For instance, several IB scholars, according to their new interpretations, state that Rugmans' (1981) internalization framework has resulted from the integration of the RBV, transaction cost economics (TCE) and location theory (Chi, 2015; Narula and Verbeke, 2015). According to this interpretation, the core elements of the RBV are included in traditional internalization theory. Consistent with this line of thinking, other researchers have also claimed that internalization theory is a "*general theory of the MNE*" (Verbeke and Kano, 2015), and one which drives from the three fields of the RBV, the TCE and entrepreneurship. In their recent article, Narula and Verbeke (2015) point out that the network approach should also be included as a new element to internalization theory to make it more powerful as a general theory. This is because the decision of MNEs to select their network partners and associated locations could be effectively explained by the network view. On this basis, in order to offer a more integrated perspective, Narula and Verbeke have introduced the concept of the *partnership-specific advantage (PSA)* associated with the network approach to be considered as a new dynamic component of the *FSA* in the internalization theory. The partnership-specific advantage (PSA) is a *relational-based FSA* by nature, which empowers the internalization theory to explain the firm's SCA. In another recent effort, they have tried to show empirically that internalization theory is able to explain the internationalization of all kinds of firms (SMEs and LSEs), such as INVs (Verbeke et al., 2014). However, this finding is sharply against the previous claims of international entrepreneurship researchers like McDougall et al. (1994), Oviatt and McDougall (1994), and Rialp and Rialp (2001), who have highlighted the inadequacy of the internalization theory to explain the internationalization behavior of INVs and SMEs.

As noted above, the evolution of the internalization theory shows that, over time, a shift in focus from diversified FSAs (static-based FSAs) to dynamic-based FSAs has occurred. In this regard, some researchers of the internalization theory, based on their new interpretation, believe that *FSAs* are similar to *dynamic capabilities (DCs)* of the firm, but they have not addressed

opening these types of FSAs in much detail to show their micro-structure similarity with DCs as well as their component factors. However, these insights implicitly highlight the importance of the *dynamic capability* approach to develop IB theories. Needless to say, applying the internalization theory is pervasive action to study the internationalization of MNEs, but when it comes to the internationalization of SMEs, it has been rarely applied. This reality has previously been addressed by Coviello and McAuley (1999) in their reviewed article. In this respect, it seems that empowering the concept of FSAs by dynamic capabilities in the context of SMEs' internationalization might be a useful focus.

2.1.8 Dunning's (1988) Eclectic Paradigm

The eclectic theory, also called the eclectic paradigm, was presented for the first time by John H. Dunning about 40 years ago (1976) at the Nobel Symposium in Stockholm. Then, the relevant article was published by Ohlin et al. (1977). To develop the theory, Dunning used a combination of different economic (macro and micro) and organizational theories. In other words, the eclectic paradigm is grounded in TCE, the RBV, evolutionary theory, and product life cycle theory (Cantwell and Narula, 2003). Eclectic theory has been one of the most comprehensive (Rugman et al., 2011) and effective schools of thought within the field of IB studies (Buckley and Hashai, 2009). It is an appropriate framework to analyze determinants of international production for MNEs, rather than predicting firms' IB activities (Dunning, 2001). The focus of the theory was to explain both initiation and growth of international production (FDI) by MNEs. According to this theory, in order to have international production MNEs should possess the three types of interrelated competitive advantages which are labeled as OLI factors. The OLI paradigm explains “why”, “where” and “how” a MNE performs its FDI in international markets. OLI variables could be affected or affect each other. Each component of the OLI includes a type of specific advantages as follows: (1) Ownership (O)-specific advantages, (2) Location (L)-specific advantages, and (3) Internalization (I) specific advantages (Dunning, 2001, 2000, 1988).

O advantages refer to those tangible and intangible assets. O advantages are categorized into two types of advantages, asset-based (O_a) and transactional (O_t) advantages. MNEs' tangible and intangible (e.g., patent) assets are labeled as O_a , whereas O_t includes the firm's ability to coordinate a network of different kinds of existing assets (e.g., O_a) with new assets, dispersed across borders, to capture their transactional benefits (Dunning, 1988). However, in order to

overcome challenges associated with the institutional theory, Dunning and Lundan (2008b) later added another component to O advantages, namely institutional ownership advantages (O_i). On this basis, O advantages found new identity as O: $O_a + O_t + O_i$ (Eden and Dai, 2010).

The second element of the eclectic paradigm is L advantages, which consider the alternative place (the "where") of the MNE's FDI. These advantages refer to both natural and created endowments associated with a particular attractive geographical location/country or region for MNEs to perform their value-added activities, especially combining with I and O advantages to create distinctive competitive advantage. There are many attributes which make a location attractive for MNEs. Factors such as lower-cost labor and capital, culture, language, the level of national educational, distributional channels, natural resources, immobile resources, and special supportive rules, all in all, could be sources of value-added activities for sustainable international production (Dunning, 2001, 2000, 1988; Rugman et al., 2011). Furthermore, Madhok and Phene (2001) argue that to have evolution in a firm's capabilities, it is necessary to link those processes of both macro and micro co-evolution together. In this respect, Madhok and Phene state that L-specific advantages could be considered as determinant for transferring and leveraging the firm's capability to different locations. L advantages also play a significant role to facilitate macro co-evolution within the context of the OLI framework, whereas O advantages influence the micro co-evolution processes of the firm. It is also important to note that a particular location for FDI could be considered as an opportunity and motivation for resource seeking, market seeking, efficiency seeking and strategic assets seeking (Dunning, 2000; Rugman, 2010).

The third variable of the OLI is I advantages. I advantages reflect the exploitation of O advantages internally to minimize transaction costs. In other words, transferring O advantages across borders, but through intra-firm activities within the borders of the MNEs *vis-à-vis* external markets and selling them. As was previously noted, internalization is the mechanism of

performing FSAs internally through creating, transferring, recombining and exploiting processes to take advantage of associated advantages. The OLI paradigm and internalization theory have many common features⁴.

Continually changing global conditions have created a new setting for all the world's economic actors and players. Innovation, learning and technological development have been influential forces in IB activities (Cantwell et al., 2010). Given this reality, some leading researchers like Cantwell and Narula (2003) have suggested that the capacity of the OLI paradigm should be increased in order to address this *global environmental change*. In this regard, an elaboration of the OLI paradigm could be accomplished by providing new, modern interpretations on components of the OLI, particularly for O and I advantages. Following this perspective, one criticism of Tolentino (2001) is that O_a in the OLI framework could be interpreted by, for instance, the two alternative approaches of monopolistic advantages and competitive advantages. The former leads to a *static version of the OLI*, which is a match with Smith's approach, while the latter generates a *dynamic form of the OLI* theory, which is rooted in the Penrosian and Schumpeterian schools of thought. Therefore, Tolentino concludes that it is time to refine components of the OLI in a manner to enhance the dynamic aspects of the OLI framework.

As such, the main focus of this group of researchers is related to the existence of a more *dynamic component* within the OLI framework to address *environmental changes*. According to Cantwell and Narula (2003), in order to develop new capacity for the OLI paradigm, focusing on theories

⁴ For this reason, some IB scholars have criticized how the OLI paradigm and internalization theory are so similar (Dunning, 2001). For instance, Rugman and Verbeke (2008) argue that internalization theory considers the two critical factors of FSAs and CSAs (LSA) together, which correspond to the three components of the OLI. In this respect, CSAs or LSA are similar to the concept of L advantages in the OLI framework. In addition, as discussed in the section on internalization theory, according to the modern view, FSAs reflect the *unique capabilities* of the firm, which covers the concepts of *I* advantages and *O* advantages in the OLI theory. In other words, Rugman and Verbeke pointed out that FSAs management is an integrated form of I and O advantages.

of strategic management (e.g., the RBV and evolutionary theory) could be a viable solution. In accordance with this view, *the component of learning* is suggested as a *dynamic dimension* to explain new emerging conditions. In addition, Madhok and Phene (2001) highlighted the importance of intra and inter-firm management of the flows of knowledge as a critical issue for MNEs under new global conditions. Aside from this, firms are looking for external knowledge. In this regard, acquisition, assimilation, combination and exploitation of this external knowledge also play a critical role for firms, particularly MNEs, to enhance their competitive advantages over rivals. Given the importance of this knowledge-based competition, creating associated routines to absorb and exploit new knowledge is necessary. Accordingly, the firm needs to develop some related critical capabilities (Cantwell and Narula, 2004, 2003; Madhok and Phene, 2001). On this basis, they argue that *absorptive capacity (ACAP)* is one of these capabilities which could improve both the “O” and “I” advantages of MNEs. Cantwell and Narula (2003) further state that, given the increasing interdependency between economic actors throughout the world, the firm needs to have other key resources to improve O advantages. One of these resources could be a kind of competency to coordinate and leverage knowledge-based resources and capabilities. The second resource could be an asset such as the *partnership capability* of the firm to work and manage the network of other business partners. In this regard, I advantages should also be interpreted by a competency-based approach to enrich the OLI paradigm.

As was previously noted, the OLI paradigm is a general theory, but IB scholars who work on the internationalization of SMEs are critical of it. They believe that this theory is a static and rational theory which fails to explain the behavior of SMEs' internationalization (Coviello and McAuley, 1999; McDougall et al., 1994; Oviatt and McDougall, 1994). Consistent with this line of thinking, Rialp and Rialp (2001) pointed out the eclectic paradigm's lack of dynamic aspect, and because of this that it is not able to explain SMEs' internationalization. In contrast, the OLI paradigm has been applied as a successful analytical tool to explain the different internationalization activities of SMEs, for instance explaining SME entry modes (Brouthers et al., 1996), Norwegian SMEs' offshore production (Aspelund and Butsko, 2010) and the online internationalization of SMEs (Pezderka and Sinkovics, 2011). It is also important to note that Johanson and Vahlne (1990) published a paper in which they compared the two models of the OLI and internationalization theory (the Uppsala model). There, they criticized the OLI model,

stating that the eclectic paradigm neglects to explain shifting in the internationalization of firms in their IB activities because of its static nature. In this respect, Vahlne and Johanson (2013) have developed a new U-M as an alternative model to the OLI.

In other studies, about firms in the Asia-Pacific region, Mathews challenged the OLI framework and suggested that this framework is unable to explain the internationalization of newcomer and latecomer MNEs, the firms called “dragon multinationals”. Then, he developed a new model with the three core elements of “*linkage*”, “*leverage*” and “*learning*”, known as the *LLL model* (Mathews, 2006a, 2006b, 2002).

However, Teece (2014a), in his theoretical article, argues that building and protecting sustainable competitive advantage (SCA) is a necessary insight for an IB theory. Then, he argues that among IB theories, only the OLI paradigm has the *potential capacity* to explain the dynamic internationalization of MNEs. He explains that this dynamic potential exists because of the ownership-specific advantages (O) dimension of the OLI model. In this article, he further discusses that O advantages in the OLI model could be interpreted as a *proxy of capabilities*. According to Teece (2014a), focusing on *dynamic capabilities* provides an opportunity for the OLI model to explain SCA in international markets for a firm.

Taken together, the above discussion about the OLI model and its evolution over time reveals that IB scholars have been trying to shift from the *static FSAs*⁵ to the *higher-order FSAs* (*dynamic-based FSAs*) as new components of O advantages in the model. With this new approach, IB researchers believe that the OLI model will find a new *dynamic power* to explain internationalization behavior for all types of firms, e.g. SMEs and LSEs, under changeable circumstances. That is, the *dynamic capability* (higher-order FSAs) should be considered as the

⁵ The concepts of “static FSAs” and “higher-order FSAs” could be considered as the correspondents of operational capability and dynamic capabilities, respectively.

dynamic component of O advantages. This means that focusing on *dynamic capabilities* (*dynamic-based FSAs*) could be a useful approach to enhance the OLI paradigm.

2.1.9 Internationalization Process (U-M and I-M)/ Incremental Approach

Internationalization processes are classified into two main streams, namely Uppsala internationalization models (U-M) and innovation-related internationalization models (I-M). The two models are based on the behavioral approach. Internationalization is a process, and incremental in its nature for both models (Andersen, 1993). However, I-M is developed based on a variance-based approach, whereas the original U-M has been developed based on an inductive approach. The U-M is one of the most cited IB theories, and it has received considerable support among other IB theories (Hadjikhani et al., 2014; Keupp and Gassmann, 2009; Welch and Paavilainen-Mäntymäki, 2014). The origin of U-M development is associated with MNEs, whereas I-M is limited to SMEs. Nevertheless, according to several studies the U-M is one of the most applicable theories, among other IB theories, with which to study SMEs (Coviello and McAuley, 1999), and also to use as a theoretical framework within the field of international entrepreneurship studies (Keupp and Gassmann, 2009). In the following two sections, these two process models of internationalization are reviewed.

2.1.9.1 Innovation-Related Internationalization Models (I-M)

According to the I-M, the internationalization of the firm is characterized as an innovation decision and takes place stage-by-stage, both sequentially and incrementally. Under this school of thought there are several stage models which have been developed by several IB scholars. There are no significant differences between these stage models; they are distinguished from each other only by the number of internationalization stages, which as Andersen (1993) noted in his review article on internationalization process models, is only a semantic difference. For instance, in a study which set out to study the export behavior of 423 manufacturing SMEs, Bilkey and Tesar (1977) tested an internationalization model characterized by six stages. All these six stages are related to export as a mode of entry to the international markets. According to this study, *learning* plays a central role in the process of export. The studied SMEs preferred to export their product, first of all, to those countries with a lower psychic distance. Moreover, these stages are also distinguished from each other based on the different management styles

needed in each stage of internationalization. According to Andersen's (1993) study, most of these innovation models (I-M) have focused on the export stages in SMEs. Moreover, these models are deterministic in their nature, and they fail to explain the rapid internationalization of SMEs (Freeman and Cavusgil, 2007). However, integrating I-M with other perspectives, such as the *network view* and the RBV, could be an effective way to explain accelerated internationalization in SMEs (e.g., BG), as Freeman and Cavusgil (2007) did in their study. Accordingly, I-M models do not directly focus on any *firm-specific advantages (FSAs)*; however, implicitly, related scholars have focused on the component of learning as a significant element in these theories. In addition, focusing on the RBV and network approach has been recommended to increase the future potential of the given models.

2.1.9.2 Uppsala Internationalization Models (U-M)

The seeds of the U-M were first sown by Johanson and Wiedersheimpaul (1975) when they conducted a longitudinal case study on four Swedish internationalized MNEs at Uppsala University in the early 1970s. Their basic assumption was that internationalization of the firm is an incremental process by which the firm, first of all, starts its activities from the domestic market and then, stage by stage, would be involved in international markets. According to their findings, the early stage of internationalization takes place by the firm exporting to its neighbors, and it continues by other entry modes such as establishment of sales subsidiaries and production business units (FDI) in other countries. Likewise, after each stage the firm acquires new *market knowledge*; therefore, the next stages of internationalization will be performed by more resource involvement in the given market. Johanson and Wiedersheimpaul further state that the lack of information and market knowledge is the crucial barrier against the internationalization of Swedish firms. In this regard, they applied the concept of psychic distance (e.g., language, culture, and political system) to explain the entry barriers of the firms to foreign markets. The concept of psychic distance is somehow related to several components of the location concept in other IB theories. It also corresponds to the Hymer's "cost of doing business abroad", which was later labeled liability of foreignness (LOF) by Zaheer (1995).

Two years Later, Johanson and Vahlne (1977) developed their original internationalization process model further and labeled it the Uppsala model (U-M). Their theory explained the behavior of Swedish MNEs in international markets. The U-M is a behavioral theory which is

rooted in the two traditional theoretical approaches of Penros (1959, republished in (2009)) from one side and Cyert and March's (1963) behavioral theory of the firm from the other. In this respect, Dunning and Lundan (2008a) stated that the U-M is an evolutionary and behavioral model. Rugman et al. (2011) also believe that the U-M is closer to the internalization theory. According to the authors of different versions of the U-M (Johanson and Vahlne, 1977, 2009, 1990; Vahlne and Johanson, 2013), the original U-M includes the two variables of state and change, each of which consists of two factors. The state factors of the U-M are (1) current activities of the firm and (2) commitment decision to international operations, while the change factors are (1) market knowledge and (2) market commitment (e.g., amount of resources and degree of commitment). The model is dynamic by nature, because the two components of state and change have a mutual relationship; *market knowledge*, for instance, leads to *market commitment*, and vice versa. In other words, the outcome of each part of the model would be input to the other part. In the U-M, market knowledge (e.g., information and operation), as the perception of both problems and market opportunities, plays a central role in the internationalization decision.

As was noted earlier, based on this model, internationalization is an incremental behavior because in different stages a firm has access to new knowledge associated with the foreign markets. In this regard, Johanson and Vahlne (1977, p. 23) state that "internationalization is the product of a series of incremental decisions". Lack of *market knowledge* restricts firms' decisions to take further stages forward to international markets. In other words, the international operations of the firm across borders are strongly linked to the extent of available market knowledge, as an important resource, to decision makers within the firm. On this basis and according to Forsegren (2002), in the U-M, *organizational learning*, however implicitly, is the core determinant to predict the internationalization process. Furthermore, in the original U-M of Johanson and Vahlne (1977, 1990), the level of current activities of the firm, in the model, is also a significant factor in making a commitment decision to foreign markets. Knowledge in the U-M reflects the knowledge of opportunities (or problems) and market environment. Yet, it is based on the Penrosian approach of objective and experimental (or experience) types of knowledge. It is also important to note that low-level risk-taking is an assumption of the theory. Moreover, the

U-M assumes that uncertainty decreases commitment decisions. The U-M, like international PLC theory and evolutionary theory, considers the dimension of time (Buckley 2009).

Like internalization theory and the OLI paradigm, the U-M also has evolved over the last three decades. In this regard, the U-M has been revisited two times by the authors of the model (Johanson and Vahlne, 1977, 2009; Vahlne and Johanson, 2013); this evolutionary process has been visualized in *Figure 2-2*.

In those studies of the mechanisms of internationalization, in order to enhance the capacity of the U-M, Johanson and Vahlne (1990) proposed the industrial *network approach*, based on the approach developed by Johanson and Mattsson (1988), as a lens to explain the internationalization process. They approached any international market (country or location) as a network of different business relationships and, therefore, market knowledge including interaction experience from involved actors inside the network. To enter such a market or markets, different actors should be considered to interact with them. In other words, in the original U-M the process of internationalization was unilateral, whereas with the network approach, the process would be multilateral (inter and intra-firm). Then, internationalization is viewed as the process of business relationship establishment.

In another study, Johanson and Vahlne (1990) reported that the U-M has been studied not only in a Swedish context, but also has been applied to study internationalization of the firm in a variety of both developed and developing countries. Then, the model has received strong empirical support in different countries.

Like other IB theories, the U-M has also been criticized by many other IB scholars. For example, Andersen (1993), in an critical analysis of the U-M, stated that the U-M suffers from a lack of explanatory power, and that there is a kind of ambiguity between the theoretical and empirical levels of the model; therefore, operationalization of the model is difficult, if not impossible. In addition, Andersen pointed out that the model does not explain how internationalization activities are initiated, and it is not clear why a firm moves from one stage to another.

Other researchers have focused their attention on *learning* as an important aspect of the U-M. In this respect, Forsegren (2002), in a study which set out to evaluate the concept of learning in the

U-M, showed that learning plays a central role in the U-M, but that this learning is mostly experiential-based. Forsegren further stated that learning in the U-M is “reactive” and is linked to the learning curve, whereas it could be “proactive” learning as a way to explore new solutions. In other words, the U-M does not explain other types of learning. For instance, it is based on the exploitation of current activities of the firm, and it neglects exploration-based learning (or learning through searching) which is looking for new alternatives. Needless to say, according to March (1991) the existence of a correct balance between both types of learning, namely exploitation and exploration, is necessary for a firm.

Additionally, Rugman et al. (2011), as leading IB scholars, also pointed out that the Scandinavian model (U-M) has neglected the nature of *FSA*s for MNEs, as well as does not pay attention to the market imperfection situation (both natural or created). Furthermore, they believe that the U-M suffers from a lack of strong conceptual grounding.

In their review of “contemporary empirical research” on internationalization theories and SMEs, Coviello and McAuley (1999) found that among internationalization models, the U-M is more applicable to explain the behavior of SMEs’ internationalization; of course, when it is combined with the *network approach*, the results could be even better. Similarly, Chandra et al. (2009) suggested that the U-M is able to explain SMEs’ internationalization behavior in comparison with other IB theories. However, other international entrepreneurship scholars (Almodóvar and Rugman, 2014; Coviello and McAuley, 1999; Madsen and Servais, 1997; McDougall et al., 1994; Oviatt and McDougall, 1994; Rialp and Rialp, 2001) believe that the traditional U-M does not explain the behavior of SMEs, such as INVs and born globals (BGs), in their international business activities. For example, Almodovar and Rugman (2014) argue that in their early stage of internationalization, INVs as small and medium-sized enterprises (SMEs) do not have time to accumulate foreign experimental learning (learning by doing), which has been conceptualized in the U-M, to overcome the LOF. This does not occur, since INVs are infant firms with little experience. However, after being learned firms, the U-M would be applied.

Following the above reviews and lines of criticism as well as changes in the business theories and practices, the first major revision of the original U-M was presented by Johanson and Vahlne (2009). Given the importance of *network* positioning rather than market positioning and business relationships in the internationalization of firms, in 2009 the authors used the

business network view in their revisited model. On this basis, the firm's success in international markets is strongly associated with its ability to enter the network of business relationships; in this manner, internationalization is the by-product of the firms' efforts to establish its positioning within the business network or networks (Johanson and Vahlne, 2009; Schweizer et al., 2010).

Figure 2-2: The evolution of U-M over time, adapted from Johanson and Vahlne (1977, 2009) and Vahlne and Johanson (2013).

Using the business network approach led Johanson and Vahlne to use the concept of *liability of outsidership (LOO)* rather than *liability of foreignness (LOF)*. LOO, as a kind of barrier, is the correspondent concept to the psychic distance in the original U-M. Furthermore, in order to show the importance of the business network, the authors also developed another new concept called *relationship-specific advantage (RSA)*. RSA refers to the knowledge about the firm's business partners' resources (e.g., capabilities).

Johanson and Vahlne (2009) have kept the main mechanisms of state and change within the old framework, but they have replaced the content of these two variables with new concepts. In this respect, regarding the "state" variable they have replaced market knowledge and market commitment with *knowledge opportunities* and *network position*, respectively. Also, the concept of commitment decisions has been replaced by *relationship commitment* decisions and current activities has been changed to learning, creating and trust-building components as sub-factors of the "change" variable.

A closer look at these changes shows that the U-M has been transformed into a new position which enables the Uppsala theory to explain the internationalization behavior of different kinds of firms (MNEs and SMEs). *Learning* (experiential), *knowledge opportunities* (i.e., discovery and creation), trust building and *relationship development* have been central concepts of the new U-M (see **Figure 2-2**). Yet, these factors can be affected by each other and offer *strong FSAs* to sustain the firms' (MNEs and SMEs) competitive advantage in international business network(s). As was discussed in the previous sections, these factors, particularly *organizational learning*, are important elements which were recommended by IB scholars to enhance *FSAs* in other IB theories like internalization and the OLI paradigm. It is important to note that this business network's internationalization model was supported by a born global case study in Sweden by (Schweizer et al., 2010). In their study, however, entrepreneurial capabilities (as dynamic capabilities) emerged as a new factor under the state variable as well as exploiting contingencies as a sub-factor of the change variable in the revisited U-M.

Four years later, Vahlne and Johanson (2013) presented their second major revision in attempting to answer the question of "how does a MNE evolve?" This time, they added several new factors to the 2009 version of the U-M. The new added dimensions were developed based on different theories such as DC theory, entrepreneurship theory and uncertainty management

theory. Vahlne and Johanson (2013) have claimed that they wanted to merge the two IB theories of OLI paradigm and the U-M but did not because of the existence of fundamental differences in the assumptions of the two models; then, they decided to solve the problem by revisiting the 2009 version. Again, they did not change the old framework of the U-M (i.e., state and change variables). A closer look at the previous literature on IB theories, as reviewed above, reveals that the authors of the U-M have addressed the main problems of existing IB theories as referred to in their article (Vahlne and Johanson, 2013).

It was noted earlier that in order to explain new environmental change, IB theories should be equipped with *dynamic component factors* such as *learning, knowledge-based capabilities and partnership competencies*. In the face of this fact, Vahlne and Johanson (2013) have tried to put these neglected *dynamic elements* in their IB theory. According to the 2013 version of the U-M, the change variable of the model includes commitment decisions (i.e., reconfiguration, change of coordination), inter-organizational processes, learning, creating, and trust building, while a bundle of operational and *dynamic capabilities* (i.e., opportunity development capability, internationalization capability, and networking capabilities) along with network position elements such as inter and intra-organizational network position and network power are sub-dimensions of the state variable.

Vahlne and Johanson assert that at any time the components of the state variable explain the current situation of the firm, while the dimensions of change variable, as its name implies, explain the firms' continual changes. The two variables of state and change in the model have a mutual, strong impact on each other. According to the authors of the new model, *organizational capabilities* in the model reflect *what* the firm can do, and the network position shows the place(s) *where* the firm is located in international business networks. The model is shown in **Figure 2-2**. The 2013 version of the U-M is a theoretical model; needless to say, it should be tested empirically. However, in a recent study on Swedish MNEs, it was applied and adjusted by Vahlne and Ivarsson (2014) to explain the globalization of MNEs.

Taking all this into account, this review of the Uppsala models and their evolution shows that the authors of the U-M have evolved their theory over time to follow theoretical and practical changes on the one hand, and to respond to the criticisms of the IB scholars on the other. Looking at the evolutionary process of the Uppsala theory of internationalization reveals

that the authors have tried to *encapsulate* several approaches together to enable their IB theory to explain the behavior of all types of firms in IB activities. Following this perspective, a number of theories that have been used, particularly in their last model, by scholars of the Uppsala school of thought include the Penrosian approach (e.g., the RBV), the behavioral theory of Cyert and March (1963), entrepreneurship theory (e.g., opportunity development), networking theory, evolutionary theory and dynamic capabilities theory.

The trend of the U-M's evolution and its improvement is also consistent with the other IB theories such the OLI paradigm and internalization theory, in which their scholars are looking for *new refinements* to explain the firm's internationalization in the newly emerged and emerging global conditions. It is very interesting that in their new theoretical refinement the U-M's scholars have also focused on several *component factors* (e.g., *learning capability and networking capability*) as dynamic dimensions to empower FSAs; however, they have not explicitly talked about the concept of FSAs (the evolution of the U-M has been depicted in **Figure 2-2**). Accordingly, it seems that developing IB theories based on *dynamic-based FSAs*, to address the knowledge-based global economy, is an essential need that contemporary research has highlighted. In this respect, identifying component factors of the dynamic-based FSAs still could be potential research for IB scholars to empower IB theories such as the U-M.

2.1.10 International Entrepreneurship Theory

International entrepreneurship (IE), characterized by its young, emerging, growing, and cross-disciplinary nature, is a complicated field which is rich in research opportunities. Contrary to the majority of IB theories, the homeland of IE is the context of SMEs (e.g., INVs), and comes from the intersection of the entrepreneurship and IB theories. One of the main distinguishing characteristics of IE, compared with other IB theories, is its emphasis on early and rapid entrepreneurial internationalization, whether in firms such as INVs/BGs or in born-again globals. Likewise, the level of analysis in IE studies is firm (Bell et al., 2003, 2001; Coviello et al., 2011; Jones et al., 2011; Kiss et al., 2012; McDougall and Oviatt, 2000). However, in IE studies the individual level of analysis has also been in focus. According to Zahra and George (2002a), the concept of IE, for the first time, was applied by Morrow (1988).

Notwithstanding, the preliminary work on IE was undertaken by McDougall (1989) to distinguish international new ventures (INVs) from domestic new ventures (DNVs); in this study, the seeds of IE studies were planted. Later, in the 1990s, IE appeared as an important emerging research field within the area of IB studies (Wright and Ricks, 1994). In their study, Oviatt and McDougall (1994, p. 31) defined an INV as “a business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries”. Subsequently, the main step taken forward was by the leading IE authors, who tried to develop the theory of INVs (McDougall et al., 1994; Oviatt and McDougall, 1994). For instance, in a study which set out to develop a framework to explain the internationalization of INVs, Oviatt and McDougall (1994) stated that the main body of IB theories is focused on established firms rather than international start-ups such as INVs. Furthermore, they questioned the adequacy of existing IB theories, particularly stage models such as the U-M, which are unable to explain early internationalization, particularly for the INV phenomenon, because the assumptions of the U-M are not consistent with the conditions of the INVs. In other words, to explain the internationalization of INVs a new framework based on the new assumptions should be developed.

On this basis, Oviatt and McDougall stated that INVs, as special kinds of MNEs, are internationalized firms, from inception, which are characterized by small size, young age, and a lack of sufficient resources. For this reason, the main assumptions of INV theory were founded by them. In this respect, Oviatt and McDougall provided a framework through integrating entrepreneurship theory, IB theories and strategic management theory, the influence of which has been pervasive within the field of IE. According to this framework an INV, in order to exist, needs to have three necessary and one sufficient elements: (1) internalization of some transactions, (2) alternative governance structures (e.g., licensing and network structure), (3) foreign location advantages (e.g., relay on private knowledge), and (4) *unique resources*. The three first elements are necessary, while *the unique resources* play the role of a *sufficient element*, as they ensure sustainability of the firm’s competitive advantage across national boundaries. For example, the ability of an INV to reproduce and protect its knowledge continually is a kind of unique resource which creates value in different countries (Oviatt and McDougall, 1994). Since then, research in this field has continued by the work of other scholars

throughout the world under the four labels of INVs, born global (BG), rapid/accelerated/early internationalization and IE (Zahra 2005).

In any event, it is worth noting that Oviatt and McDougall's (1994) study, as a significant turning point in IE studies, was criticized and challenged by other researchers from the IB and entrepreneurship disciplines. It is also important to note that IE studies have been affected by developments in the fields of entrepreneurship, strategic management, and IB. The results of these studies have enriched the IE field and led to the development of new definitions, models and theories in the IE field (Almodóvar and Rugman, 2014; Coviello et al., 2011; Coviello and Jones, 2004; Covin and Miller, 2014; Dimitratos and Jones, 2005; Jones et al., 2011; Jones and Coviello, 2005; Keupp and Gassmann, 2009; Knight and Cavusgil, 2004; McDougall and Oviatt, 2000; Oviatt and McDougall, 2005; Peiris et al., 2012; Zahra and George, 2002a). In this regard, the IE field has experienced a considerable evolutionary path for the past 21 years, and there is a substantial movement toward theoretical integration among IE scholars (Jones et al., 2011; Rialp et al., 2005). In other words, more studies on IE have led to greater evolution of the concept and boundaries of the field. In this respect, over time the main authors of IE have provided different definitions (Jones and Coviello, 2005; McDougall and Oviatt, 2000; Shane and Venkataraman, 2000; Zahra and George, 2002a).

For instance, in their new model, Oviatt and McDougall (2005) argue that traditional IB theories, like the U-M, do not explain the early/rapid internationalization of entrepreneurs. They subsequently developed a theoretical model to explain the speed of internationalization in the context of IE. According to their model, the speed of entrepreneurial internationalization is affected by the four determinants of enabling (technology), motivating (competition), mediating (the perception of the entrepreneurial actor), and moderating (i.e., knowledge and network relationships). It seems quite clear that based on this model, like the U-M, *knowledge* (e.g., foreign market and intensity of knowledge in products) and *business networks* are the core components of the model and, therefore, play a central role for entrepreneurs to identify and exploit opportunities across borders. At the same time, the authors have pointed out that the existence of *absorptive capacity (ACAP)* and *learning process* are fundamental to develop a firm's knowledge and overcome the firm's liability of foreignness (LOF). However, their model

does not explain which kind of capability is needed within an entrepreneurial firm to manage business networks.

Like IB theories, IE is also criticized by associated scholars such as Coviello and Jones (2004), Keupp and Gassmann (2009), Kiss et al. (2012) and Jones et al. (2011). On this basis, several scholars have tried to develop a theory for IE. For example, Jones and Coviello (2005) attempted to integrate the two innovative processes of entrepreneurial and internationalization in order to synthesize a theory by which to explain *the dynamic, time-based behavior* of entrepreneurial early internationalization. Jones and Coviello developed their model based on a combination of the IB, entrepreneurship and strategic management theories. In their model *innovation, learning* and environmental change are central factors to explain the evolutionary process of entrepreneurial internationalization. Similarly, the combination of effectuation theory from entrepreneurship and revisited the U-M from IB research applied to study SMEs' internationalization (Galkina and Chetty, 2015). Moreover, Freeman and Cavusgil (2007) integrated IB theory like I-M with the IE, *network* and *RBV perspectives* to explain the rapid internationalization of born global (BG) firms. In contrast to much of these efforts to develop a new theory in the IE field, in a recent study Verbeke et al. (2014) claimed that IB theories such as *internalization theory* are applicable to explain the early internationalization of INVs. They focused on the INVs' *FSA*s, and linked them to early internationalization.

A closer look at the literature reveals that studying the internal factors, which have an influential effect on IE outcomes, has received less attention compared to the study of antecedent factors. These internal factors play a central role to create a sustainable competitive advantage (SCA) in entrepreneurial firms (Keupp and Gassmann, 2009; Oviatt and McDougall, 2005; Zahra and George, 2002a). Keupp and Gassmann (2009) labeled these factors as “*elements of IE*”, and stated that these elements need to be paid more attention to in IE studies. Further, they have concluded that this area is still a “*black box*” in IE studies.

Among elements of IE, technology, *organizational capabilities, learning, knowledge, and networking* play a central role in IE research. In line with this understanding, Knight and Cavusgil (2004) found in an mixed empirical study that capabilities-based resources or *knowledge-based organizational capabilities* (e.g., unique product development) are the critical sources of performance in BGs. Additionally, Freeman and Cavusgil (2007, p. 31) found that

“personal networks” and “knowledge-intensive high-tech products” are two fundamental capabilities which accelerate the internationalization of BG firms. Similarly, other theoretical and empirical studies have reported that different forms of *dynamic capabilities*, such as *networking capabilities*, *learning capabilities*, and *marketing capabilities*, have influential impacts on the entrepreneurial internationalization process of BGs and INVs (Al-Aali and Teece, 2014; Autio et al., 2000; Fernhaber and McDougall, 2005; Tolstoy and Agndal, 2010; Weerawardena et al., 2007). In this regard, in their recent study on IE and related theories Al-Aali and Teece (2014) highlighted the term “*unique resources*” from Oviatt and McDougall’s (1994) theoretical framework, and argued that *dynamic capabilities* could be considered unique resources with which to sustain firms’ competitive advantage across borders. Al-Aali and Teece discussed how *dynamic capabilities* have the potential capacity to explore and exploit opportunities, in international markets, to address environmental change. Moreover, they have pointed out that at the same time, *dynamic capabilities* encompass the Penrosian and Schumpeterian approaches, which together ensure the firm’s sustainable evolution over time. Accordingly, they have concluded that a future robust theory of the international firm could be developed based on the *dynamic capabilities* approach to explain the activities of both MNEs and INVs.

In line with the above consideration, in a recent investigation on Spanish INVs Almodóvar and Rugman (2014) focused on different stages of internationalization in INVs, and empirically demonstrated that it is *sustainable FSAs* which ensure the performance of INVs in international markets. They showed how INVs with *strong FSAs* could overcome their LOF over time. In other words, high performance in the process of internationalization of INVs resulted from their *strong FSAs*. As was previously noted, according to Rugman et al. (2011) the FSAs refer to a bundle of unique capabilities (e.g., dynamic capabilities).

Needless to say, it is beyond the scope of this discussion to review IE in detail, but taken together, this research has tried to highlight the different aspects of IE, issues such as its context, evolution and associated existing challenges. It is worth noting that the evolution of this field also leads to the same destination (focusing on dynamic capabilities) that was the end of the majority of other IB theories such as the OLI paradigm, internalization, and the U-M discussed in previous sections. However, the starting point of IE was different: that is, the need to integrate

perspectives from different fields like entrepreneurship, IB and strategic management (e.g., dynamic capabilities) in order to develop a *dynamic theoretical model* to explain the entrepreneurial internationalization behavior (e.g., opportunity exploration and exploitation cross borders). Given the importance of this needed theory, the leading journal of international business studies (JIBS) has called for scholars in its 2017 special issue to solve the problem. Moreover, based on the above discussion, developing *dynamic-based FSAs (dynamic capabilities)* as a significant theoretical component possibly provides the bricks and mortar with which the entrepreneurial MNEs or INVs can identify, create and exploit opportunities across international borders.

2.1.11 Network Approach Theory

The network approach theory has been a significant perspective in many different research disciplines, e.g. social science, business economics, computer science, psychology and organizational studies (Provan et al., 2007). Network studies show that applying this perspective is developing and growing exponentially (Borgatti and Foster, 2003). This perspective is rooted in sociology, psychology, anthropology and mathematics (Parkhe et al., 2006). Like other research areas, within the field of business studies, a key position is also allocated to the network perspective (Ford and Mouzas, 2013). Borgatti and Foster (2003, p. 922) defined the term network in a general sense as “a set of actors connected by a set of ties”. In this definition, actor refers to nodes, persons, teams, organizations and even concepts as well as pairs of actors which are connected by ties. Needless to say, network ties in the network perspective play a central role because of the nature of its content.

It is also important to note that there is no unique theory associated with networks, however there are two distinct and complementary levels of analysis which have been focused on by researchers, the (1) micro (actor) level and the (2) macro (network) level. According to this classification, the actor level focuses on individual organizations within the network, whereas the macro level analyzes organizations collectively in a network (Provan et al., 2007). In line with this classification, other studies have classified the network studies into two different forms, social network (SN) and business network (BN) studies. The focus of SN research is on network structure (e.g., structural whole, strong and weak ties), embeddedness, networks of individuals (e.g., formation and dissolution of ties) and exogenous and endogenous factors which influence

networks. BN studies, in contrast, highlight dyadic relationships which are created through interactions of actors as network members. Moreover, the evolution of relational ties (why and how) over time is another function of BN research (Slotte-Kock and Coviello, 2010; Vasilchenko and Morrish, 2011).

Furthermore, other researchers have classified the network approach into two groups, the North American approach and the North European approach (Uppsala school of thought) (Tikkanen, 1998). Tikkanen discussed how the North American approach is focused on the “strategic network” formed by an individual actor or a firm as a hub. The Uppsala school of thought (also called the IMP⁶ perspective) views the market as network, as it is an interaction-based perspective and concentrates on the network relationships. In the North European approach, the marketing role is considered the process of initiating, developing and maintaining a network position.

According to Ford and Mouzas (2010), as an IMP group scholar, *business relationship (BR)* is the core of business networks, and without it, the business network is meaningless. In this regard, according to the business network approach, BRs are strategic assets of a firm. Furthermore, according to Dyer and Singh (1998) a firm could achieve competitive advantage over a market when it has effective BRs. Each BR, in a particular time and space, includes *unique activities* and *idiosyncratic configuration of resources* that perform and control a particular actor during business interaction with its counterparts (Ford and Mouzas, 2010). When BRs are changing, their content (e.g., activities and resources) also changes. For this reason, some business researchers conclude that business networks are dynamic by nature (Anderson et al., 1994; Slotte-Kock and Coviello, 2010).

Examining the literature on networks reveals that the business network has an influential impact on its members (e.g., firms). In this regard, business network scholars, particularly in the

⁶ Industrial Marketing and Purchasing Group.

IB context, have found that different firms such as MNEs, SMEs, BGs and INVs have been affected by network ties during their interactions within their networks. In this respect, a number of advantages of network membership have been suggested by scholars: (1) acquiring different international knowledge such as institutional knowledge, business knowledge and internationalization knowledge (Bell and Cooper, 2015; Sharma and Blomstermo, 2003); (2) learning (Powell et al., 1996; Powell, 1998); (3) international selection markets; (4) access to competitive resources and capabilities (Gulati et al., 2000; Zaheer and McEvily, 1999); (5) access to information (Gulati, 1999); (6) innovation (Anderson et al., 1994); (7) entering into new international business networks (Johanson and Mattsson, 1988); (8) exploration and exploitation of international opportunities (Kontinen and Ojala, 2011; Vasilchenko and Morrish, 2011); (9) survival and performance (Brass et al., 2004); (10) developing new business relationships; (11) increasing speed of internationalization (Oviatt and McDougall, 2005); (12) increasing social capital, trust and credibility in international markets (Chetty and Patterson, 2002; Tsai and Ghoshal, 1998); (13) overcoming liability of foreignness (Bell and Cooper, 2015); and (14) improving firm-specific advantages (FSAs) (Scott-Kennel and Giroud, 2015). These benefits are vital, particularly for SMEs, because of their resource limitations and liability of smallness (LOS).

Studies on Nordic countries' SMEs show that these firms, in order to improve their competition in international markets, have entered into collaborative relationships within the business network (Tikkanen, 1998). Other researchers have shown that network membership is a strategic and *idiosyncratic resource* which enables the firm to have competitive advantage over its markets (Gulati et al., 2000; Provan et al., 2007). In line with this understanding, Zaheer et al. (2005) stated that those firms which have superior network structures are better able to apply their internal capabilities.

According to the business network approach, to be internationalized the firm should be able to initiate and develop its business relationships within the business network across national borders (Fletcher and Barrett, 2001). In other words, being outside of the business network (outsidership) makes it highly unlikely for a firm to be internationalized. This may mean that in order to overcome the liability of outsidership (LOO), the firm should be capable to identify,

develop, maintain and terminate its business relationships over international borders (Bell and Cooper, 2015; Johanson and Vahlne, 2009).

In IB studies, the Network perspective is a powerful, comprehensive and dominant approach to explain the internationalization of firms, because it considers both markets and relationships on the one hand, and it is dynamic by nature on the other (Chetty and Blankenburg Holm, 2000; Fletcher, 2008; Johanson and Mattsson, 1988). Based on the network approach instead of internalization, a kind of externalization takes place (Coviello and McAuley, 1999).

A closer look at the IB literature reveals that the network perspective in the context of IB studies plays at least two distinct roles: the network as an approach (view or perspective) and the network as a theory (framework). However, the network as a technique of analysis or mapping has been applied to show the position of a business actor along with its relationships within the business network (Borgatti et al., 2013). These two main roles of the network in IB studies are discussed next.

2.1.11.1 Network as an Approach in Internationalization of the Firm

In some studies, the network has been applied as an approach (view or perspective) to develop new and existing IB theories. In particular, it has been applied to add or improve the dynamic dimension of IB theories, e.g. the U-M (Johanson and Kao, 2010). For instance, in order to update the component of “O” in the OLI paradigm, researchers have suggested the network approach (Dunning and Lundan, 2008a). Similarly, Cantwell and Narula (2003) stated that in order to enhance the capacity of the OLI framework, it is necessary to add partnership ability, from a network perspective, to the ownership (O) advantages in the OLI paradigm.

In line with this reasoning, and as mentioned in the section on internalization theory, Narula and Verbeke (2015) suggested that to have internalization theory as a general theory, the network approach is an important perspective that should be considered. To do this, they suggested the term *partnership-specific advantages (PSAs)* as a dynamic component factor of internalization theory. Furthermore, the authors of the U-M revisited their model by using the network approach to enhance its power to explain the dynamic process of internationalization (Johanson and Vahlne, 2009). As was previously noted, within the field of IE, Oviatt and McDogall (1994) also considered the network approach as a fundamental view to develop new

IE theory to explain the internationalization behavior of INVs and BGs. Moreover, several leading researchers suggested that the combination of the network perspective and other IB theories could answer the challenges of early entrepreneurial internationalization within the field of international entrepreneurship (Jones and Coviello, 2005).

As a result, it could be concluded that IB scholars, in order to ensure the dynamic dimension of IB theories, have focused on a network approach providing a kind of *relational-based FSA* as a unique resource of the firm.

2.1.11.2 Network as Theory in Internationalization of the Firm

In its second role, the network is applied as a framework(s) or model(s) to explain the internationalization of the firm (Coviello and McAuley, 1999; Johanson and Kao, 2010). On this basis, there are several network models which have been developed by IB scholars: (i) Johanson and Mattson's (1988) model (JM-M), (ii) the network embeddedness model (Halinen and Törnroos, 1998), (iii) the business relationship model (Andersen and Buvik, 2002), (iv) the activities, resources and actors (A-R-A) model (Håkansson and Johanson, 1992), and (vi) the theory of the flagship firm (D'Cruz and Rugman, 1994; Rugman and D'Cruz, 1997).

Within this category (network as theory), the major model is Johanson and Mattson's model (JM-M). This model has its roots in the original U-M and social exchange theory (Johanson and Kao, 2010). The basic assumption of the JM-M is that the authors consider the market as "*networks of relationships between firms*" in which every individual actor (firm) in the network is dependent on the resources of other network members. These resources could be acquired by the focal firm through establishing strategic positioning within the business network.

According to Johanson and Mattson's model (JM-M), the internationalization of firms takes place through international extension, penetration, and international integration.

International extension refers to the initiation of new international relationships with new partners which are located abroad. Penetration concerns the firm's activities to develop existing relationships in foreign business networks, in a manner that increases its resource commitment. Finally, international integration alludes to those activities performed by the firm to coordinate its network relationships in different foreign markets. The JM-M⁷ has been applied to both SMEs (Chetty and Holm, 2000) and MNEs (Axelsson and Johanson, 1992) to explain their internationalization process. However, Chetty and Holm, in their study on the internationalization of SMEs, challenged the model because of some shortcomings. They stated that the model fails to explain *how* the firm within the business network makes a decision, and how it overcomes its problems through business networks. Additionally, they have pointed out that the model does not explain *how* the firm, within the network, moves from one network position to another. It seems that Chetty and Holm have highlighted the problem of *ownership advantage* associated with the network within the firm, which has been neglected by Johanson and Mattson's model (JM-M). This is a kind of firm relationship (partnership)-specific advantage that enables the firm to perform those tasks related to business relationships with its business partners.

⁷ Based on the JM-M, there are four possible situations for firms within the business network. The first is the early starter. In this position, both the degrees of internationalization of the market and the firm are low, and consequently, the level of the firm's knowledge about foreign markets is also low. The early starter enters foreign markets through linking to the local agents. The second is the late starter. In this situation, the firm's knowledge is not high, whereas the firm's partners have been highly internationalized, e.g. suppliers and competitors. Therefore, the primary aim of the late starter is investment in business relationships with those local firms with high international linkages. The third is the lonely international, which refers to those firms that have a high level of knowledge about international markets, but where the degree of internationalization of the environment is low. These kinds of firms have potential opportunities to develop a production network in foreign markets. The fourth is international among others. In this position, both the firm and foreign market have been internationalized, and the firm is knowledgeable about international business networks, and *the firms' ability to coordinate different national nets* is a vital capability to create more value.

Another network theory is the *network embeddedness model (NE-M)* (Halinen and Törnroos, 1998), which provides a framework to explain the internationalization of the firm. According to this theory, a firm in the IB context could be embedded in several types of networks, such as a technological network, regional network, institutional network, and market and infrastructural network. On this basis, actors have interactions together and different kinds of resources are exchanged between them (Fletcher and Barrett, 2001; Halinen and Törnroos, 1998). In this regard, the internationalized firms are distinguished based on the two factors of connected exchange business relationships (connectedness) and the firm's position within the network (position) compared to other actors as members of the network (Fletcher, 2008). However, like Johanson and Mattson's model (JM-M), this model does not explain how connectedness and network positioning are happening. In other words, this model also fails to consider the associated *ownership advantage* inside the firm.

The third network model, called the business relationship model (BR-M), was developed by Andersen and Buvik (2002). As the name implies, this model was developed based on the business relationships and associated interactive activities. The application of the model is how a firm selects its international markets, and it is comprised of the three sequential components (stages) of awareness, exploration and choice. In this model, awareness is defined as the firm's ability to identify potential business partners within the network(s) across national borders, whereas exploration refers to the firm's negotiation and initial connections with identified potential business partners in international markets. Finally, choice is related to the selection of business partners to start business exchanges based on the firm's objectives in overseas markets. This process shows that unlike Johanson and Mattson's model (JM-M) and the network embeddedness model (discussed above), the BR-M considers a type of *firm-specific advantage* inside the firm to explain how the firm, within its business network(s), makes decisions and manages its business relationships.

The fourth network theory applied in the IB context is the ARA interaction model. This model was not originally associated with the landscape of IB theories; rather, it was developed by Håkansson and Johanson (1992) as members of the IMP group of scholars. The authors of the ARA model have explained that a business relationship is formed from the three substances of activities (A), resources (R) and actors (A). According to this model, the configuration of

resources, activities and actors at each point of the time and space within the business network could be changed, and in this regard, the model would be dynamic in nature. The content of each international business relationship could be analyzed by the ARA dimensions. In this respect, researchers have applied the ARA model to explain the internationalization of the firm (Fletcher, 1996; Veludo et al., 2004). For instance, Veludo et al. (2004) in a study within the international context, found that the model has been used to analyze partnering and relationships of the MNEs.

Fifth, the network theory, applied in studies of MNEs, is the theory of the flagship firm or flagship strategy developed by Rugman and D'Cruz as IB scholars (D'Cruz and Rugman, 1994; Rugman and D'Cruz, 1997). According to Girod and Rugman (2005, p. 340), “multilateral and multidirectional partnership” is the core of this theory. Flagship network theory includes five partners, namely the focal firm as flagship, key customers, key suppliers, selected competitors, and non-business infrastructures (e.g., research centers). According to this theory, the flagship firm is a focal firm which directs and coordinates IB relationships with other business and non-business partners across international borders to achieve its strategic objectives. In a study conducted by Girod and Rugman (2005), this model was applied to explore internationalization in three cases within the multinational retail sector. The authors linked flagship network theory to *the FSAs* and *CSAs* to show how flagship relationships should be used in IB activities. They stated that successful flagship strategy is dependent on a *strong FSA*. They also found that the flagship strategy is an appropriate way to overcome environmental constraints by *collaboration* and *learning* through *network partnership*. The flagship theory emphasizes multidirectional synergies and knowledge sharing between partners (Girod and Rugman, 2005).

2.1.11.3 Networking Capability as a Necessary Element of the Business Network Approach

As discussed above, being a member of a business network enables a firm to have potential access to diverse resources (tangible and intangible) and opportunities, whether national or international. In this regard, in this section about 15 possible advantages found by network scholars were listed for a firm in a business network. The network approach and associated theories have generally paid less attention (with some exceptions like the business relationship model (BR-M)) to this point than how a firm as an actor could be able to extract the value (e.g., those 15 advantages) that is embedded in the network. In other words, if firms have interaction together in the business network, the decision, coordination, communication and other required

routines and activities should in turn be performed by each actor during the process of internationalization. On this basis, a question that naturally arises is "what is the *correspondent capability (or specific advantage)* of the business network inside the firm to perform associated activities?" In other words, to realize these activities a kind of capability and competency or *partnership-specific advantages (PSAs)*, within the firm, is required. For instance, Johanson and Mattsson's (1991) business network theory explains the nature, characteristics and conditions of a business relationship to access network resources, but it does not explain how this ability could be performed. The shortage of this theory in research on the internationalization of SMEs was identified by Chetty and Holm (2000).

In their seminal article review on the IB literature, Rugman et al. (Rugman et al., 2011, p. 773) pointed out that the "*network literature ignores the ownership issue*". In other words, they believe that a firm can only benefit from external advantages, located in the business network, when it has possessed an ownership advantage such as partnership capability inside the firm. In this respect, a closer look at the development and evolution of IB theories reveals that networking capability as a dynamic element has found a critical role. For instance, as pointed out earlier, networking as a capability has been suggested by several IB researchers to enhance existing IB theories (Buckley, 2014; Cantwell et al., 2010; Cantwell and Narula, 2004; Teece, 2014a; Vahlne and Johanson, 2013; Vahlne and Ivarsson, 2014). As another example, authors of the U-M, in their last revision of the model, added *networking capability* as a *dynamic capability* to the new U-M to address environmentally complex changes within the IB context (Vahlne and Johanson, 2013). In the U-M, networking capability enables the firm to manage its network position in the whole network(s).

As discussed above, the literature on the business network and its application in IB studies is increasingly expanding. The network has been used as an approach, theory and even as a technical analysis in the field of IB. Business relationships and business networks, particularly for SMEs, play a central role to realize the internationalization of the firm. However, thus far there is no general business network theory in the IB field. The evolution of network studies in the field of IB shows that IB researchers are looking for a kind of *relational-based FSA* (e.g., networking capability) as an important component factor for dynamic-based FSAs to realize the successful internationalization of the firm. In other words, evolution of the network theory within

the field of IB is directed to identify a specific ownership advantage correspondence with the business partnership.

2.2 Summary and Conclusion

As was noted in Chapter 1, undoubtedly, the business environment has dramatically changed, for example in international communication, transportation, technologies, services, e-business, business networks, and the product life cycle. All in all, this represents continuous change in the economic environment (Axinn and Matthyssens, 2002). This means that the process of internationalization of the firm could be very complicated and dynamic. Therefore, it would be impossible to explain this dynamic process (both for SMEs and MNEs) based only on one theoretical perspective; for this reason, IB researchers have been trying to consider an innovative way to develop internationalization theories that previously had been highlighted by Coviello and McAuley (1999). In the face of this fact, IB scholars over time have refined (or revised) the current IB theories in order to update and elaborate on them. Aside from this, even if it is necessary, IB scholars have been asked to focus on the new theory development to address environmental change. In line with this necessity, applying and integrating the Penrosian and Schumpeterian approaches along with other theoretical perspectives from the strategic management, entrepreneurship and IB fields has been frequently recommended by associated researchers of IB studies.

In the last sections, the main internationalization theories were reviewed and discussed, the essence of which is highlighted in **Table 2-1**. A closer look at the evolution of internationalization theories, presented in **Table 2-1**, reveals that the majority of IB researchers have focused on *firm-specific advantages (FSAs)* as the core theories, whether explicitly or implicitly. However, in the pre-Hymer theories the firm is absent, and the FSAs, in turn, are also not considered.

As was previously discussed, the component (s) of the FSAs in each IB theory is different, but over time, in order to increase the adequacy of the IB theories, the ingredients of the FSAs have been changing. Interestingly, in spite of the fact that the departure point in the reviewed IB theories has been different it seems that IB scholars, over time, are moving towards a common destination about the nature of FSAs in IB theories. In other words, it appears that IB scholars have converged to a conceptual unity (i.e., *dynamic-based FSAs*) from the FSAs with a

multitude (plurality) of meanings. That is, a shift in focus from FSAs with multiple instances (or meanings) to FSAs as dynamic capabilities (unity in the concept) has occurred over time. Likewise, IB scholars have achieved a consensus that the content of the FSAs should be transformed from, for instance, *static-based FSAs* into a new trajectory of *dynamic-based FSAs*. A *missing piece* that IB scholars are looking for is to *enrich the prediction ability of IB theories*.

In this regard, as discussed previously, compared with their original versions the majority of IB theories, e.g. internalization theory, the OLI paradigm, the U-M and IE, have been refined or called to be revised. This refinement, in some cases, has been followed by a new interpretation of the theoretical concepts. In other words, this new dynamic interpretation has taken place for those IB models which have had a concept with the capacity for a new interpretation. For instance, the following concepts in several IB theories are potentially interpreted in a new way: (1) unique resources as the source of superiority in the monopolistic advantage theory, (2) Ownership advantages (O) in the OLI paradigm, (3) knowledge-based FSAs in the internalization theory, (4) learning and networking in the U-M, (5) unique resources in the IE theory, and (6) network(ing) in the network approach theory.

Additionally, some scholars have gone a step further and talked about the development of new theories through integrating different approaches. In this respect, IB researchers have attempted to enhance existing IB theories by including the *dynamic element (s)* in their models. Or, if a new theory is developed the dynamic element, such as IE, has been included. When it comes to the existing IB theories, for example, the authors of the U-M, in order to improve their theory in the new economic environment, incorporated different elements such as learning, networking and opportunity development capabilities as dynamic component factors of FSAs to their new models over time (for the U-M, this evolution has been shown in **Figure 2-2**).

As such, looking for *dynamic-based FSAs* in IB theories has been a *dominant movement* in the majority of IB studies to overcome the liability of foreignness (LOF), especially when it is linked to the internationalization of SMEs (see **Table 2-1**). In turn, IB scholars believe that based on this dynamic approach, IB theories would be able to address the two central objectives, regardless of firm size, at the same time. They are: (1) addressing environmental change, and (2) ensuring a firm's sustainable competitive advantage (SCA) across national borders. For this reason, as noted above, there is a kind of consistency among IB authors to develop *dynamic-*

based FSAs in their models to cover these two conditions. However, when it comes to the *component factors* of dynamic-based FSAs there is *no consensus* among IB scholars. Regarding dynamic component factors, researchers, for instance, have addressed learning (e.g., absorptive capacity) and networking capabilities, whether explicitly or implicitly, as component factors of dynamic-based FSAs in IB activities, as has been highlighted in **Table 2-1**.

As is evident from the evaluation of IB theories in previous sections, many researchers have stated that *dynamic capabilities* are those *dynamic-based FSAs* that ensure the development and protection of the SCA in a changeable environment over national borders, both in SMEs and MNEs (Al-Aali and Teece, 2014; Almodóvar and Rugman, 2014; Cantwell et al., 2010; Teece, 2014a; Vahlne and Ivarsson, 2014). However, applying the dynamic capabilities view in IB studies is still a “black box” that needs to be clearer. In particular, there is still the important issue that little is known about the component factors of dynamic capabilities in IB studies. This constitutes a research gap, which is the objective of this research to be studied.

Table 2-1: International business (IB) theories and firm-specific advantages (FSAs).

IB theory	Author (s)	The core of the theory	The level of analysis	Application	Theoretical roots	Remark
Absolute advantage	Adam Smith (1776)	– Monetary cost	– Country	International trade	– Economic theories	
Comparative advantage	Ricardo (1819)	– Relative opportunity cost	– Country	International trade	– Economic theories	– Pre-Hymer period
Proportion factor (H-O model)	Heckscher and Ohlin (1933)	– The difference in endowments of labor and capital factors	– Country	International trade	– Economic theories	– The firm is a black box and there is no focus on the FSAs
Monopolistic advantage	Hymer in (1960, published 1976)	The FSAs as the unique sources of superiority including: – Superior knowledge – Superior manufacturing processes – Technological innovation – Scale of economies – Brand names – Marketing skills	– Firm	MNEs' FDI	– Industrial organization (IO) theory	– The first IB theory that focused on FSAs – Creating monopolistic advantages is not explained by this theory
International product life cycle (IPLC)	Raymond Vernon (1966)	– Scale of economies – Innovation – Dynamic of competitive advantage in each stage of PLC	– Country – Firm	MNEs' FDI	– Product life cycle (PLC) – Innovation	– No explicit focus on the FSAs, but implicit focus on innovation as the root of the FSAs.
Oligopolistic reaction	Knickerbocker (1973)	– Oligopoly – Uncertainty – Risk aversion	– Firm	MNEs' FDI	– Behavioral theory – Follow-the-leader theory	The firm's ability to imitate competitors' behavior in international markets makes up FSAs.
Internalization Orthodox Internalization	Buckley and Casson (1976)	– FSAs with a focus on coordination and transactional activities – Country-specific advantages (CSAs)	– Firm – Country	MNEs	– Coase (1937) theory – TCE – Penrosean approach – Hymer's (1960) theory	– Static-based FSAs – Generating its future assets is not explained by this theory

IB theory		Author (s)	The core of the theory	The level of analysis	Application	Theoretical roots	Remark
Eclectic (OLI) paradigm	Dynamic Internalization	Rugman et al. (2011), Dunning (2000), Narula and Verbeke, (2015)	– NLB and LB-FSAs including learning and innovation activities – CSAs	– Firm – Country	MNEs and SMEs	– TCE – RBV – Schumpeterian approach	– <i>Dynamic-based FSAs</i> : – Learning – Networking – Dynamic capabilities – Potential capacity to be general theory
	Traditional	Dunning (1976, 1988)	Advantages: – Ownership (FSAs) – Internalization (FSAs) – Location (CSAs)	– Country – Firm	– MNEs	– Smith’s approach – TCE – RBV – PLC	– <i>Static-based FSAs</i>
	Modern	Dunning and Lundan (2008b), Dunning (2001, 2000) Cantwell and Narula(2003), Madhok and Phene (2001)	Advantages: – Ownership (FSAs) including Oa, Ot and Oi – Internalization (FSAs) – Location (LSAs/CSAs)	– Country – Firm	– MNEs and SMEs	– TCE – RBV – PLC – Evolutionary theory – Penrosian approach – Schumpeterian approach	– <i>Recommended dynamic-based FSAs</i> : – Networking – ACAP – Potential capacity to be general theory
	I-M	Bilkey and Tesar (1977)	– Learning	– Firm	– SMEs	– Behavioral theory	Recommendation of IB scholars: I-M could be <i>more dynamic</i> by integrating with the network approach and RBV
Internationalization	Original U-M	Johanson and Vahlne (1977)	– Market knowledge – Market commitment – Commitment decision – Current activities	– Firm	– MNEs and SMEs	– Penrosian approach – Cyert and March’s (1963) behavioral theory	<i>The FSAs (implicitly) are:</i> – Market knowledge – Market commitment

IB theory	Author (s)	The core of the theory	The level of analysis	Application	Theoretical roots	Remark
Internationalization	1 st revision U-M	<ul style="list-style-type: none"> – Knowledge opportunities – Network position – Relationship commitment decision – Learning – Creating – Trust building 	– Firm	– MNEs and SMEs	<ul style="list-style-type: none"> – Penrosian approach – Cyert and March's (1963) behavioral theory – Business network view – Schumpeterian approach 	<ul style="list-style-type: none"> – <i>Dynamic-based FSAs</i>: – Networking – Learning
	2 nd revision U-M	<ul style="list-style-type: none"> – Operational capability – Dynamic capabilities including: Opportunity development capability – Internationalization capability – Networking capabilities – Network position (inter and intra) – Network power – Commitment decisions – Inter-organizational processes – Learning, creating and trust building 	– Firm	– MNEs and SMEs	<ul style="list-style-type: none"> – Penrosian approach – Cyert and March's (1963) behavioral theory – Business network view – Evolutionary theory – DCV – Schumpeterian approach 	<ul style="list-style-type: none"> – <i>Dynamic-based FSAs</i>: – Networking capability – Learning capability – Opportunity development capability – An alternative for the OLI-Paradigm
International entrepreneurship (IE)	Mcdougall et al., (1994) Oviatt and mcdougall (1994)	<ul style="list-style-type: none"> – Unique resources – Knowledge – Network 	– Firm	– MNEs and SMEs	<ul style="list-style-type: none"> – Penrosian approach – TCE – Business network view – Schumpeterian approach 	<ul style="list-style-type: none"> – <i>Dynamic-based FSAs</i>: – Exploration and exploitation of opportunities – ACAP – Networking

	IB theory	Author (s)	The core of the theory	The level of analysis	Application	Theoretical roots	Remark
Network (ing)	Johanson and Mattsson-Model	Johanson and Mattsson (1988)	– Initiation, development and integrating of international business relationships	– Firm	– MNEs and SMEs	– Original U-M – Social exchange theory	Indirectly focus on relational-based FSAs Considering networking as ownership advantage has been recommended
	Network embeddedness - Model	Halinen and Törnroos (1998)	– Connectedness – Network position	– Firm	– MNEs and SMEs	– Social exchange theory	Indirectly focus on partnership advantage
	Business Relationship-Model	Andersen and Buvik, (2002)	– Awareness – Exploration and – Choice	– Firm	– MNEs and SMEs	– Social exchange theory	Directly focus on partnership-specific advantage
	A-R-A- Model	Håkansson and Johanson, (1992)	– Activities (A) – Resources (R) and – Actors (A) – Focal firm as flagship (direct and coordinate IB relationships)	– Firm	– MNEs and SMEs	– Social exchange theory – Penrosian approach	A tool to analyze business relationships
	Flagship-Model	D’Cruz and Rugman (1994)	– Key customers – Key suppliers – Selected competitors, and – Non-business infrastructures	– Firm	– MNEs	– Social exchange theory	Networking partnership

Notes: ACAP= Absorptive Capacity, A-R-A= Activities, Resources and Actors, CSAs= Country-Specific Advantages, DCV=Dynamic Capabilities View, FDI= Foreign Direct Investment, FSAs= Firm-Specific Advantages, IB=International Business, I-M= Innovation-Related Internationalization Models, LB=Local Bond, LSAs= Local Specific Advantages, MNEs= Multi-National Enterprises, NLB= Non-Location-Bound, PLC=Product Life Cycle, TCE= Transaction Cost Economics, U-M= Uppsala Model.

2.3 Resource-Based View (RBV) and Dynamic Capabilities View (DCV)

In the last section, the main IB theories were reviewed, after which it was concluded that none of the existing internationalization theories, particularly in the context of SMEs, are able to explain internationalization of the firm perfectly. Specifically, when it comes to fast environmental change, the problem could be more complicated. In this regard, dynamic-based FSAs emerged as a dynamic element that IB scholars have suggested for IB theories to address environmental change and overcome the liability of foreignness (LOF). It was also stated that the nature of *dynamic-based FSAs* is similar to *dynamic capabilities* as an association of organizational capabilities. Furthermore, based on the IB theories reviewed in the last section, it was revealed that dynamic capability in an IB context is still a "black box". Therefore, to find component factors of dynamic-based FSAs it is essential to assess the associated literature on the resource-based view (RBV) and related extended approaches such as the dynamic capabilities view (DCV), mainly within the context of internationalization of the firm, to find the right theoretical positioning. Consequently, in this section the RBV, organizational capabilities, and DCV are discussed as the fundamental theoretical perspectives for this research.

2.3.1 Resource-Based View (RBV)

Developing a theory of competitive advantage to answer several key questions (which had been raised within the strategic management field) was one of the main objectives of strategic management scholars. The key questions include "how is superior performance achieved?" (Day, 1994, p. 38), "why are firms different?" and "why do firms perform differently?" (Zott, 2003, p. 97), "why is the performance of some firms higher than others and why are some business firms more successful than others? ", or as Nelson et al. (1991) stated, "why do firms differ?". To answer such questions, scholars in strategic management have applied two main approaches, the market-based view (MBV) and the resource-based view (RBV). For each perspective, the firm's competitive advantage is the result of different sources (Day, 1994; Makhija, 2003).

In the early 1980s, the MBV was the dominant perspective to explain a firm's competitive advantage. The MBV is rooted in industrial organizational (OI) economics, which goes back to the structure-conduct-performance (SCP) paradigm of leading authors like Bain (1956), Caves and Porter (1978, 1977) and Porter (1985, 1980, 1979). The conventional

literature on the MBV, as a market-oriented or outside-in approach, suggests that firms within the same industry are similar, and that the analysis of competitive advantage is mostly based on the external factors located outside the firm, instead of internal resources (Barney and Clark, 2007; Makhija, 2003; Mellewigt and Nothnagel, 2008). In this regard, the structure of the industry and market power (e.g., entry barriers, customer and suppliers' bargaining power and monopoly) are the two core determinants of competitive advantage and performance of the firm (Grant, 1991; Makhija, 2003).

As an example, the five forces model of Porter (1980) could be likely considered as one of the most famous and applicable theories within the MBV to explain a firm's competitive advantage. The MBV has been challenged by strategic management scholars (Barney, 1991; Wernerfelt, 1984), who have argued that to explain a firm's competitive advantage and performance it is necessary to address the inside of the firm. In other words, much less attention is paid to the enterprise itself and its resources and capabilities. This inside-out perspective, in contrast with the MBV, is called the resource-based view (RBV), which was first mentioned by Wernerfelt (1984). However, like the MBV, the RBV is also rooted in the works of several scholars from both economics and sociology. In this respect, in their book Barney and Clark (2007) suggested the four theoretical traditions of the RBV: (1) Ricardo (1819), who focused on the land as a significant factor to have higher performance; (2) Selznick (1957), who highlighted the role of senior managers as a distinctive competence of a firm to have better competitive advantage; (3) Penrose (1959), who considered the firm as administrative organization and bundle of resources to explain the firm's growth; and (4) Demsetz (1973), who questioned the paradigm of "structure-conduct-performance" (SCP) and highlighted the firm's ability to capture opportunities for addressing better customer needs. Needless to say, among these scholars, the work of Edith Penrose (1959) has had more contributions to the RBV (Kor and Mahoney, 2000).

According to Penrose (1995), in order to study the firm there are different theories, one of which is the theory of the firm. In this regard Penrose, in her seminal book (Penrose, 1995) *The Theory of the Growth of the Firm* (TGF), stated that when researchers talk about the firm they should clarify the meaning of the concept of the "*firm*". Furthermore, she specified that in the majority of economic theories the term "firm" is the equivalent of price and product. Penrose challenged this meaning of the firm, and suggested that this is not the reality of the "firm". The

consequence of this challenge was a departure point to look at the firm from a different approach. Subsequently, in her TGF Penrose generated a new understanding of the “firm” as one of the most effective contributions in the field of strategic management. This Penrosian approach to the firm provided the bricks and mortar for the resource-based view (RBV) as the crown jewel of strategic management (Kor and Mahoney, 2000). Penrose defined the firm as follows: “...*the business firm, as we have defined it, is both an administrative organization and a collection of productive resources*” (Penrose and Pitelis, 2009, p. 28). As this definition shows, the firm is not only an output such as product or price, but instead includes a bundle of different forms of resources. According to Penrose (1959), resources are classified into several types such as human resources (e.g., skillful workers) and physical (tangible) resources like plant, equipment, and raw materials, and natural resources. Penrose believed that some resources are tradable and could be bought from the market, while other types of resources are not.

In dominant economic theories, the concept of the firm was a “black box” which Penrose tried to open; however, her studies were incomplete and it was still not a “transparent box”. In line with this reasoning and building on the earlier work of Penrose (1959), Wernerfelt (1984) focused on the firm’s resources as the unit of analysis to explain a firm’s competitive advantage. In other words, he clarified that the firm’s resources are fundamental for competitive advantage. In this regard, and as noted above, for the first time the term *resource-based view (RBV)* was established. According to the Wernerfelt’s thesis, differences in the profile of resources leads to differences in performance. The RBV is linked to an emphasis on the inside-out perspective, which focuses on the idiosyncratic resources that are controlled by the firm.

Consistent with Wernerfelt (1984), Barney (1991) criticized the traditional models (e.g. Porter’s 5Fs) in strategic management which analyze the firm’s competitive advantages based on external factors. He then argued that the firm's competitive advantages could be the consequence of internal resources. In other words, to analyze a firm's competitive advantages and its superior performance, considering the resources as a unit of analysis is necessary. Furthermore, he discussed that according to the MBV, firms’ resources, even within the same industry, are homogenous and moveable. Barney changed these assumptions and formalized the RBV as a complimentary view to the MBV, based on the two completely different assumptions. He claimed that the firm's resources are diverse and heterogeneous, as well as might be difficult to

be possessed (immobility of resources) by other firms, e.g. competitors. However, all resources do not necessarily lead to competitive advantage. Instead, building on Dierickx and Cool's (1989) work, Barney (1991) provided a framework by which, to be a source of sustainable competitive advantage (SCA), a resource must have the following VRIN characteristics and be: (i) valuable (V); (ii) rare; (iii) imperfect imitable; and (iv) non-substitutable. However, thereafter, Barney suggested the VRIO framework, in which "VRI" refers valuable, rare, and inimitable (includes also non-substitutable) in the original model, while "O" indicates the "organization" as another necessary characteristics of the resources to be the source of competitive advantages. In other words, the organization (O) refers to the firm's organized activities and processes to exploit the resources and capabilities(s) (Barney, 1995; Barney and Wright, 1997; Newbert, 2007). According to Barney (1995), the VRIO framework provides a simple way to analyze internal strengths and weaknesses of the firm.

As such, and following this line of thought, Grant (1991) developed a definition of the firm's strategy in which the role of resources and capabilities was highlighted. He stated that four conditions are needed for resources and capabilities to be the determinants of sustainable competitive advantage, namely: (a) durability; (b) transparency (difficulty of imitation); (c) transferability (imperfect transferable); and (d) replicability.

Consistent with the models of Barney (1991) and Grant (1991), Peteraf (1993) also developed another model of competitive advantage to understand firm superior performance. In her model, Peteraf emphasized the four necessary conditions, as cornerstones of competitive advantage, which must be met by internal resources and capabilities to have superior firm performance. These are: (1) heterogeneity, (2) ex post limit to competition (imperfect imitability and imperfect substitutability lead to sustainability of the rents), (3) imperfect resource mobility, and (4) ex ante limits to competition (rent not offset by cost).

A closer look at the works of these leading RBV scholars (Barney, 1991; Grant, 1991; Peteraf, 1993) reveals that resources and capabilities, as a unit of analysis, are fundamental determinants of the competitive advantages of a firm. It could also be concluded that getting differences in superior firm performance would be possible if a different bundle of unique resources and capabilities is possessed by the firm (Black and Boal, 1994; Conner, 1991). In other words, resources and capabilities are the basis of firm competition.

It is important to note that the central term “resource” in the RBV has been interpreted in different ways. In this regard, various typologies of resources have been developed by RBV scholars. For example, Wernerfelt (1984) classified a broader set of resources into two categories, tangible and intangible assets, e.g. machinery, capital, brand names, technology and skilled personnel. Barney (1991), on the other hand, categorized the firm resources into three groups: (1) physical capital resources, e.g. raw material and a firm’s plants and equipment; (2) human capital resources, e.g. experience, training, intelligence and relationships; and (3) organizational capital resources, e.g. planning, controlling and coordinating systems. In line with this thinking, Grant (1991) distinguished between capabilities and six other types of resources, namely financial, physical, human, technological, reputation, and organizational. Grant considered a firm's resources as the source of capabilities as well as capabilities as the source of competitive advantages.

Following the above lines of resource classification, Hall (1993, 1992) has attempted to classify intangible (non-physical or non-financial) resources into two groups: (a) *assets*, e.g. patents, copyrights, registered designs, contracts, reputation, trade secrets and networks; and (b) *capabilities* (competencies or skills), e.g. know-how and culture. Assets denotes the intangible resources which are people independent (“*what the firm has*”), while capabilities refers to those intangible resources which are people dependent “*what the firm does*” (Galbreath, 2005, p. 981). However, according to Galbreath, it is not easy to distinguish between assets and capabilities. It is worth noting that within the RBV literature, capabilities (competencies) are classified into several groups including ordinary (static) capabilities and dynamic capabilities (Teece, 2014a; Teece et al., 1997).

So far, the RBV and its foundation, along with the concept of “resource”, have been discussed. A critical look at the literature on the RBV shows that it is not without its problems. On this basis, however, the RBV, as the crown jewel of strategic management, is a powerful theoretical approach, although it suffers from several weaknesses as well. In this respect, two weaknesses associated with the RBV will be discussed. The first weakness to be addressed and the main criticism of the MBV, as was noted above, is that it does not look inside the firm. Contrary to the MBV, the RBV does not address the outside of the firm. In other words, it fails to consider business environmental factors which have been located outside the firm and are

changing over time. Consequently, the RBV fails to address unpredictable conditions like fast change in aspects such as markets and technologies, a problem which has also been emphasized by Wang and Ahmed (2007). In line with this reasoning, some authors believe that the RBV is unable to explain why some firms are successful in high velocity markets, and why they are able to be more adaptive to very fast environmental change (Eisenhardt and Martin, 2000). Particularly, as Helfat et al. (2007) stated, the global economy is going to be more integrated and new technologies are being created; therefore, both SMEs and MNEs need to design new paths in order to put themselves in a safe position and ensure their survival and growth. This is a significant problem that could not be solved by the traditional RBV.

The second weakness of the RBV is that it fails to take future valuable resources into account. Although, the RBV provides the necessary conditions (e.g., VRIN) for unique resources which are supposed to contribute to the firm's (sustainable) competitive advantage, it does not provide an effective solution for future valuable resources, and consequently future forms of sustainable competitive advantage (Ambrosini et al., 2009).

Furthermore, the RBV does not explain how the existing bundle of resources and capabilities could be changed and reconfigured/integrated, or how new resources and capabilities should be formed or created to ensure future VRIN resources and create superior performance. Perhaps for this reason, Makadok (2001) pointed out that the RBV only considers the mechanism of Ricardian resources (picking resources and allocating rather than creating them) and ignores capability building or the mechanism of Schumpeterian resources (innovation-based resources creation). In line with this reasoning, Teece (2009) argued that the importance of resources is central to the RBV, but it is silent about improvement, development and creation of new bundles of resources and capabilities. Thus, these characteristics caused the RBV to be considered by some scholars as a static approach. Reflecting on this weakness, one can assume that the static RBV only considers static-based FSAs rather than dynamic-based FSAs.

In accordance with the above problems of the RBV, strategic management scholars such as Teece et al. (1997) thought about the development of a new approach by which to explain the fundamental source of sustainable competitive advantage (SCA). This is because the past, and even current forms of competitive advantages, are not enough to ensure the firm's future survival and growth. In other words, the firm needs to have new forms of competitive advantage (or

renew their competitive advantage), particularly when the business environment is changing. To do so, it is essential to develop a new, modern approach which considers both ordinary capabilities (static-based FSAs) and dynamic capabilities (dynamic-based FSAs) at the same time to ensure long-term competitive advantage. In this respect, the RBV was extended by developing the dynamic capabilities view (DCV), which is considered as a dynamic dimension of the RBV (Ambrosini et al., 2009; Ambrosini and Bowman, 2009).

Given the research purpose and the centrality of dynamic capabilities as a significant subgroup of intangible resources in the firm, in the next section the term organizational capability and its different associations, along with DCV, will be discussed in more detail, particularly in the context of IB.

2.3.1.1 RBV and organizational capabilities

To study dynamic capabilities, it is necessary, first of all, to clarify what is meant by the concept of organizational capability. As noted in the last section, organizational capabilities are intangible (invisible) resources, and the roots of the term capability can be traced back to the work of Selznick (1957), who used the concept of distinctive *competence*. Furthermore, the concept of capability has been used, however implicitly, by Penrose (1995) as a traditional contributor to the RBV as well. Based on the Penrosian approach, the firm is the repository of knowledge and capabilities (Pitelis, 2007). Examining the extant literature on organizational capability reveals that it is a vague concept (Collis, 1994), having been described as a “*complex, structured and multidimensional*” concept (Winter, 2003, p. 992) and multilayered knowledge (Kusunoki et al., 1998). In addition, capabilities are information-based processes that are formed over time (path dependency) through the interaction of skilled people and firm resources (Amit and Schoemaker, 1993), as well as by continuous learning (Chandler, 1992; Kusunoki et al., 1998).

Organizational capabilities have been viewed as critical dimensions of a firm's heterogeneity (Nelson and Winter, 1982), and they are central for the firm's (sustainable) competitive advantage and its superior performance (Day, 1994; Teece et al., 1997; Winter, 2003). Within the literature, the term capability has been labeled with different names such as (core) competence, “*collective skills, complex routines, best practices or organizational*

capabilities” and processes (Ambrosini and Bowman, 2009; Prahalad and Hamel, 1990; Schreyögg and Kliesch-Eberl, 2007, p. 914; Teece et al., 1997). Although in some studies, e.g. (Javidan, 1998), the concept of competency (as the integration of lower-level capabilities) is not equal to capability, *in this study, like Teece et al. (1997), the terms capability and competency are used interchangeably.*

While there is a plethora of studies on organizational capability, there is still no general agreement among scholars about its definition. Therefore, the term organizational capability has been defined in different ways. However, the following definitions have been shared by researchers most frequently. For example, for Grant (1991, p. 119), capability refers to *“the capacity for a team of resources to perform some task or activity”*. Similarly, according to a definition provided by Amit and Schoemaker (1993, p. 35), the concept of “capabilities” is referred to as *“a firm’s capacity to deploy resources, usually in combination, using organizational processes, to effect a desired end ”*. Helfat and Peteraf (2003, p. 999) have also provided another definition of organizational capability: *“An organizational capability refers to the ability of an organization to perform a coordinated set of tasks, utilizing organizational resources, for the purpose of achieving a particular end result”*.

According to the above definitions, a set of tangible or intangible resources are used as the input of the firm’s capabilities in order to be converted into a productive output. This may mean that, without organizational capabilities, the firm's resources cannot be realized as effective factors of competitive advantage. In other words, allocation and leveraging of a firm’s resources to create value effectively is performed by organizational capabilities (Krasnikov and Jayachandran, 2008; Makadok, 2001). In another major study, Day (1994, p. 38) defined capabilities as *“complex bundles of skills and accumulated knowledge, exercised through organizational processes, that enable firms to coordinate activities and make use of their assets”*. This is the organizational capability definition used in this study. Except for the first definition provided above, the other three definitions' organizational processes (or organizational routines) are the core component of organizational capabilities. This approach is consistent with the viewpoint of a number of scholars of organization theory and evolutionary economics, who consider the collective of routines (or organizational processes) as building blocks of organizational capabilities. In other words, the cornerstone of organizational capabilities is

routines that are regular, repetitive and predictable behavioral patterns, which at the same time are context-dependent in nature (Dosi et al., 2000; Nelson and Winter, 1982; Teece et al., 1997; Winter, 2003). In this regard, to clarify the nature of organizational capabilities, it is essential to explain the concept of routine as a subset resource of organizational capability, however it is beyond the scope of this argument to go into detail.

In their much-cited book *An Evolutionary Theory of Economic Change*, Nelson and Winter (1982, p. 124) used the metaphor “*routines are the skills of an organization*”. By this metaphor they have tried to explain that when a firm finds routinized ways, then it has been a skillful company that “*knows how to do something*” (Nelson and Winter, 2002; Winter, 1995, p. 148). The firm’s specific resources could be connected to each other by a web of coordinated relationships within a routine; hence, in reality, without resources a routine is meaningless, and resources without routines will also not be productive (Grant, 2010; Winter, 1995). These (Nelson and Winter) authors, in order to show the importance of routines as building blocks of organizational capabilities, also stated that routines are organizational gens (analogy borrowed from biology). This means that each routine, as a basic structural and functional unit of organizational capabilities, has within it a set of specific ingredients (components) which are the core of change and evolution of organizational capabilities. In this regard, within the literature of organizational capabilities, *skills, knowledge, experience and coordination* have been recognized as the essence of routines, which all together are treated as organizational memory. Thus, the main part of the organizational tacit knowledge (the firm know-how) is embedded within the firm’s routines (Becker, 2008, 2004; Helfat and Peteraf, 2003; Nelson and Winter, 1982).

It is important to note that in a firm, “routines” are remembered by exercising as skills for individuals. On this basis, learning mechanisms are central to develop routines and consequently organizational capabilities (Chandler, 1992). Routines are classified into two main groups comprising operational routines and search routines. Operational routines are the ingredients of ordinary capabilities (e.g. operational capabilities), which are applied to generate current revenue and profit, whereas search routines are substances of dynamic capabilities that are applied to change operational routines (Nelson and Winter, 1982; Peng et al., 2008; Zollo and Winter, 2002; Zott, 2003).

Regarding the definition of organizational capabilities and from the above explanation about routines, it was clarified that each organizational capability consists a different idiosyncratic configuration of routines. This idiosyncratic characteristic of routines provides a type of uniqueness of identity to the organizational capabilities. These organizational capabilities, then, could be represented as a latent fingerprint of the firm that in turn would also be unique from firm to firm. However, this uniqueness could be different over time for each firm because of the possibility of routines' development or change.

It is important to note that the complexity and context-dependent nature of capabilities make them heterogeneous, non-tradable and non-easily transferable invisible resources (Makadok, 2001). Likewise, given these complex characteristics of capabilities, it would be difficult for competitors to identify, exchange, transfer, and imitate them. For this reason, organizational capabilities are generally recognized as strategic assets that are the major source of competitive advantage and rent generation as well as differences in the firm's outcome (Amit and Schoemaker, 1993; Helfat and Lieberman, 2002; Schreyögg and Kliesch-Eberl, 2007; Stalk et al., 1992; Teece et al., 1997). Therefore, these unique characteristics of organizational capabilities create powerful barriers for new entrants, and could be a basis for continued growth of the firm (Chandler, 1992).

According to the above discussion on organizational capabilities' definitions and their nature, the following points are generally concluded: (1) organizational capabilities are formed based on the organizational routines and processes rooted in knowledge as the memory of the firm as well as position of assets; (2) organizational capabilities are context and path-dependent by nature; (3) knowledge, skills, and coordination are central to the organizational capabilities; and (4) organizational capabilities are a potential source of (sustainable) competitive advantage.

2.3.1.2 Classification of organizational capabilities

In the last section, the nature of organizational capabilities was discussed; in this section, in order to determine the position of this research within the literature, different classifications of the organizational capabilities are identified. A firm consists of an intertwined network of capabilities. Examining the vast body of literature on organizational capabilities reveals that, like its definition, there is no general agreement among scholars about the classification of

organizational capabilities. In this respect, several typologies of capabilities have been proposed by associated scholars. For instance, Day (1994) classified organizational capabilities based on their process orientation into the three categories of inside-out capabilities, outside-in capabilities and spanning capabilities. Inside-out capabilities refer to the firm's activities which are performed from inside-out of the firm, e.g. production and human resources. Outside-in capabilities, in contrast, consist a set of the firm's activities that are related to the outside activities, e.g. market sensing and technology monitoring. Finally, spanning capabilities are associated with those processes that integrate outside-in and inside-out activities, e.g. new product development and purchasing.

Additionally, a seminal study on this subject is the study by Kusunoki et al. (1998), which classified organizational capabilities based on a multilayered knowledge approach. According to this view, capabilities are formed based on various types of a firm's knowledge. Given the existence of three types of knowledge created and accumulated within the firm, three corresponding organizational capabilities can be provided, namely "local" capabilities, "architectural" capabilities and "process" capabilities. Local capabilities refer to those capabilities that are formed by a *knowledge base* as the first layer. This knowledge is embodied in individual units, e.g. a group of engineers in the firm. Architectural capabilities are provided based on the second layer of knowledge, which is called the *knowledge frame*. The knowledge frame results from a static linking of different individual units of the knowledge base, e.g. the interaction of functional groups. Finally, process capabilities refer to those dynamic linkages between different individual knowledge units by which knowledge is combined, with the result being the *knowledge dynamic*, e.g. coordination between several functional groups.

Moreover, according to substantial research on capabilities, researchers classified organizational capabilities into three main types (Ambrosini et al., 2009; Teece, 2014a, 2014b): (1) ordinary capabilities ("how you earn your living"); (2) dynamic capabilities ("how you change your ordinary routines"); and (3) meta-capabilities ("how you change your search routines"). Ordinary capabilities have also been labeled as substantive capabilities (Zahra et al., 2006), static, first category capabilities (Collis, 1994), first-order capabilities (Danneels, 2002),

and zero-level capabilities (Winter, 2003). Dynamic capabilities have also been called by different names such as second and third capabilities (Collis, 1994), second-order capabilities (Danneels, 2002), incremental dynamic capabilities and renewing dynamic capabilities (Ambrosini et al., 2009). Similarly, meta-capabilities have also been labeled as higher-order capabilities (Winter, 2003), second-order dynamic capabilities, and regenerative dynamic capabilities (Ambrosini et al., 2009). However, meta-capabilities are dynamic capabilities by nature. In another classification, organizational capabilities are classified into two types, functional and firm-level capabilities (Grant, 2010, 1996). Functional capabilities refer to those capabilities that are related to a specific function such as marketing capability, purchasing capability and human resource management capability. In contrast, firm-level capabilities refer to those capabilities that not only belong to a specific function, but are formed based on several cross-functional activities; as an example, absorptive capability could be referred to as a firm-level dynamic capability.

In this study, like Teece (2014a, 2014b), capabilities are divided into two types, ordinary capabilities (OC) and dynamic capabilities (DC), which in turn could be functional or firm-level by nature. OC are divided into three types of capabilities: operational capabilities, administrative capabilities and governance capabilities (Teece, 2014b). Furthermore, in this study, meta-capabilities (e.g. learning capability) also are classified under dynamic capabilities. Needless to say, dynamic capabilities are the focus of this study, and will be explained in greater detail in the following section.

2.3.2 Dynamic Capabilities (DC)

It was previously discussed how the traditional RBV is unable to address environmental change on the one hand, and organizational change to create new forms of SCAs on the other. To respond to this problem, the DCV was developed, as the dynamic dimension of the modern RBV, by Teece and his colleagues in 1990 (in a working paper) and seven years later formally published in a much-cited article (Teece et al., 1997). However, DCV, as a multidisciplinary approach (DCV), was also rooted in several other approaches and theories including the *Schumpeterian approach*, evolutionary theory, organizational theory, behavioral theory, and transaction cost economics (Peteraf et al., 2013; Teece, 2009, 2007; Teece et al., 1997). The

DCV both considers the inside of the firm (like the static RBV) and, at the same time, the outside of the firm (external factors). In other words, DCV both considers environmental change and governs organizational strategic change (adaptation). The DCV is future-oriented, and it emphasizes continuous competitive advantages. In this regard, it could be said that this approach is located somewhere between the RBV and the MBV.

It is important to note that the word “*dynamic*” in DCV is used because it changes the firm’s “*resource base*”, not because it addresses environmental change (Ambrosini and Bowman, 2009). As was noted, organizational capabilities include ordinary or dynamic capabilities, and both of them, as part of the resource base in the organization, are essential for the firm to perform a bundle of particular tasks (Helfat et al., 2007). DC are very important organizational capabilities for all firms, which are characterized as a complicated and multidimensional concept. A vast amount of literature has focused on DC within the strategic management and entrepreneurship fields. The focus of this study is on dynamic capabilities; however, to understand dynamic capabilities, it could be useful to distinguish between the differences of OC and DC as shown in **Figure 2-3** as well as it has been discussed as follows.

As such, OC refers to the firm’s ability to perform existing tasks in order to earn a living in the present time (Winter, 2003). The focus of OC is on the on-going business activities which are performed based on operational routines, as well how the OC plays the role of profit generation for today. OC is essential for the firm, but not sufficient. In other words, operational routines are the building blocks of OC which enable the firm to achieve technical efficiency (fitness). Likewise, OC is based on explicit knowledge (codified) that could be easily replicated. This means that OC could be easily imitated by competitors. Ordinary capabilities are about exploiting those activities and tasks associated with existing products (services) in current markets. This may mean that OC provides ability in today's competition which, in turn, does not lead to longer competitive advantage. In other words, OC is not enough for the firm to survive in the long term. Compared with DC, which has a strategic direction about “*doing right things*”, OC directs the firm “*to do things right*” (Teece, 2014b). Accordingly, OC does not cover the VRIN attributes to have SCA, then the firm’s future profit generation would be risky.

Figure 2-3: Classification of resources and organizational capabilities based on studies by Teece (2014), Di Stefano et al. (2014), Hall (93, 92); and Galbreath 2005).

On the contrary, the vast literature on DC and its evolution reveals that there is no agreement about the definition of the DC; however, there is a partial consensus about the following attributes within the given literature (Eisenhardt and Martin, 2000; Flatten et al., 2011a; Helfat et al., 2007; Peteraf et al., 2013; Teece, 2014b, 2009; Teece et al., 1997; Wang and Ahmed, 2007; Winter, 2003; Zahra et al., 2006). First, the core components of DC are search routines rooted in tacit knowledge, and their paths' direction is based on doing the right things. Second, contrary to OC, the position of DC rests on VRIN resources; obviously, this characteristic makes them difficult, if not possible, to be imitated, which in turn leads to long-term SCA. Third, they (DC) address environmental changes through strategic adaptation. This strategic adaptation takes place by developing (modifying, changing and creating) OC and other resources (tangible and intangible). Needless to say, the renewing OC creates new forms of the SCA. This innovative resource base development allows the firm to achieve evolutionary fitness and enables the firm to shift its direction to the new position within the market. Fourth, DC result from an entrepreneurs and leadership activities. Fifth, DC are built through several processes such as learning, integrating, reconfiguration and leveraging, and therefore they could not be traded in the market. Sixth, like OC, there are several forms of DC. Seventh, unlike OC, which are operational-level capabilities, DC are recognized as strategic-level capabilities (Di Stefano et al., 2014).

Thus far, the common characteristics of DC, along with their differences with OC, which are agreed upon by scholars, have been discussed. A closer look at the literature on DC reveals that there is a significant weakness with its conception. That is, there is no agreement between researchers about a general definition of DC. The key problem with the definition of DC is rooted in the existence of a diversified understanding about the concept (s). Peteraf et al. (2013) stated this problem by using the metaphor of an “elephant in the room of dynamic capabilities”. In line with this argument, one can say the concept of DC has been lost among the forest of definitions and associated sub-concepts. In addition, the conception of DC has often been left vague. However, according to the findings of Peteraf et al. (2013) and Di Stefano (2014), research on DC could be classified into two clusters which, in turn, are rooted in two different and contradictory approaches, as presented in articles by Teece et al. (1997) and Eisenhardt and Martin (2000).

The diversification of DC definitions has created a sequential chain of problems and challenges. The main problem is associated with the nature of the construct and component factors (dimensions) of DC. According to a substantial body of the literature on DC, researchers have tended to develop different forms of DC constructs. In other words, diversified definitions of DC have generated a specific plurality of DC constructs and related dimensions. Obviously, diversification of DC dimensions (component factors) causes a kind of confusion about the concept. Subsequently, this confusion has created difficulty in the empirical operationalization of the construct. This problem has been confirmed and highlighted in a recently published theoretical article by Di Stefano et al. (2014). **Table 2-2** shows different forms of DC and their sub-dimensions (component factors).

Thus, different component factors (dimensions) exist in the literature regarding DC's construct; therefore, one major drawback of the DC constructs is that scholars have used vague sub-dimensions for the construct of the DC. For instance, Teece et al. (1997) suggested several processes as DC dimensions such as learning, reconfiguration, integration/coordination and transformation. These concepts, however, need to be better explained and clarified. Similarly, Ambrosini and Bowman (2009, p. 35) suggested in their literature review that DC is comprised of the four processes of reconfiguration, leveraging, learning and creative integration. Eisenhardt and Martin (2000), in contrast, have used a distinctive approach to determine DC dimensions. They identified alliancing routines, product development routines, strategic decision making routines, and knowledge creation and brokering routines as several other dimensions of DC. Each of these routines brings with it a difficulty to be understood in a clear way. In the same vein, McKelvie and Davidsson (2009) have provided several capabilities as the proxy of DC, namely idea generation capabilities, market disruptiveness capabilities, new product development capabilities and new process development capabilities. These dimensions have focused on different roles of research and development (R&D) as dimensions of DC.

In another study, a number of authors have considered a sequential learning approach and provided three sub-components to refer to the DC construct (Zollo and Winter, 2002). They are experience accumulation, knowledge articulation, and knowledge codification and are performed as a process. The view of Zollo and Winter is knowledge oriented. Furthermore, ten years after publishing the seminal article about DC, Teece (2007) suggested three other new component

factors as dimensions of the DC's construct. The three component factors of the dynamic capabilities are: sensing opportunities, seizing opportunities and managing threats/transforming. This new approach, like Zollo and Winter, is also a sequential process, however its orientation is based on an entrepreneurial view that opportunity recognition is a central element, something that was absent in the previous studies on DC. This approach is consistent with entrepreneurship studies about the exploration and exploitation of business opportunities.

In another major study, Wang and Ahmed (2007) suggested a ternary mechanism containing three capabilities as component factors of the dynamic capabilities. These capabilities are absorptive capacity, adaptive capability and innovative capability. Each capability considers a specific aspect of the firm to ensure strategic adaptation and environmental changes. Here, absorptive capacity (ACAP) itself is a process-based, multidimensional and complicated dynamic capability. Wang and Ahmed have also considered emerging business opportunities by introducing the adaptive capability, whereas they have focused on the new product (or service) and process development by focusing on innovative capability.

A seminal systematic literature review on DC was performed by Barreto (2009), who concluded that the construct of DC includes the following dimensions: the propensity to sense opportunities and threats, the propensity to make timely decisions, the propensity to make market-oriented decisions, and the propensity to change the firm's resource base. In Barreto's approach, propensities are shown to be fundamental rather than processes.

Table 2-2: Different forms of DC and their component factors.

Author(s)	Component factors
Teece et al. (1997)	<ol style="list-style-type: none">1. Learning process2. Reconfiguration and transformation process3. Integration/coordination process4. Leveraging process
Eisenhardt and Martin (2000)	<ol style="list-style-type: none">1. Alliancing routines2. Product development routines3. Strategic decision making routines4. Knowledge creation and brokering routines
Luo (2000)	<ol style="list-style-type: none">1. Possessing capabilities2. Deploying capabilities3. Upgrading capabilities
Zollo and Winter (2002)	<ol style="list-style-type: none">1. Experience accumulation2. Knowledge articulation3. Knowledge codification
Teece (2014a, 2007)	<ol style="list-style-type: none">1. Sensing opportunities2. Seizing opportunities3. Managing threats/Transforming
Wang and Ahmed (2007)	<ol style="list-style-type: none">1. Adaptive capability2. Absorptive capability3. Innovative capability
Barreto (2009)	<ol style="list-style-type: none">1. The propensity to sense opportunities and threats2. The propensity to make timely decisions3. The propensity to make market-oriented decisions4. The propensity to change the firm's resource base
McKelvie and Davidsson (2009)	<ol style="list-style-type: none">1. Idea generation capabilities2. Market disruptiveness capabilities3. New product development capabilities4. New process development capabilities
Ambrosini and Bowman (2009)	<ol style="list-style-type: none">1. Reconfiguration2. Leveraging3. Learning4. Creative integration

Together, these studies about the construct of DC indicate that there is still not a unique picture about the DC construct, but the following points can be concluded: (1) all suggested constructs of DC are multidimensional and complex; (2) the majority of the constructed DC's dimensions are based on other specific organizational capabilities; and (3) innovation, learning and opportunity recognition, whether implicit or explicit, are included.

2.4 Dynamic Capabilities in the Context of Internationalization

Thus far, the nature, advantages, problems and challenges of DC have been examined. In this section, dynamic capabilities within the internationalization context are discussed.

It has been frequently said that the success of SMEs in international markets largely depends on organizational capabilities (Knight and Cavusgil, 2004). Reviewing the IB theories revealed that DC could play a central role to enrich internationalization theories. It was explained that the *dynamic-based FSA (or dynamic capability)* enables IB theories to explain the internationalization behavior (e.g., early or incremental internationalization) of different types of firms, including both SMEs and LSEs, in international markets. However, there are several questions that naturally arise. What are the most important forms (component factors) of *dynamic-based FSAs* for a firm, e.g. an SME, to be internationalized successfully? Which kinds of organizational capabilities are they? Are they functional or firm level by nature? What about their characteristics and dimensions?

Answering these questions without looking at the positioning of organizational capabilities in the context of IB studies is difficult, if not impossible. In this regard, to find the right answer to the research questions like those asked above, the literature on organizational capabilities and internationalization should be reviewed. Given that there was a lack of comprehensive research associated with capabilities and internationalization, a systematic literature review was performed; more information is available in *Appendix I (Identified Capabilities by Systematic Literature Review)*. According to these studies, the success of the firm, particularly SMEs, in IB activities is largely related to firm-specific advantages (FSAs) as unique organizational capabilities. In this respect, a number of issues were identified from the reviewed literature on organizational capabilities. These subjects are described as follows.

First, the annual distribution of studies shows the growing intention of scholars to study the role and effect of organizational capabilities, particularly the dynamic ones, on the internationalization of firms. The results also suggest that researchers are more interested to focus on SMEs' internationalization, perhaps because of resource limitations related to the SMEs' liability of size (LOS). Furthermore, studies on organizational capabilities and internationalization are not limited to advanced economies, as many of these studies have been performed in emerging markets (e.g., China and India) as well. The existence of a variety of

studies on different forms of organizational capabilities and internationalization means that organizational capabilities play a vital role in IB activities. However, these studies are sparse.

Second, from a theoretical point of view, the results indicate that the RBV and DCV are more frequently used as theoretical approaches in these studies, which confirms the study of Peng (2001) that recognized RBV as an effective approach to specify the nature of resources and capabilities in IB processes. Even so, several other theories, including the relational and networking theory, learning theory, the knowledge-based view (KBV) and entrepreneurship theory, have been used to explain the relationships of organizational capabilities and different aspects of internationalization. These findings suggest the central role of the DC in IB studies, which is consistent with the findings from the IB theory evaluation presented in earlier sections of this thesis.

Third, it is also important to note that the majority of studied articles have included VRIN conditions for organizational capabilities in the context of IB activities. It is apparent, however, that despite this strong concentration on capabilities in the IB context, there is a lack of consensus about definitions and dimensions of organizational capabilities (particularly for dynamic capabilities).

A cursory look at the dimensions of the studied capabilities reveals that there is conceptual confusion related to both the labels of capabilities used and their associated dimensions. In this respect, some researchers have applied similar labels for organizational capabilities, but with different content or dimensions. For instance, innovation capabilities have been applied in different studies with dissimilar dimensions. In this regard, in their study Hortinha et al. (2011) considered innovative capability as the firm's ability to develop new products and improve existing products, whereas in another study (Guan and Ma, 2003), the dimensions of innovative capability were much wider and included marketing capability, manufacturing capability, etc. On the contrary, other researchers have used the similar dimensions for different labels of organizational capabilities. For example, the expenditure of R&D is considered the proxy of both technological capability (Yiu et al., 2007) and absorptive capacity (He and Wei, 2013) in different IB studies. While the nature of these two concepts is not completely the same, in some cases, researchers have merged several capabilities as a bundle of new capability. For instance, according to Camison and Villar (2009), capability for

internationalization includes innovation and technological capabilities, human and organizational capabilities and commercial capabilities. This diversity has created confusion and plagues researchers to make a decision. Consequently, the operationalization of these constructs within IB studies has been a challenge. Therefore, similar capabilities have been operationalized with different measurements.

Fourth, despite the existence of the challenges noted above about capabilities, a closer look at the given literature on organizational capabilities and related articles directs us to clearer and useful results. The analysis of the given organizational capability in each selected article shows that the majority of these capabilities' dimensions could be classified under three main clusters including Cluster 1 (C1), Cluster 2 (C2) and Cluster 3 (C3). Each cluster consists of several forms of tasks or capabilities, however possibly with different labels but with similar common core features. These three clusters are the identified *component factors of the dynamic capabilities* (dynamic-based FSAs). The characteristics of these three emerged clusters are shown in **Table 2-3**, while more detailed information is available in *Appendix I (Identified Capabilities by Systematic Literature Review)*. The components of the three clusters are presented in the following sections.

2.4.1 Cluster 1 (C1)-Relational-Based FSA

The core common features for this cluster are formed based on relational-based firm-specific advantages (FSAs) such as business relational capability, networking capability, inter-firm relationships partnership (e.g., customer and supplier) capability, alliance management capability and external collaboration.

The following capabilities or capability dimensions from different studies could be classified under Cluster 1 (C1) as follows: (a) external collaboration (Lefebvre et al., 1998), (b) relational capability (Freeman and Styles, 2014; Lages et al., 2009; Ling-yee and Ogunmokun, 2001), (c) supplier and customer relationship capabilities (Kaleka, 2002), (d) communication capability (Zou et al., 2003), (e) relational-building capability (Morgan et al., 2004), (f) leveraging foreign distributor competences (Knight and Cavusgil, 2004), (g) alliance and network development capabilities (Freeman et al., 2006), (h) cooperation capability (Flor and Oltra, 2005), (i) networking capability (Bianchi, 2009; Chen et al., 2009; Raymond and St-

Pierre, 2013; Van Geenhuizen, 2008; Weerawardena et al., 2007), (j) parental network capabilities (Elango and Pattnaik, 2007), (k) external communication as a sub-dimension of commercial capabilities (Camison and Villar, 2009), (l) meeting foreign customer demands and requests as dimensions of adaptive capability (Lu et al., 2010), (m) network capability upgrading (Zhou et al., 2010), (n) marketing communication capability (Murray et al., 2011), (o) customer relation capability as the export marketing capabilities' dimension (Kaleka, 2011), (p) "building of sound and long-lasting relationships" as a sub-dimension of export-related organizational capabilities (Leonidou et al., 2011), (q) customer relationship capabilities as a component of dynamic marketing capabilities (Kaleka, 2012), (r) channel management and delivery management as a function of specialized marketing capabilities (Morgan et al., 2012), (s) alliance management capability (Khalid and Larimo, 2012), (t) channel networking capabilities (Boso et al., 2013), (u) listening to customers and scanning the business environment as components of dynamic capabilities (Al-Aali and Teece, 2014), (v) network learning capability (Weerawardena et al., 2014), and (w) distribution network as a function of marketing capability (Bortoluzzi et al., 2014).

As was listed above, the content of this resulting cluster (C1) indicates that IB scholars have focused on a kind of *relational-based FSA* that has significant impact on different aspects of internationalization. This research stream views the *relational-based FSA* as a strategic intangible resource which enables the firm to establish, develop, maintain, and coordinate business relationships in the network in a manner to achieve competitive advantage in IB activities. According to these studies, researchers have tried to emphasize an *ownership advantage* that enables the firm to take advantage of the business networks that were discussed in relation to IB theories in the previous sections. This finding could be also considered as the *partnership-specific advantages (PSAs)* provided by Narula and Verbeke (2015) that are a fundamentally necessary (as research gap) elements to enrich IB theories.

A closer look at the content of this cluster shows a high similarity with the components of networking capability, however it has been performed within the internationalization context. In other words, the relational-based nature of this cluster (C1) is highly consistent with the dimensions of networking capabilities within the related literature (Mitrega et al., 2012; Mort and Weerawardena, 2006; Mu and Benedetto, 2012; Walter et al., 2006). As was stated earlier in

the section on IB theories, network theory, particularly in the context of IB activities, has neglected the “*ownership issues*” (Rugman et al., 2011, p. 773). To overcome this deficit, researchers have combined the network perspective in strategic management studies with other approaches like the resource-based view (RBV), dynamic capability view (DCV), and relational view (RV) to conceptualize a certain capability which has been labeled in different interrelated forms and terms, e.g. relational capability, alliance capability, networking capability, network capability, networking competency and linkage capability (Anand and Khanna, 2000; Cho and Lee, 2003; Dyer and Singh, 1998; Kale and Singh, 2007; Mort and Weerawardena, 2006; Ritter and Gemunden, 2003). Many of these authors have considered NC as a DC and a source of competitiveness; it is DC because NC is continuously changing the configuration of the firm’s resources (e.g., knowledge, capabilities and skills) through shaping relationships with different BPs and resource exchanging. During NC, different resources should be allocated to a set of business relationships (Mitrega et al., 2012). The content of Cluster 1 (C1) shows that the majority of these forms of networking capabilities have been supplied in different contexts to highlight the importance of the *ownership advantage* of the networking inside the firm. Subsequently, in this study, the emerging *dynamic-based FSAs* (Cluster 1) could be labeled as *networking capability (NC)* which enables the focal firm to extract more values from business network (s). NC is a vital resource because it deals with business relationships that according to Dyer and Singh (1998) business relationships as firm’s strategic assets are significant source of the competitive advantage (CA), particularly in the context of the IB studies as the content of the C1 shows.

Needless to say, networking and the business network are two different issues, however they are interrelated. Networking is related to *ownership advantages* that enable the firm to manage and direct, for example, its international operations within the related business networks, whereas the business network refers to a set of business relationships that consider outside the firm (Torkkeli et al., 2012).

It is also important to note that the fundamental theories associated with Cluster 1 are the RBV, the DCV, the relational view (RV) and network theory. It is interesting that, as **Table 2-2** shows, networking capability has not been included as a component factor of DC. While this result emerged from the internationalization literature, it shows that NC should be considered as

an important component factor for DC. According to the business network and relational-based literature, there are different definitions as well as dimensions for NC provided by related researchers (Mitrega et al., 2012; Mu and Benedetto, 2012; Ritter et al., 2002; Walter et al., 2006). As depicted in **Table 2-3**, networking scholars have identified different functions for the NC construct. However, in this study, like Walter et al. (2006, p. 546), NC, as a DC, is defined as the firm's “*abilities to initiate, maintain, and utilize relationships with various external partners*”. According to this definition, the firm's partners could be considered as suppliers, customers, competitors, complementors, or a portfolio of different public and private institutions (e.g., technological, financial). In other words, NC considers all the main types of BPs within the network (Mitrega et al., 2012). Several features of this cluster, along with different functions of NC, have been depicted in **Table 2-3**.

2.4.2 Cluster 2 (C2)-Innovative-Based FSA

This cluster (second component factor) could be classified based on several *innovation-based FSAs*. They are as follows: (a) “scientific and technological culture”, as a dimension of the R&D-related capabilities (Lefebvre et al., 1998); (b) products’ technology (Andersen and Suat Kheam, 1998); (c) upgrading capability (Luo, 2000); (d) [new] product development capability (Freeman and Styles, 2014; Kaleka, 2012, 2011, 2002, Morgan et al., 2012, 2004; Murray et al., 2011; Raymond and St-Pierre, 2013; Zou et al., 2003); (e) innovation (innovative) capability (Bianchi, 2009; Guan and Ma, 2003; Hortinha et al., 2011; Luo et al., 2005; Yi et al., 2012); (f) technological competence and unique product development (Knight and Cavusgil, 2004); (g) production capability as a component of technological capabilities (Flor and Oltra, 2005); (h) technological capability (Chen et al., 2009; Yiu et al., 2007); (i) innovation and technology capabilities as a sub-dimension of capability for internationalization (Camison and Villar, 2009); (j) the development of innovative products as sub-components of export-related organizational capabilities (Leonidou et al., 2011); (k) product development (explorative and exploitative) capabilities (Lisboa et al., 2011); (l) market orientation capabilities (He and Wei, 2011); (m) new product advantage as a sub-function of firm-specific advantage (FSA) (Khalid and Larimo, 2012); (o) continued renewal or transforming (Al-Aali and Teece, 2014; Teece, 2014a); (p) product innovation (Bortoluzzi et al., 2014) ; and (q) differentiation capability (Chen et al., 2014).

In this second cluster (C2), as highlighted in **Table 2-3** the core common features are: innovation culture, innovative (innovation) capability, new (explorative) product development capability, existing (exploitative) product improvement capability, product technology, differentiation capability, technological capability, and market orientation capability. Each capability within this cluster includes different variables, however the core element for all of them is relatively similar.

This cluster (C2) includes a set of high-order (search) routines, culture, tasks, activities and processes that enable the firm to develop new operational routines, e.g. the process of producing new and unique products, in order to be adapted with new environmental conditions. In other words, the collective of these innovative-based activities enables the firm to develop new ordinary capabilities, such as production capabilities, to produce new distinctive and competitive products that have a positive effect on the internationalization of the firm. Furthermore, C2 has the ability to allow the firm to modify existing routines to improve current products to address customers' needs.

This cluster is constructed based on those innovative activities that serve as key sources of the firm's renewal and sustainable competitive advantage, in international contexts. Knowledge-based activities such as the *Schumpeterian approach* are central for firms, and are important drivers of internationalization. This approach is fundamental for DC (Teece, 2009) as well. This ability facilitates the opening of new markets along with strong competitiveness for entrepreneurial SMEs, whether local or international (Knight and Cavusgil, 2004). On this basis, this capacity could be considered as an *innovative-based FSA* that ensures the firm's dynamic competitive advantage across IB borders, particularly in the era of rapid technological change (Guan and Ma, 2003). In other words, innovativeness and knowledge are leveraged by this *innovative-based FSA* through entering into international markets to create value better than rivals. In this regard, this complicated and firm-level dynamic-based FSA, as a great intangible resource, is labeled *innovative capability (IC)* for the purpose of the study. It is labeled here as innovative capability (IC) because the nature of this innovation-based cluster (C1) is highly consistent with the dimensions of the IC within the literature of innovation and dynamic capability, e.g. that of Wang and Ahmed (2007) and Lawson and Samson (2001).

As was discussed in the previous section on DC, Wang and Ahmed identified IC as a critical component factor of dynamic capabilities (See **Table 2-3**); then, they defined this innovative capability as “*a firm’s ability to develop new products and/or markets, through aligning strategic innovative orientation with innovative behaviors and processes*” (Wang and Ahmed, 2007, p. 38). However, there are other definitions and dimensions for IC identified by innovation scholars (Akman and Yilmaz, 2008; Hortinha et al., 2011; Lawson and Samson, 2001). In this study, however, based on the content that emerged from Cluster 2 and the above discussion, IC is defined as *the firm’s ability to develop new (or existing) products/processes and ideas continually to meet existing and new international markets’ needs*. According to this definition, international market activities and associated performances are highly reliant on innovative products that could result from IC. In this study, IC is considered a critical dimension of DC to achieve superior internationalization performance in SMEs. As **Table 2-3** depicts, the features of this cluster, its nature, and related functions of the label (IC) are identified from the IC literature.

2.4.3 Cluster 3 (C3)-Learning-Based FSA

Cluster 3 (C3), as the third component factor of dynamic capabilities, is characterized by the following dimensions extracted from internationalization studies: (a) gathering technological knowledge from outside the firm as R&D-related capabilities (Lefebvre et al., 1998); (b) the knowledge of export procedure as a component of international management capability (Andersen and Suat Kheam, 1998); (c) capability upgrading (Luo, 2000); (d) information capability, such as the acquisition and dissemination of export markets’ knowledge and information (Freeman and Styles, 2014; Kaleka, 2012, 2011, 2002; Lu et al., 2010; Morgan et al., 2004); (e) learning capability (De Clercq et al., 2012; Guan and Ma, 2003; Hortinha et al., 2011; Li, 2010); (f) market and internally- focused learning capability (Weerawardena et al., 2014, 2007); (g) absorptive capacity (Casillas et al., 2009; Freeman et al., 2010; He and Wei, 2013; Javalgi et al., 2014; Petersen et al., 2008; Zahra and Hayton, 2008); (h) knowledge capability upgrading (Zhou et al., 2012); (i) organizational learning capability (Bianchi, 2009; Lages et al., 2009); (j) architectural marketing capability, including market information acquisition, interpretation and dissemination (Morgan et al., 2012); and (k) alliance learning capability (Khalid and Larimo, 2012).

Examining the above dimensions and their contents reveals that, irrespective of differences in labels, in terms of the contents there is a common knowledge-based core in all of these activities, which emerged as Cluster 3 (C3). However, the knowledge has been stated in its different forms such as technological knowledge, market knowledge, and internationalization knowledge, as well as in the form of information which is critical in IB activities. It is also evident that in this cluster, the most frequently used theories are the RBV, the knowledge-based view (KBV), the DCV, and the learning-based view (LBV); this reality shows that knowledge, in its different forms, is the main focus of this cluster. In other words, the identified core element of this cluster is constructed based on organizational learning activities. It is worth noting that this finding, ironically, is consistent with the findings of the IB scholars who emphasized the role of the *learning-based FSA* as a critical ownership enabler for internationalization theories to explain different internationalization behaviors in all types of firms (see **Table 2-1**).

These findings also confirm the reality that “internationalization is a learning process” which was provided by U-M scholars, learning from international markets, others and mistakes (Bianchi, 2009). A *learning-based FSA* plays a central role to develop new knowledge acquired from outside the firm, particularly from international markets, and combine it with the firm’s internal knowledge. This dynamic *learning-based FSA* enables the firm to generate new knowledge which is needed to develop new routines, skills and operational capabilities (Knight and Kim, 2008).

Organizational learning is fundamental to overcome the liability of newness (LON) and liability of foreignness (LOF) (Autio et al., 2000), and it is the source of SCA (Kogut and Zander, 1992). Analyzing the content of this cluster (C3) also indicates that the majority of its dimensions could be explained by the concept of learning capability (LC), particularly with absorptive capacity (ACAP) as a multidimensional, firm-level, and dynamic organizational learning (OL) capability. For instance, based on Huber’s (1991) study knowledge acquisition, information distribution, information interpretation and organizational memory are the main dimensions of organizational learning capability that have been considered in some internationalization studies (De Clercq et al., 2012).

When it comes to ACAP, its core essence is also based on “*the firm’s ability to value, assimilate, and apply new knowledge*” (Cohen and Levinthal, 1990, p. 137) that it is rooted in the

organizational learning discipline (Sun and Anderson, 2008). Then, this resulting *learning-based FSA* could be similar to ACAP and show the importance of learning capability as a component factor of DC in the context of IB activities. Needless to say, ACAP is a well-established construct within strategic management studies; however, in the context of IB studies, it needs to be studied even more. As **Table 2-3** depicts, different functions or dimensions of the ACAP identified from different studies have been highlighted.

Various definitions and different setups have been provided by scholars for ACAP (Cohen and Levinthal, 1990; Kim, 1998; Lane et al., 2006; Szulanski, 1996; Van den Bosch et al., 1999; Zahra and George, 2002b). A closer look at definitions of the ACAP reveal that there is relative consensus among associated scholars about its definition and dimensions. In the majority of these studies, ACAP includes four dimensions. On this basis, in this study, like Zahra and George (2002b, p. 186), ACAP is defined as “*a set of organizational routines and processes by which firms acquire, assimilate, transform, and exploit knowledge to produce a dynamic organizational capability*”. In their study, Zahra and George labeled acquisition and assimilation as potential absorptive capacity (PACAP), whereas the transformation and exploitation are called realized absorptive capacity (RACAP). However, several researchers consider three dimensions for ACAP. For example, Lane et al. (2006) have considered explorative learning, formative learning and exploitative learning. In another study, Van den Bosch et al. (1999) identified two dimensions for ACAP, exploration and exploitation, which is in line with March’s (1991) study⁸ about organizational learning.

ACAP is an important source of competitive advantage, knowledge creation and development, and capability development. Furthermore, flexibility and being innovative are the critical outcomes of ACAP (Lane et al., 2006; Todorova and Durisin, 2007; Zahra and George, 2002b).

⁸ March (1991) defined the firm’s ability to apply and refine existing knowledge as exploitation, while searching for and acquiring new knowledge and opportunities was termed exploration capability.

Since knowledge is the core of organizational capabilities, ACAP as a learning capability would be a “*wellspring*” to renew these capabilities (Verona, 1999). As was previously noted, in the majority of internationalization theories knowledge is central (e.g. the U-M), but the main factor that has been neglected by IB scholars is that they do not explain how the given knowledge should be explored and exploited (Freeman et al., 2010). To fill this gap, the existence of a *learning-based FSA* such as ACAP can be the right answer, as has emerged from the literature (Cluster 3).

Taken together, through a systematic literature review three *component factors* of dynamic-based FSAs were identified as three firm-level DCs in the context of internationalization: *relational-based FSA* (NC), *innovative-based FSA* (IC) and *learning-based FSA* (ACAP). Each of these firm-level DCs have a different nature and characteristics that can affect the performance of the firm’s internationalization. What is interesting in these three *component factors* is that there is a relative similarity between these findings and the theoretical findings of the study by Wang and Ahmed (2007). As was previously discussed and as depicted in **Table 2-2**, Wang and Ahmed suggested three *component factors* of dynamic capabilities, namely ACAP, innovative capability and adaptive capability, however in a non-IB context, while the three *component factors* identified in this study are learning capability, innovative capability and networking capability. In other words, the main deference between these two findings is related to *networking capability* and *adaptive capability*. Here, adaptive capability in the study by Wang and Ahmed is replaced by networking capability as a *relational-based FSA*. There are no significant differences between learning capability and absorptive capacity, although innovative capability is similar. In this section, the features of these three component factors of the dynamic-based FSAs were discussed, but they also have collective characteristics, to be discussed in the next section.

Table 2-3: The characteristics of the emerged component factors of the dynamic capabilities from the IB literature.

	Cluster 1 (C1)	Cluster 2 (C2)	Cluster 3 (C3)
Core common features	<ul style="list-style-type: none"> – Networking capability – Inter-firm relationships – Partnership (e.g., customer and supplier) capability – Relational capability – Alliance management capability – External collaboration – External communication capability 	<ul style="list-style-type: none"> – Innovation culture – Innovative (innovation) capability – New (explorative) product development capability – Existing (exploitative) product improvement capability – Product technology – Differentiation capability – Technological capability – Market orientation capability 	<ul style="list-style-type: none"> – Acquisition and dissemination of knowledge and information – Knowledge upgrading capability – Information capability – Learning capability (internal and external) – Absorptive capacity
Theoretical roots	Network theory, RBV and DCV	RBV, KBV, DCV, Schumpeterian approach and entrepreneurship theory	RBV, KBV, DCV, and LBV
Nature	<i>Dynamic-Relational-Based FSAs</i>	<i>Dynamic-Innovation-Based FSAs</i>	<i>Dynamic-Learning-Based FSAs</i>
Level	Firm level	Firm level	Firm level
Label	Networking capability (NC)	Innovative capability (IC)	Learning capability (ACAP)
Functions of the component factor	<ul style="list-style-type: none"> – Initiating, maintaining, coordinating, developing and terminating a set of business relationships and cooperative programs with BPs – Identifying attractive BPs and access to their resources – Communicating and interacting with BPs – Identifying BPs' knowledge – Coordination of relational activities – Scanning, sensing and discovering opportunities in international markets – Identifying market knowledge – Understanding BPs' needs – Internal communication and leveraging network relationships 	<ul style="list-style-type: none"> – Developing existing and new products/services to address market needs – Applying appropriate process technologies – Developing existing and new processes – Developing new methods (technology) of production – Discovering new sources of supply – Developing new organizational forms – Technological innovation 	<ul style="list-style-type: none"> – Knowledge and information acquisition (identifying the value of external knowledge and collection of that) – Knowledge assimilation (understanding external acquired knowledge) – Knowledge transformation (organizing, storing, maintaining, internalization, coding/recoding, and combining assimilated knowledge with existing knowledge) – Knowledge exploitation (applying transformed knowledge to the new and existing capabilities and products) – Exploration and exploitation – Exploratory learning – Formative learning (maintaining of the knowledge) – Exploitative learning (applying the knowledge to new products)
References	Mort and Weerawardena (2006), Walter et al. (2006), Mitrega et al. (2012), Mu and Benedetto (2012), Cho and Lee (2003), Ritter (1999), Ritter et al. (2002), Ritter and Gemunden (2003), Dyer and Singh (1998)	Wang and Ahmed (2007), Akman and Yilmaz (2008), Hortinha et al. (2011), Schumpeter(1934), Lawson and Samson (2001)	Cohen and Levinthal (1990), Lewin et al. (2010), Flatten et al. (2011a), Zahra and George (2002b), Jansen et al. (2005), Gebauer et al., (2012), Volberda et al.(2010), Lane et al. (2006), Van den Bosch et al. (1999)

Notes: FSAs= Firm-Specific Advantages, RBV= Resource-Based View, DCV= Dynamic Capability View, KBV= Knowledge-Based View, LBV= Learning-Based View, IB= International Business, BPs= Business Partners.

2.4.4 Three Pluripotent (or Multipotent) Dynamic Capabilities

Thus far, through reviewing the literature on capabilities in the internationalization context, three component factors of *dynamic-based FSAs* were identified. These three *component factors* are not exhaustive, but rather represent a core essence of the DC dimensions that are necessary for successful IB activities. In the last section, the individual characteristics of these three component factors (i.e., IC, LC, and NC) were discussed, but collectively they also provide other possible features which are discussed from different perspectives as follows.

First, these three component factors of the dynamic-based FSAs, collectively, could play the role of other capabilities. In other words, it appears that the existence of a high level of innovative capability (IC), networking capability (NC) and learning capability (LC) can cover the function of several other capabilities as well. For instance, in their studies, several IB researchers (Kaleka, 2012; Morgan et al., 2004) stated that marketing capabilities include the three dimensions of information capabilities, relational-building capabilities and product development capabilities. With respect to this, issues and the content of the three identified DB-FSAs reveal that they jointly cover considerable components of marketing capabilities. For example, NC includes relational-building capabilities, and similarly, IC covers product development capabilities, whereas information capabilities could also be explained by learning capabilities. As another example, coordination is a significant dimension of NC that practically does the function of spanning capabilities as a dimension of marketing capability, as stated by Day (1994). In line with this reasoning, the adaptive capability provided by Lu et al. (2010) could also be covered by networking capability (NC), because this relational-based FSA facilitates the ability of opportunity recognition in international markets, a function that has been defended for adaptive capability

Second, in order to be successful in international markets, it is important to have each of the three component factors of DC, but more important is *the possible interaction* between them (innovative capability, networking capability and learning capability). The problem is that RBV, and to some extent DCV, are silent about that. In other words, the existence of each component factor is essential, but not sufficient. What is key is that the interaction, alignment and coordination of these three component factors of DC create more value to achieve sustainable

competitive advantage. For example, in the human body each system, such as the respiratory system, circulatory system and nervous system, is necessary yet not sufficient alone - they require good interaction and alignment between them to keep the body alive. In this respect, as was discussed earlier, networking capability (NC) enables the firm to identify external opportunities (sensing), resources, knowledge and information embedded in the international business network(s) that are vital for SMEs in IB activities. One of these identified opportunities, external knowledge, could be valuable only when the firm has the ability to acquire, assimilate, transform and exploit it. This function could be realized by learning-based FSA such as ACAP as another component factor of DC. The newly developed knowledge could serve as new blood in the veins of the company through organizing other innovative accomplishments, such as new product development that could be performed by innovative capability (IC).

It is obvious that in order for a firm to be innovative, networking and learning are required (Weerawardena et al., 2007). Therefore, synergistic and coordinated actions between the three component factors of dynamic-based FSAs, together, facilitate resources hybridization that is significant for SMEs to overcome the liability of foreignness (LOF) and liability of newness (LON). In other words, to support IB activities in international markets, having a flexible resource re/configuration is essential (Sapienza et al., 2006). Therefore, it seems that combining resources hybridization through dynamic capabilities, e.g. networking capability, could strongly affect internationalization of the firm, particularly for SMEs in different forms of established INVs (McDougall et al., 1994). In other words, this setting of the dynamic component factors collectively empowers the firm to explore (sense) and exploit (seize) those opportunities which are recognized from international markets (e.g., by networking) or created by the firm internally (e.g., by innovative capability). This ability gives the firm a kind of ambidextrous power to take advantage of both the *Schumpetrian and Kirznerian* approaches. This situation even makes it possible for the firm to have both evolution and revolution outcomes (Teece, 2009). In this respect, it could be concluded that the early internationalization (e.g., BGs) is explained by the existence of the explorative feature, whereas exploitation capabilities justify the incremental internationalization of established firms (Prange and Verdier, 2011).

Third, another significant characteristics of these three dynamic component factors of DC is their role and potency to build and develop new operational capabilities, routines and skills as well as improve existing operational capabilities. In this regard, in order to have a better understanding and explanation about this role, this research has used a biological *metaphor* associated with *stem cells*, the *pluripotent stem cells metaphor*. This metaphor, which offers valuable insights about the concept of dynamic-based FSAs (DC) and their related functions, is described in the following paragraphs.

Within the literature of *cell biology* there are precursor types of cells which are called stem cells. Replacing, replicating and repairing are the main functions of these powerful cells, however with different mechanisms. In other words, the main feature that distinguishes stem cells from those of non-stem cells is the ability to be regenerative and malleable (Ulloa-Montoya et al., 2005; Verfaillie, 2009).

Based on the potency of differentiation, stem cells in the human body are categorized into four types: unipotent, multi-potent, pluripotent and totipotent. The *unipotent* stem cells have the lowest plasticity to generate new cells - they are only able to generate one type of cell in the body. Another stem cell with higher plasticity is the *multipotent*, which is able to produce a limited number of cell types which are mostly close to the same family of cells. The third type of stem cells are called *pluripotent*, have a high level of plasticity and are thus *able to generate a variety types of cells in the body such as muscle, bone, neurons, skin hepatocytes, and pancreatic beta cells*. Finally, the last type of stem cells is called *totipotent*, which are the most plastic and able to create all types of cells in the whole organism (any possible cell).

While it is beyond the scope of this argument to go into detail and discuss all these types of stem cells, the main part of the metaphor which is applicable in this discussion is related to *multipotent and pluripotent* stem cells. *Multipotent/pluripotent* stem cells, like other stem cells, have the following three main characteristics: (i) they are capable to renew themselves; (ii) they have the ability to generate different cell types (differentiation potency); and (iii) they are capable to reconstitute existing tissue (Ulloa-Montoya et al., 2005; Verfaillie, 2009). However, pluripotent stem cells, as the name implies, are distinguished from other types of stem cells by their ability to produce more diverse types of cells. These characteristics enable pluripotent stem

cells to play a flexible role to develop and reconstitute other cell types. Different types of healthy cells are generated by these pluripotent stem cells.

Based on the above metaphor, and comparing the three component factors of *dynamic-based FSAs* with *multi/pluripotent* stem cells, in addition to previous features, the following characteristics could be concluded: (a) these three component factors of *dynamic-based FSAs* (NC, LC, IC) are capabilities by nature just as pluripotent stem cells are cells by nature; (b) as pluripotent stem cells are able to renew themselves as well as reconstitute other cells, component factors of *dynamic-based FSAs* also are able to renew each other and thus modify the existing ordinary capabilities of the firm; and (c) similar to pluripotent stem cells, which are capable to produce different cell types, learning capability (LC), innovative capability (IC) and networking capability (NC) are able to build, generate and develop new ordinary capabilities, related skills and routines that, consequently, guarantee the firm's adaptability, survival, growth and evolution over time in different international markets.

Accordingly, in this study the collective set of these three component factors of *dynamic-based FSAs* could be understood as *pluripotent (or multipotent) dynamic capabilities* because of their potency to play different roles. Subsequently, based on these three identified component factors, in this study the DC (dynamic-based FSA) is conceptualized as a firm-level, multidimensional and pluripotent concept that includes networking capability (as relational-based FSA), absorptive capacity (as learning-based FSA) and innovative capability (as innovative-based FSA).

In the section on DC, the position of the DC definition and associated component factors was not determined for this study, because that literature on organizational capabilities does not contribute to the context of internationalization. The IB literature was then examined, and three mentioned component factors of DC were identified and explained from different perspectives. Taken together, in this study the following definition for DC is suggested:

Dynamic capability as a pluripotent concept is defined as *the firm ability to explore and exploit business opportunities through the component factors of networking, learning and innovating, as collective processes, to address the rate of environmental change.*

The evidence resulting from the literature on capabilities and internationalization suggests that these three component factors (IC, LC, and NC) have a critical influence on the firm's SCA and international performance. In other words, achieving superior international performance is a central proposition of the DC through its three dynamic component factors of NC, LC and IC, whether individually or collectively, in internationalized SMEs. This subject is discussed in the following section in order to develop the related hypothesis.

2.4.5 Relational-Based FSA (Networking Capability) and International Performance

SMEs, in order to be internationalized, are faced with a critical barrier called resource limitations (Lu et al., 2010; Tang, 2011). These scarce resources, such as business opportunities, new ideas, capabilities, market and technological knowledge, information, capital, social and distribution networks, rare business partners (BPs), employees and managerial resources, are, ironically, embedded in the business network (Fernhaber and McDougall, 2005; Hitt et al., 2001). However, these resources would not be valuable by themselves for the focal firm unless they were accessible by the existence of an ownership advantage.

As was previously discussed, it is networking capability (NC), as an ownership advantage, that enables SMEs to enter into a business network to access and acquire competitive resources embedded in the given network. Taking these advantages extracted from local and international business network(s) enables SMEs to overcome their common constraints such as liability of foreignness (LOF), liability of outsidership (LOO), liability of newness (LON) and liability of smallness (LOS) (Autio et al., 2000; Bell and Cooper, 2015; Johanson and Vahlne, 2009; Zaheer, 1995).

Acquiring market knowledge and information, particularly about their business partners' (BPs) needs, enables SMEs to rapidly internationalize and take advantage of the fastest time to market (TTM), along with higher quality and lower cost that, in turn, facilitates a greater scale and scope of internationalization (Freeman et al., 2006; Oviatt and McDougall, 2005; Walter et al., 2006). By describing the cost and acquiring better market and technological knowledge, the risk of entering international markets would be decreased (Mu and Benedetto, 2012). Close collaboration would be possible when a firm possess an ownership advantage associated with a strong partnership advantage, in this regard, then inter-firm collaboration facilitated better

learning from BPs (Powell et al., 1996). Strong relational skills empower the interaction process between BPs; subsequently, this ability enables SMEs to distinguish themselves from their competitors. Moreover, powerful networking capability provides high-level communication through which SMEs achieve better image, reputation, credibility and social capital within the business network (Chetty and Patterson, 2002; Tsai and Ghoshal, 1998). This good reputation and trust allows the SME to get new knowledge and attract other resources, e.g. skilled people on the one hand and better international sales performance on the other (Tolstoy and Agndal, 2010).

An idiosyncratic networking capability provides SMEs the opportunity for new resource configuration through integrating their existing resources with acquired resources from the business network to respond to their existing and future BPs' needs over time in different international markets (Chen et al., 2009). Another issue is that SMEs, through a strong networking capability, can achieve economies of scale by establishing collaboration partnerships with their suppliers (Freeman et al., 2006). This opportunity, in turn, enables the firm to supply its products to more international markets. In addition to BPs, a firm in international markets should communicate and establish relationships with public institutions in order to decrease likely barriers or facilitate better situations for its products. In other words, networking capability also allows the firm to extract institutional capital, particularly in emerging countries, embedded in institutions.

As a result, it could be concluded that SMEs with a higher level of *networking capability* demonstrate better internationalization because it enables the firm to extract different capital types from business networks, social networks and institutional networks, e.g. social capital, institutional capital, financial capital and technical capital. Based on this, the following hypothesis could be developed.

Hypothesis 1: In internationalized SMEs, networking capability (NC) positively affects internationalization performance.

2.4.6 Learning-Based FSA (Absorptive Capacity) and International Performance

In order to have sustainable economic returns and SCA it is important to have a strong learning capability (Kogut and Zander, 1992). Knowledge, as an output of learning capability, is the core of internationalization, in both the incremental internationalization (Johanson and Vahlne, 1977)

and early internationalization (Oviatt and McDougall, 1994) models. This means that a lack of foreign market knowledge hinders SMEs from being internationalized (Forsgren, 2002). Internationalization results from a chain of decisions, each of which requires general or market-specific knowledge (Johanson and Vahlne, 1977). For instance, a lack of foreign market knowledge (e.g., knowledge of BPs, government, institutions, and legal issues) is a big barrier for international commitment, and without it, a commitment decision would be risky and difficult, if not impossible (Johanson and Vahlne, 1977).

An SME, in order to be engaged in IB activities, needs to learn different types of knowledge including product and technological knowledge (particularly for technological-based firms), market knowledge (i.e., foreign business⁹ knowledge and foreign institutional¹⁰ knowledge) and internationalization knowledge¹¹ (Eriksson et al., 1997; Fletcher, 2009; Fletcher and Harris, 2012). For example, in their study Oviatt and McDougall (2005) stated that learning about a new host country increases the speed of internationalization, and that this ability consequently enables SMEs to take advantage as a first mover in international markets. In this regard, a learning capability such as ACAP, by its specific routines, plays a central role in exploring and re/generating new knowledge (through combining or integrating), whether experiential (implicit and tacit) or objective (Penrose and Pitelis, 2009), which is required in the internationalization process (Autio et al., 2000).

Gaining and storing new product knowledge, and new experiential internationalization knowledge such as knowledge about business partners (BPs), competitors (their successes and

⁹ Foreign business knowledge refers to the experiential knowledge about market conditions and business partners, e.g. customers, suppliers and competitors in international markets (Eriksson et al., 1997).

¹⁰ Foreign institutional knowledge refers to the experiential knowledge about government, rules, institutions, norms, and values in an international market (Eriksson et al., 1997).

¹¹ Internationalization knowledge refers to the knowledge which is obtained and accumulated from international operations or “ways of going international” (Eriksson et al., 1997, 345).

mistakes) and environmental information, can be acquired and performed by ACAP routines, particularly for manufacturing SMEs (Fletcher, 2009). This experiential international market knowledge enables SMEs to recognize and exploit international business opportunities along with minimizing their mistakes in overseas markets (Lu and Beamish, 2001). There is available shared knowledge in IB network(s), but to use this knowledge, it is essential to be acquired, assimilated, transformed and exploited (Casillas et al., 2009); this outcome, in turn, would be critical to sustain internationalization processes (Fletcher and Harris, 2012). This ability can be realized by ACAP that enables SMEs to absorb international market knowledge, integrating and combining with accumulated organizational knowledge (internal knowledge) to generate new specific knowledge, at the right time and for the right IB operations. In other words, strong ACAP enables the firm to develop superior knowledge based on new needs and environmental change, and through its dynamic knowledge processing power provide to the firm's key decision makers information to enter different foreign markets. When such knowledge about their suppliers, customers, competitors and host country markets is available to entrepreneurs, then they would be able to make effective and faster decisions and commitments through leveraging into other global markets (Khalid and Larimo, 2012). ACAP, through creating and reconfiguring knowledge, facilitates change in individual and organizational behavior before, during and after the internationalization process.

ACAP empowers sellers to understand the problem of their business partners (BPs), e.g. customers, and consequently offer the right, lower-cost solutions (or services) in the shortest possible time during their mutual interactions and negotiations. This situation, consequently, increases a firm's revenue over national borders (Coeurderoy et al., 2012). Moreover, ACAP along with its four dimensions of acquisition, assimilation, transformation and exploitation increase the firm's adaptability and responsiveness power as well as decrease risk and uncertainty in international markets. Accordingly, a firm with powerful ACAP exhibits better internationalization. On this basis, the following hypothesis is suggested.

Hypothesis 2: In internationalized SMEs, absorptive capacity (ACAP) positively affects internationalization performance.

2.4.7 Innovative-Based FSA (Innovative Capability) and International Performance

For SMEs, success in international markets, to a large extent, can be influenced by innovative capability (IC). In other words, SMEs with a higher level of IC have a greater chance to overcome the liability of foreignness (LOF) and become internationalized because they would be able to offer superior products to international markets (Knight and Cavusgil, 2004; Volchek et al., 2013). For instance, the findings of D'Angelo et al. (2013) show that SMEs' export performance has been positively affected by product innovation. In another study conducted by Guan and Ma (2003), it was shown that the firm's ability to develop and commercialize new products, particularly in an era of rapid technological change, is an important source of sustainable internationalization, particularly in export markets.

Differentiation across national borders could be strongly realized through launching novel and unique products that meet the particular specifications and needs of BPs, and this product advantage results in more loyalty from customers (Knight and Cavusgil, 2004). This situation brings adaptation and flexibility to the firm and reduces the market risks. SMEs with strong innovative capability (IC) are able to develop new, high-quality products faster than others, and this ability enables them to enter new markets faster (lower time to market (TTM)).

It is also important to note that strong IC firms could change their old processes and technologies, e.g. for existing products, and replace them with new productive processes that are effective to reduce the cost of associated products that, in turn, lead to improve their international competitiveness and obtain better foreign revenue (Monreal-Perez et al., 2012).

Distinctive product development is the manifestation of innovative capability (IC). It is, for example, evident that in the automation industry about 80% of product quality and productivity is determined by stage new product development (Clark and Fujimoto, 1991). Thus, it could be concluded that SMEs with a high level IC facilitate providing high-quality, novel and new products along with decreasing time to market (TTM) as well as reducing the production cost for existing products. All these features, in turn, increase the firm's adaptability in international markets. In this regard, the following hypothesis is developed.

Hypothesis 3: In internationalized SMEs, innovative capability (IC) positively affects internationalization performance.

2.4.8 Learning-Based FSA (ACAP) and Innovative-Based FSA (IC)

Innovative capability (IC) is a complex and multidimensional firm-specific advantage (FSA). IC enables the firm to convert new knowledge into commercial forms (Fosfuri and Tribo, 2008). The focus of innovative capability (IC) is exploitation of different types of knowledge such as technological and market knowledge. As was previously explained, the main function of IC is product and process development. It is evident that both process and product development are influenced by dynamic capabilities (Prieto et al., 2009), which can be performed through integrating and combining different types of knowledge (Iansiti and Clark, 1994). Other authors have also suggested that knowledge and information play a central role in the processes of product development, capability development, problem solving and opportunity creation. This knowledge could be acquired from the two main external sources of suppliers and strategic alliances (Liao et al., 2007; Stock et al., 2001; Teece, 2007). For instance, Deeds and Hill (1996, p. 43) stated that “the development of new products is an interdisciplinary task that requires the integration of know-how from different areas”. Moreover, it has also been emphasized that knowledge is the main driver of change within associated routines of innovation activities (Nelson and Winter, 1982).

With innovation capability, as a dynamic capability, the firm (re)combines different types of knowledge and assets together to achieve a new configuration of knowledge and resources. In this regard, in order to have knowledge the existence of the learning processes in the firm is required, and learning capability facilitates the development of both dynamic capabilities (DC) and ordinary capabilities (OC) (Eisenhardt and Martin, 2000; Teece et al., 1997). Furthermore, learning capability plays a key role in recognizing new production opportunities as well as obtaining new individual and organizational skills (Teece et al., 1997).

Firms with a higher level of learning capability are able to perform their tasks effectively and efficiently (Ambrosini and Bowman, 2009). For example, in the context of the internationalization of SMEs, Weerawardena and Mort (2006) stated that external learning (e.g., market needs) is essential for innovation because learning allows SMEs to acquire market knowledge, e.g. market needs, that could be useful for new product development.

It was discussed earlier that learning could be realized by absorptive capacity (ACAP), a dynamic component factor of DC that enables the firm to explore, understand, recognize, absorb,

assimilate and transform external valuable knowledge, information and technology (Zahra and George, 2002b). This knowledge includes technical knowledge, environmental knowledge and market knowledge, particularly in the context of the IB activities (Eriksson et al., 1997). Some of the most important outcomes of learning capability, such as ACAP, are idea generation, product development and innovation (Lane et al., 2006; Tsai, 2001; Volberda et al., 2010). Innovative capability (IC) can be affected by learning capability through different mechanisms (Knudsen and Roman, 2004; Liao et al., 2007). For instance, the knowledge could be created and mobilized through the processes of accumulation, articulation and codification (Zollo and Winter, 2002). Then, this generated knowledge can be used as a building block for new capability development, e.g. IC development (Helfat et al., 2007; Kale and Singh, 2007; Levitt and March, 1988). In addition, learning capability enables the firm to store different available forms of processed knowledge generated over time for future reference. This knowledge can be considered as a platform for future development, such as product or process development, whether for improving existing products or for new products or processes (Van den Bosch et al., 1999). In line with this reasoning, ACAP also enables the firm to acquire new external technologies which are vital to develop new production processes (Cohen and Levinthal, 1990; Lane and Lubatkin, 1998).

Internationalized SMEs, in order to exploit their business opportunities through developing new high-quality products, need associated knowledge, whether internal or external, that could be processed by learning capability. It is also important to note that knowledge sharing for innovation objectives could be performed by ACAP through social interactions (Todorova and Durisin, 2007). Thus, it could be concluded that in internationalized SMEs, the learning-based FSA such as ACAP have a higher-order capability related to innovative capability (IC), and IC can be affected by that. In this regard, the following hypothesis is formulated.

Hypothesis 4: In internationalized SMEs, absorptive capacity (ACAP) positively affects innovative capability (IC).

2.4.9 Learning-Based FSA (ACAP) and Relational-Based FSA (NC)

As was previously explained, networking capability (NC) as a relational-based FSA plays a key role to initiate (select and attract new business partners (BPs)), develop and terminate a firm's business relationships (Mitrega et al., 2012). A large part of the literature on NC provides an

explanation of networking capability on the firm's learning capability (Freeman et al., 2010) which, in this study, it is termed as the *learning-by-networking* approach. This means that firms with a higher level of NC will possibly get more learning and external knowledge. In this study, however, the argument is made that NC can also be affected by learning capability, an association that rarely has been studied within the context of networking in internationalized SMEs; here, this approach is termed *networking-by-learning*.

As was discussed previously, NC has been a critical dynamic component, particularly for SMEs' internationalization. Therefore, developing this organizational capability by learning could also be an important aspect that should be examined. However, within the literature on customer-supplier relationships or strategic alliances, the role of organizational learning has received considerable attention (Kale and Singh, 2007; Selnes and Sallis, 2003).

Given the nature of the business relationships in a network, e.g. strategic alliances, supplier-customer, licensing, and franchising, an actor can play different roles such as that of a problem solver, service provider, manufacturer, seller or buyer. Through business relationships within the network materials, financial resources, physical resources, personnel resources, knowledge (e.g., know-how), information, services, skills, products, and social supports are exchanged, transferred and linked, and likewise, each actor contributes its own knowledge and resources in the network (Provan et al., 2007; Ritter, 1999). Then, knowledgeable actors who have a high level of learning competency would be more effective and, consequently, would take different advantages as specified by several authors. One advantage is stability in business relationships and powerful bargaining power (Inkpen and Tsang, 2005). A second advantage is understanding business partners' (BPs) motivation, expectations, weaknesses, strengths, opportunities and threats in a better way. In this respect, with more detailed knowledge and better problem solving, this situation leads to achieve a higher level of satisfaction among BPs and leads to more success in the network (Weitz and Bradford, 1999). A third advantage is overcoming uncertain conditions, and better resource contribution, commercial transactions and getting convincing power in the network (Inkpen and Beamish, 1997). Finally, a fourth advantage is achieving better relationship performance (Selnes and Sallis, 2003) and a higher level of trust (Doney and Cannon, 1997).

It is also important to note that BPs within their collaboration business relationships share information and knowledge; this shared knowledge (e.g., relationship knowledge) between actors could be fundamental to develop different organizational skills as well as can be an effective factor for decision making and coordinating within the network (Robert M. Grant, 1996; Patnayakuni et al., 2006). Aside from this, the firms' learning activities, such as information disseminating and sharing interpreted information or knowledge between two partners, leads to more effective and efficient inter-firm relationships (Im and Rai, 2008; Johnson and Sohi, 2003; Kale and Singh, 2007). As Zollo and Winter (2002) pointed out, this effectiveness could also be realized by learning capability through its systematically generating, developing and modifying the routines (skills) of the given organizational capability (e.g., NC).

In their study of customer relationship management (CRM), Gebert et al. (2003) highlighted the importance of three types of knowledge flows, namely “knowledge for customer”, “knowledge about customer” and “knowledge from customers”, which should be considered to manage customer relationships. Borrowing from this literature, it could be argued that a focal firm, in order to have successful business networking, should also be able to obtain and analyze three types of knowledge flows, that is to say *knowledge about BPs*, *knowledge for BPs* and *knowledge from BPs*. This knowledge should be continuously absorbed, processed and updated through organizational learning (Gebert et al., 2003). In this respect, those firms which learn faster would thus be more successful in networking (Inkpen and Beamish, 1997). In line with this approach, the fundamental role of knowledge, generated by learning capability, has been emphasized by marketing scholars. For example, Johnson, Sohi and Grewal (2004) found that different forms of knowledge, specifically interactional knowledge, functional knowledge and environmental knowledge, significantly affect the inter-firm relationships of the firm. This is because learning capability facilitates the abilities of knowledge generation and knowledge sharing (contribution) among BPs as a key factor to create trust and high-quality relationships in the network (Lee, 2001).

Furthermore, in business relationships, organizational learning enables the firm to interpret shared information (or knowledge) better than others (Fiol and Lyles, 1985). Without interpretation ability, a firm may reject an important piece of knowledge because of its inability to make sense about given knowledge (Selnes and Sallis, 2003). In this respect, in order for a

firm to make an effective link with its BPs, first of all, it is important to be equipped with different supporting knowledge, e.g. technical knowledge and market knowledge. Particularly, knowing how to perform a task (e.g., relational skill) effectively requires tacit knowledge, especially the knowledge and information associated with the related context (Nelson and Winter, 1982). This valuable knowledge can be explored, recognized, acquired, assimilated, and transformed from outside the firm by the firm's ACAP (Cohen and Levinthal, 1990; Zahra and George, 2002b). Then, after processing, these different forms of knowledge could be deposited in the various stores in the firm and, in turn, can be used as supportive ingredients during networking activities over time (Johnson et al., 2004). For example, environmental knowledge stores include market conditions, competitive behavior and regulations that a SME can utilize at the right time in its IB activities (Eriksson et al., 1997). The existence of this knowledge enables SMEs to explore and exploit IB opportunities better and faster (Mort and Weerawardena, 2006). This is because learning capability enables the firm to have new insights about different potential opportunities and resources embedded in the business networks, e.g. technological and market opportunities.

In addition, learning capability enables the firm to replace its old (current) routines with new routines in order to perform its new networking tasks more timely and efficiently (Jarratt, 2004). In line with this argument, Kale and Singh (2007), in the context of strategic alliances, argued that the process of learning individually-held knowledge (e.g., networking-related tasks) can also be articulated and codified to facilitate better partnership in the future through replicating and transferring to new business relationships. In the process of interaction with BPs, if a firm wants to play the role of teacher (e.g., problem solver) company (Lane and Lubatkin, 1998), then available knowledge, created by ACAP, plays a critical role in the company.

Strong ACAP allows a SME as a teacher company to provide more attractive knowledge and information to its international BPs; consequently, this position creates more loyal BPs. Even from a student company (e.g., solution seeker) perspective, a high level of ACAP increases the level of understanding for those people who are involved in the processes of inter-firm interactions (Lane and Lubatkin, 1998). In other words, in both roles, whether as a teacher (e.g., licensor) SME or a student (licensee) SME, ACAP is central to provide or attract needed knowledge and information for effective networking capability.

ACAP helps partners to create market knowledge during the process of partnership (Malhotra et al., 2005). Furthermore, connecting the firm to its business partners (BPs) requires a high level of partner knowledge such as their markets, products, strengths and weaknesses (Walter et al., 2006). This knowledge leads to better mutual understanding of different BPs which, in turn, leads to better coordination of the business partners (BPs). It is also important to note that within the network, sometimes a focal firm may encounter a problem which Gibbert et al. (2002) labeled the “*corporate narcissism*” effect. This situation creates poor communication within the network, because the firm thinks there is no need, for instance, to acquire knowledge about its customers. This is a position (*corporate narcissism*) where people in the organization may say “*we know our business better than our customers*” (Gibbert et al., 2002, p. 466). Again, it is knowledge and learning capability that prevent these kinds of problems associated with the lack of critical perspective and insight during the firms’ networking activities. In other words, it is the complex process of knowledge creation (Nonaka, 1994) that (in different levels of the organization) amplifies the knowledge across the firm in order to create more effective business relationships. Additionally, to the extent that the acquisition of the knowledge is higher, the balance making, movement and bargaining power would be stronger in the network (Inkpen and Beamish, 1997). As noted above, to find this ability knowledge should be explored, acquired, assimilated, transformed and applied through learning capability (ACAP) as a considerable and necessary infrastructure to manage business relationships (Jarratt, 2004).

Accordingly, it could be concluded that the quality of the relational-based FSA (NC) is related to the available diverse knowledge within the firm that is generated and processed by ACAP. In other words, networking capability development can be facilitated by ACAP (*networking-by-learning*). In this respect, the following hypothesis is provided.

Hypothesis 5: In internationalized SMEs, absorptive capacity (ACAP) positively affects networking capability (NC).

2.4.10 Innovative-Based FSA (IC) and Relational-Based FSA (NC)

The last section discussed how learning capability influences the NC of the firm. Similarly, this section argues that networking capability (NC) can be affected by innovative capability (IC), an effect which is labeled here as *networking-by-innovating* instead of *innovating-by-networking*.

There is a mutual interaction between innovation and business networking. However, associated scholars have generated substantial literature about the impact of networking on innovation (Pittaway et al., 2005).

Success and survival for SMEs without powerful networks and innovation is extremely challenging (Konsti-Laakso et al., 2012). In the open innovation era in particular, innovation and networking have been critical issues for SMEs (Lee et al., 2010). In SMEs, innovative capability (IC) enables the firm to integrate different types of organizational knowledge to develop existing and new products or processes as well as product/process improvement (Martínez-Román et al., 2011), whereas, the interaction of the focal firm with outside of the firm is managed by NC. On this basis, a SME by NC initiates, develops and terminates its business relationships with business partners (BPs), e.g. customers, suppliers, and competitors (Mitrega et al., 2012).

Yet, via business relationships technology, resources, capabilities, products, services and knowledge are exchanged between BPs. Chetty and Stangl (2010), in a qualitative study in the context of SMEs' internationalization, stated that innovation plays a significant role to extend business relationships. They found that internationalized SMEs with a higher level of innovation have extended their business relationships better and faster. In line with this argument, Jarratt (2004) argued that efficiency and effectiveness in networking could be realized through associated specific skills and know-how. To highlight this approach, Jarratt quoted Dyer and Singh (1998, p. 664) who stated that "lower total value chain costs, greater product differentiation, fewer defects and faster product development cycles" are critical issues to create relational rent. Needless to say, these activities are the main functions of innovative capability (IC). In this regard, like learning capability, it can be argued that IC can also affect the NC of the firm. This effect could also be realized through, for instance, identifying the concept of the firm's new products in the network, or introducing its new products to business partners (BPs) during business interactions in the network.

It is worth noting that a firm with a high level of innovation will have high-quality business relationships, a situation which in turn creates a high level of social capital and trust in the business network (Hitt et al., 2001). Others argue that the firm with a high level of innovation provides valuable opportunities for its BPs to succeed (Madhok and Phene, 2001). Consistent with this insight, from the BPs' perspective (e.g., customers) the attractive firm in the business

network is the actor that contributes and supplies more innovative (or novel) solution(s) for problem-solving (particularly operational problems), new ideas, better information and knowledge, technology, skills and capabilities, products, new alternatives, production systems and learning opportunities to cover its needs (Bozdogan et al., 1998; Hoegl and Wagner, 2005; Walter, 2003). Aside from this, it could also be argued that a focal firm with well-developed IC would be a greater innovative contributor for its BPs (e.g., lead customers or lead suppliers), particularly in the context of joint problem-solving and troubleshooting problems, as BPs are looking for innovative solutions as well as new capabilities acquisition (McEvily and Marcus, 2005).

An innovative firm can be more flexible to be adapted with its BPs' changing circumstances. These kinds of firms (with greater IC) can timely identify the right innovative suppliers (Pulles et al., 2014). Moreover, those firms with stronger technological characteristics will be also more attractive for those powerful customers and other BPs in the market because this ability empowers the motivation of BPs to be involved in relationships (Hüttinger et al., 2012; Johnson and Sohi, 2003). Parmigiani and Rivera-Santos (2011), in their meta-review of the collaborative inter-organizational relationships (IORs) literature, identified that each business relationship could be a combination of the two pure relationship forms, namely co-exploitative¹² and co-explorative¹³. Needless to say, a firm with strong innovative capability (IC) can contribute both exploitative and explorative opportunities for its business partners (BPs) during networking activities. Inter-firm collaboration could be considered as an opportunity to find new ideas for developing new products or processes (Von Hippel and Katz, 2002). As such, under

¹² Co-exploitative refers to those inter-firm collaborations to improve existing skills and competencies and execute existing knowledge.

¹³ Co-explorative refers to the inter-firm relationships to create new knowledge, competencies, tasks, functions and skills.

these conditions the focal firm with powerful IC finds strong business relationships with BPs, a subject that was highlighted for SMEs by Chetty and Stangl (2010) in the IB context.

It is important to note that innovative firms are able to develop superior, high-quality products; this ability, in turn, could be a source of bargaining power and trust in the context of their business relationships (Meldrum and Millman, 1991; Porter, 1979). Then, IC facilitates a supportive position for the firm to manage its business relationships within the network. This argument is in line with the findings of Zahra et al. (2006), who stated that dynamic capabilities can affect the outcome of the firm indirectly. In this respect, here, IC can affect the firm's output by influencing NC. In addition, because of the existence of a high level of IC, people who are involved in the networking processes would be more skillful to make a technical bond with the BPs.

Accordingly, it can be concluded that innovative capability (IC) is a driving force for networking capability (NC), and provides an opportunity to internationalized SMEs to overcome the liability of outsidership (LOO) in IB networks. In this regard, the following hypothesis is developed.

Hypothesis 6: In internationalized SMEs, innovative capability (IC) positively affects networking capability (NC).

2.4.11 Conceptual Model

In the last sections, six hypotheses (H1, H2, H3, H4, H5, H6) were developed based on the three component factors of dynamic-based FSAs and international performance. Taking all of them together in an integrated setting, the following conceptual model was constructed (see **Figure 2-4**). In this model, the related paths between a given construct have been connected according to each hypothesis. Six hypotheses lead to six paths between latent variables (LVs). As can be seen in **Figure 2-4**, learning capability (LC) as an endogenous LV can affect innovative capability (IC), networking capability (NC) and international performance (IP). On the other hand, innovative capability can affect both networking capability and international performance directly. Finally, networking capability can affect international performance. A closer look at the conceptual model shows that IC and NC have a potential causal influence role in the model.

Figure 2-4: The conceptual model.

3 Research Methodology

3.1 Philosophical World View

It is important to note that a researcher should determine his/her positioning about several issues before performing the research.

One of the most critical things is the researcher's philosophical world view (also called paradigm). Obviously, research methodology and research design, in a study, can be affected by the researcher's philosophical world view about the nature of the reality (ontology) to be investigated on the one hand, and the way that reality can be known (epistemology) on the other (Guba, 1990; Morgan and Smircich, 1980). In other words, a researcher could be directed by a set of beliefs (philosophical world view) in the process of performing research action. With the philosophical world view, in particular, the researcher's view of reality can act as a cornerstone of different research assumptions (Creswell, 2013; Guba, 1990).

A closer look at the associated literature reveals that related philosophical world views and their assumptions have been presented in different ways. Differences in ontological and epistemological approaches, for a researcher, can lead to different types of research methodology (Morgan, 2007). In this respect, it is first of all essential to explain the given interrelated concepts such as ontology and epistemology and their associated sub-concepts, however in a very brief way. Subsequently, for this study the author of this thesis will determine his positioning to provide more clarity.

Ontology. This concept refers to the nature of reality (knowable). The nature of reality can be classified into two main types, objective and subjective. However, between these two opposites there are many other positions. Objective ontology believes that there is an independent reality "being out there", and it is not influenced by the researcher as well as it could be discovered through independent observation. Independent observation means that knowledge is given and researchers with different subjective feelings obtain similar results from their observation (Guba, 1990; Hatch, 2013).

In contrast, subjective ontology refers to the kind of reality which results from a social process. It means that there is no reality “out there” in the world. According to this perspective, the reality is socially constructed and it can be influenced by researchers’ thoughts, their subjective feelings, imaginations and social relations.

Epistemology. As noted above, this concept refers to the way that reality is known (theory of knowledge). Like ontology, epistemology includes two main positions, positivist and constructivist (interpretivist). According to *positivist epistemology*, the truth, in social science, can be discovered by scientific methods as is done in natural science. This paradigm emphasizes that understanding and analyzing of the social world can take place through rational and logical ways. Examining causal relationships between different factors in a social phenomenon in order to explain and predict is common in positivist epistemology (Hatch, 2013).

Based on this approach (positivist epistemology), knowledge is generated deductively, linking with empirical means. Knowledge can be generated by the researcher through developing theoretical hypotheses (deductive theory) and testing them based on collected data from external reality. It is important to note, however, that this approach is sometimes called post-positivist (Creswell, 2012).

The post-positivism world view, as a contemporary paradigm, challenges the *absolute truth* of knowledge (reality with certainty) claimed by the traditional positivist world view, specifically when the subject of the study is related to human behaviors. Post-positivists believe that every observation could be fallible and include error, and consequently the theory could also be revisable. Therefore, getting the single objective reality, perfectly, is difficult; however, a researcher must continually approach the reality. The (post)-positivism ontology has mostly led to a quantitative methodology to perform a research.

On the other hand, the alternative approach to positivist epistemology is *constructivist epistemology*, which refers to a paradigm that considers the world based on people’s social interactions. Here, knowledge is created through a social system and associated subjective meanings from individual’s experiences (Creswell, 2012; Hatch, 2013). In other words, knowledge can be generated based on people's sense in a given social context. In this regard, it could be concluded that different understandings could be associated with the same phenomenon. The qualitative research is mostly directed by the constructivist epistemology.

As was noted previously, the researcher's view of epistemology is affected by the ontological and methodological approaches, which result from the researcher's epistemological persuasion (Tuli, 2011).

What the author of this thesis, as a researcher, should investigate (ontological position) in this study is a social reality (e.g., a firm's capabilities) that exists within internationalized SMEs which is independent of the researcher. And, what the author of this thesis should have to know about this reality (epistemological position) is that the reality would be observable independently through associated means. However, achieving to the core reality (truth) is not easy because of the existence of likely errors. Accordingly, in this study, from an ontological perspective the nature of the reality is objective, and based on an epistemological point of view the nature of the reality can be known based on post-positivist assumptions. Consequently, the way of acquiring the knowledge (methodological position) in this study is based on a *deductive process* and hypothesis testing through a quantitative choice.

3.2 Research Type

A closer look at the common methodology literature reveals that associated authors have identified various types of research. For instance, Yin (2008) believes that based on the purpose point of view, there are three types of research. These three types of research are descriptive, explanatory and exploratory. In line with this classification, other authors have considered the outcome of the research as a basis for classifying the type of the research. For example, Hedrick et al. (1993) and Patton (2001) suggested applied research, theory elaboration (development) research and basic (or theory generation) research as three types of research.

Furthermore, in terms of the nature of data, Creswell (2012) also stated that there are three kinds of research, namely quantitative, qualitative and mixed (both quantitative and qualitative). These three classifications are depicted in ***Table 3-1***.

Following the discussion above, for a researcher, in order to determine the type of research, it is essential to answer the following three questions. What is the purpose of the study? What is the type of the data in the study? And what is the outcome of the research?

Table 3-1: Types of research.

<i>Basic view</i>		<i>Type of study</i>	
<i>Purpose</i>	Descriptive	Explanatory	Exploratory
<i>Outcome</i>	Applied (theory testing)	Theory elaboration	Basic (theory generation)
<i>Data</i>	Mixed	Quantitative	Qualitative
The type of the research in this study is exploratory, <i>explanatory</i> , <i>quantitative</i> and <i>elaborative</i>			

As *Table 3-1* shows, various combinations of research could result based on the three basic questions and associated views, i.e. the purpose, the outcome and the type of data. For instance, in this study, according to the purpose point of view the research is both exploratory and explanatory, because it tries, first of all, to identify the type of component factors of dynamic-based FSAs, and then, it attempts to explain the cause and effects of those dynamic capabilities and international performance in internationalized SMEs. In contrast, based on the outcome perspective the research is elaborative, because the result of this study would be theory development rather than theory generating or theory testing. Finally, based on the type of data this study is quantitative, as was explained in the last section. Therefore, the type of this research is *exploratory*, *explanatory*, *quantitative* and *elaborative* by nature.

3.3 Research Strategy

A researcher, in order to perform the purpose of the study, should select the right strategy. Research strategy is a plan that shows a way of data collection. Given the type of the research, the corresponding research strategy could be different. In this regard, there are several kinds of research strategies, e.g. case study, survey, action research and grounded theory.

In the last section, the type of the research was discussed and determined. As was noted, this study is exploratory, explanatory, quantitative and elaborative. In this respect, the survey was used as an appropriate strategy to collect a large amount of data from a representative sample in a relevant population of internationalized manufacturer SMEs in Sweden. The survey strategy was accomplished based on the cross-sectional research approach. This means that through a survey strategy, the researcher takes a picture (collected data) of the phenomenon at a

specific point in time. In the following sections sampling, data collection and other related methods will be explained in detail.

3.4 Research Map

In order to perform this research several sequential stages, as depicted in *Figure 3-1*, were performed deductively as follows.

First. First, a systematic literature review on the RBV, the DCV, IB theories and the internationalization of SMEs was performed, resulting in finding the right positioning within the literature and a better explanation of the problem. The *black box* of dynamic-based FSAs (DB-FSAs) was also identified as the research gap. Consequently, the research purpose and research questions (RQs) were developed and designed.

Second. To open the above black box, a literature review on organizational capabilities within the context of IB studies was accomplished systematically. Subsequently, in this stage, the *relational-based FSA*, *learning-based FSA* and *innovative-based FSA* were identified as the most critical component factors of the dynamic-based FSAs within the context of the internationalization of the firm.

Third. Then, through synthesizing the reviewed literature and related arguments the conceptual model was developed. On this basis, the mechanism through which the three identified DB-SFAs influence each other and international performance (IP) was discussed. In this regard, six hypotheses were developed.

Fourth. In this step the research type, research strategy, data collection, data analysis, hypothesis testing and discussion were determined and performed. The outcome of this stage was research results, findings and the conclusion. *Finally*, the report of the study was written as a PhD thesis.

Obviously, as has been shown in *Figure 3-1*, all of the above sequential stages are dynamically interrelated. In other words, during the implementation of the research all stages were aligned with each other. Furthermore, for all stages of the research process, e.g. data collection and data analysis, the reliability and validity were established to ensure the research quality. Another factor shown in *Figure 3-1* is the research approach. The *research approach*, as was noted in previous sections, is *deductive*. It is a deductive reasoning style because the

conclusion of this study has been deduced from the operationalization of developed hypotheses which, in turn, were derived from the current theories.

Figure 3-1: The research map and process. *Notes:* DB-FSAs=Dynamic-Based Firm-Specific Advantages, DC= Dynamic Capabilities, IB= International Business, IP=International Performance, OC= Ordinary Capabilities, RBV= Resource-Based View

3.5 Sampling, Data Collection and Examination

Because of the small domestic market in Sweden, entrepreneurial firms are often looking for overseas markets; consequently, it is an attractive context in which to study the internationalization of SMEs. In this respect, the outward-internationalized manufacturing SMEs in Sweden was the population of interest to this research. In order to have a representative sample, in this research a member of the sample must possess the following three criteria simultaneously. First, the sample member must be a small or medium-sized enterprise (SME). Therefore, in this research an SME refers to a firm in which the number of its employees is fewer than 250 and greater than 10. Second, the sample member must be a manufacturer. Third, the sample member must be involved outwardly in international business (e.g., export, FDI). Fourth, the legal form of the SME should be a corporation or Ltd. In other words, for the purpose of this study, the sample consists a given number of the Swedish internationalized manufacturing SMEs.

The information on these multi-industry SMEs (e.g., name of the firm, name of CEO, mailing address, and associated industry) was obtained from the *Statistics Sweden agency (SCB)*. However, the Retriever Business database, available through e.g. the library of Linköping University, was also used. It is also important to note that the *Swedish Standard Industrial Classification (SNI 2007)* was utilized to identify the type of manufacturing industries. In this regard, a random sample of 2,000 SMEs was drawn from the whole population of internationalized manufacturing SMEs (4,000) provided by SCB.

Before starting the survey, the selected sample (2,000 SMEs) was checked regarding the three criteria (noted above), that is the size of the firm, the firm's international revenue and the type of industry. On this basis, a number of firms were identified as out of the given size range (lower than 10 or in excess of 250 employees), and some of the SMEs were not outwardly involved in international business activities. Based on this, the sample size was reduced to 1,800. The data was collected based on a mail-based (paper-based) survey. The questionnaire was prepared in the Swedish language. To conduct the survey, the CEO of the SME was selected as the key informant to answer the survey questions. Therefore, in the first stage the questionnaires, along with a cover letter and a stamped addressed return envelope, were mailed to the CEO of each SME. After three weeks, in order to boost the response rate, the second stage

of the survey was performed by mailing the questionnaires with an attached reminder cover letter as well as a stamped addressed return envelope to non-respondents. Through the cover letter, a telephone number was provided for respondents in order to answer any questions associated with the survey and the content of the questionnaire.

To respond to phone calls, a trained Swedish master's degree student who was already familiar with the survey and questionnaire was selected. In this respect, the types of questions asked by the SMEs' managers were responded to by this person during the survey, which was useful in obtaining a better outcome.

The survey resulted in a total of 453 received envelopes and responses. Of the 453 cases, 36 were returned envelopes because of wrong addresses, moving to a new place, or termination of the business. 13 questionnaires belonged to those firms which were out of the size constraints (less than 10 or more than 250 employees). 30 were not involved in international business or had stopped their outward internationalization. 15 had announced that they did not want to participate in the survey and asked to be removed from the list. 10 respondents announced that they only wanted to complete the online-based survey. 15 were incomplete questionnaires, had excessive missing data or had responded to only one option (e.g., marked all questions with the number 5 in the Likert scale). 3 were repeated both in early and later surveys. In this regard, in total, 330 questionnaires out of the 1695 sent out were usable for analysis (19.5% response rate).

To evaluate the non-response bias (Armstrong and Overton, 1977), a t-test was conducted based on several variables such as age and size of the SMEs and established time. The analysis showed that there was no significant difference between the respondent and non-respondent SMEs. Therefore, no issue of non-response bias was detected. A second t-test was used to assess early respondents (145) and late respondents (185) regarding the three variables of size of the firm, time of internationalization and level of internationalization; results confirmed no significant differences between the two groups.

3.6 Software Tools

In this study, in order to analyze the data, two software applications were used. The first was the *IBM Statistical Package for the Social Sciences (SPSS)*, Version 23. The second was *SmartPLS*, Version 3.2.3, for partial least squares structural equation modeling (PLS-SEM).

Given the nature of the analysis, in each step, an associated procedure was used to perform calculations. In this respect, during the process of data analysis the three routines of algorithm, bootstrapping and blindfolding were used in the SmartPLS software. For instance, whenever there was a need to obtain the level of significances, then the bootstrapping (5,000 resamples) procedure was used. In Chapter 4, the related routines for each step are presented.

3.7 Data Screening and Testing Normality Assumptions

To prepare the collected data for analyzing, it is necessary to perform the process of data cleaning (e.g., missing data and outliers), checking the assumption of normality of values. To do this, SPSS was used. In terms of missing data, very few missing data were found. To deal with identified missing data, they were replaced with the mean of each variable. In comparison, for several identified outliers (e.g., AC14) the *winsorizing* method was performed, and these outliers were replaced with the closest data values (Wilcox and Keselman, 2003). Additionally, univariate normality for values was examined, and the results showed no problems with univariate normality.

3.7.1 Measures

In this study, all construct dimensions were developed based on a literature-based approach. Then, the English survey instrument was translated into Swedish by applying the translation/back-translation method. The content and face validity of the translated instrument was assessed and refined by four Swedish experts (one experienced manager from industry in Sweden and three academic researchers from the Division of Industrial Economics at Linköping University). Except for size and age, the constructs were measured using a multi-item, seven point Likert scale (*1= strongly disagree, 7= strongly agree*). The measurement scales are presented in **Table 4-2**, while the questionnaire (English and Swedish versions) can be found in *Appendix II (Survey Questionnaire)*.

Absorptive capacity (ACAP). As previously noted, ACAP is a complex, multi-dimensional, reflective and second-order construct. Acquisition, assimilation, transformation and exploitation are the four first-order and reflective dimensions of ACAP (Zahra and George, 2002b). This construct has been measured differently (Flatten et al., 2011a). ACAP is discussed theoretically as a reflective-reflective second-order construct, but in the majority of studies, when it comes to

being operationalized, particularly in an IB context, researchers rarely have operationalized it as a second-order (reflective-reflective) multi-dimensional construct. Instead, in most studies authors have measured ACAP using R&D expenditure (single item) as a proxy for ACAP, which for the first time was used by Cohen and Levinthal (1990) in their original study of ACAP. However, a considerable number of empirical studies have measured ACAP as a first-order, reflective, and unidimensional construct. For example, Szulanski (1996) measured ACAP as a unidimensional reflective construct using nine questions.

There are several other scales which have been developed to measure ACAP dimensions (Flatten et al., 2011a; Fosfuri and Tribo, 2008; Jansen et al., 2005). Among these scales, it seems that the work of Flatten et al. (2011a) is more comprehensive and valid than others because it is able to measure all dimensions of ACAP including acquisition (Aq), assimilation (As), transformation (Tr) and exploitation (Ex). It is also important to note that SMEs are faced with the problem of liability of smallness (LOS) and resource limitation; consequently, they are less R&D-driven and non-R&D activities are used to enhance ACAP (Hervas-Oliver et al., 2012). In this respect, it could be concluded that applying R&D expenditures to measure ACAP is not an appropriate proxy in the context of SMEs.

Accordingly, in this study, acquisition (Aq) is measured using three questions (AC1, AC2, AC3), assimilation (As) using four questions (AC4, AC5, AC6, AC7), transformation (Tr) using four questions (AC8, AC9, AC10, AC11) and exploitation (Ex) using three questions (AC12, AC13, AC14). In total, ACAP was measured using fourteen questions. The associated scales had already been developed and applied for SMEs by Flatten et al. (2011a, 2011b). Yet, this scale had not been used in the context of internationalization of SMEs.

Networking capability (NC). Like the definition of NC, there is no consensus on the operationalization of this construct. NC also is a complex and multidimensional concept. However, this construct has been measured in different ways. For instance, in several studies it has been defined as a hierarchical latent variable, e.g. as a second-order concept (whether reflective or formative types), while in other studies it has been measured as a first-order unidimensional construct. For example, Mitrega et al. (2012) and Mu and Benedetto (2012) have considered it as a reflective first-order, reflective second-order (reflective-reflective type), whereas some other researchers, e.g. Walter et al. (2006), measured NC as another type of

second-order concept, i.e. reflective first-order and formative second-order (reflective-formative type).

NC as a first-order reflective unidimensional concept has been used by other groups of authors; the study by Chen et al. (2009) in the context of internationalization is a good representative of this approach. In their study (Chen et al., 2009), NC was measured using seven questions. For the objective of this study (i.e. the subject of this dissertation), the scale of Walter et al. (2006) was used to measure NC. According to this scale, NC is considered a hierarchical latent variable (second-order) including the four sub-dimensions of coordination (CO) using six questions (NC1, NC2, NC3, NC4, NC5, NC6), relational skills (RS) using four questions (NC7, NC8, NC9, NC10), partner knowledge (PK) using four questions (NC11, NC12, NC13, NC14) and internal communication (ICO) using five questions (NC15, NC16, NC17, NC18, NC19). In total, NC is measured using 19 questions.

It is important to note that the first-order latent variables of CO, RS, PK, and ICO are reflective, and the second-order concept (NC) is a formative type. In other words, NC in this study is a *reflective-formative type* multi-dimensional concept. It should also be noted that in the context of SMEs' internationalization, NC has rarely been measured by Walter et al.'s (2006) scale.

Innovative capability (IC). A closer look at the literature, particularly in the IB context, reveals that related scholars have measured IC in a variety of ways. Some researchers, e.g. Luo et al. (2005), have emphasized the input of the research and development (R&D spending to total sales) as a proxy for IC. Another group of the authors, in the context of internationalization, have measured IC based on the R&D output (ratio of new product sales to total sales) rather than R&D input (Yi et al., 2012). Another approach assesses IC, as a very complicated hierarchical latent variable, by subjective reflective indicators; an important example of such measurement is the work undertaken by Guan and Ma (2003), which assessed IC using more than 50 indicators for seven sub-dimensions of the second-order concept (IC). However, some authors have measured IC as a unidimensional reflective concept, using several subjective items (Akman and Yilmaz, 2008). In this study, IC was measured based on the last approach above. To do this, six reflective questions by Akman and Yilmaz (2008) were used to assess IC (IC1, IC2, IC3, IC4, IC5, IC6).

International performance (IP). IP is a critical dependent variable (DV) in the IB context that represents “*what goes on overseas*” for an enterprise (Vernon, 1971). Examining the extant literature reveals that there is no consensus on the measurement of performance in IB research (Hult et al., 2008). IP, as a multifaceted construct, has been assessed by multiple indicators in several ways. The associated literature on the IP construct shows that IB authors have, in general, measured it based on two kinds of indicator types, objective and subjective (Knight and Kim, 2008; Lu et al., 2010; Rhee, 2008; Sullivan, 1994). However, in some studies IB scholars have applied a combination of subjective and objective indicators (Ripollés and Blesa, 2012).

The objective indicators could be a combination of financial and non-financial indicators. Financial indicators measure e.g. foreign sales level, profitability and sales growth, whereas non-financial (operational) indicators assess the other aspects of internationalization of the firm such as market share, reputation, market access, scope of international activities (number of countries), and scale of international activities (foreign sale/total sale) (Park and Rhee, 2012; Rhee, 2008). On the other hand, many other authors have used the subjective (perceptual) indicators to measure IP. For instance, Lu et al. (2010) measured IP using this (subjective) method. This type of assessment could be useful because the respondents may be unwilling to offer their financial information. It is also important to note that within the IB literature, IP is considered as a unidimensional (first-order) reflective construct.

In this study, like Torkkeli et al. (2012) and Volchek et al. (2013), a subjective measurement type was used to assess the IP of internationalized SMEs. International performance (IP) was measured using seven questions (IP1, IP2, IP3, IP4, IP5, IP6 and IP6).

Control variables. International performance of SMEs could be likely affected by several variables which, in this study, are considered as control variables. In this respect, the firm’s international experience (Int_Exp) and size on the one hand, and environmental uncertainty factor (i.e. market uncertainty (MU)) on the other, are control variables.

It is expected that international performance could be positively affected by size and international experience. On this basis, according to internationalization theories such as the Uppsala model (Johanson and Vahlne, 1977, 2009), experience and learning is an accumulated process which takes place over time; therefore, SMEs with higher international experience possibly have more established routines to affect international performance.

The international experience of the SMEs was measured by asking the CEO of the SME to provide the firm's established year and the first time that the firm had been internationalized. Similarly, those firms with bigger size have more resources than others, and thus could be internationalized better. In this research, the number of employees of the SME was measured as firm size.

The other control variable was the *market uncertainty as* environmental factor. According to the related literature, environmental uncertainty negatively affects international performance (Child et al., 2003; Lu et al., 2010; Zhou et al., 2007). In this study, it is assumed that market uncertainty affects international performance of SMEs negatively. In this study, market uncertainty was measured using the four items (MU1, MU2, MU3, MU4) based on the indicators of De Luca and Atuahene-Gima's (2007) study (see **Table 4-2**).

3.8 Path Model

Each path model consists of two parts. The first part is a structural model (inner model in the context of PLS-SEM), while the second is a measurement model (outer model in the context of PLS-SEM). The sequence of constructs and their relationships are shown by the inner model, whereas the outer model describes the relationship between latent variables (LVs) and their associated indicators. In the following section, for the purpose of this study, I have specified the inner and outer models.

3.8.1 Specifying the Inner Model (Structural Model)

Generally, the inner model (structural model) shows the path relationship, location and direction of each latent variable (LV) with other constructs. The structural model can result from theory or experience (Hair et al., 2013). In other words, it is theory that determines how LVs affect or are affected by other constructs.

In this research, the inner model was developed deductively from the theory (see **Figure 2-4**). As **Figure 2-4** shows, the structural model (except control variables) includes four components or LVs, where international performance (IP), IC and NC are endogenous constructs and ACAP is exogenous LV (only serves as independent variable).

Of the endogenous LVs in the model, networking capability (NC) and innovative capability (IC) serve as both dependent and independent variables, whereas IP only serves as a dependent variable. In the path model, NC, IC, and IP are affected by the ACAP construct as only exogenous LV. Moreover, IC also affects NC. Finally, IP is affected by all other LV (NC, IC, and ACAP). In this regard, as depicted in **Table 3-2**, the inner model has six paths (causal links), each of which represents a hypothesis. These paths are: (1) NC → IP, (2) ACAP → IP, (3) IC → IP, (4) ACAP → IC, (5) ACAP → NC, and (6) IC → NC.

Table 3-2: Paths and related hypotheses.

NO	Path	Hypothesis
1	NC → IP	Hypothesis 1: In internationalized SMEs, networking capability (NC) positively affects internationalization performance.
2	ACAP → IP	Hypothesis 2: In internationalized SMEs, absorptive capacity (ACAP) positively affects internationalization performance.
3	IC → IP	Hypothesis 3: In internationalized SMEs, innovative capability (IC) positively affects internationalization performance.
4	ACAP → IC	Hypothesis 4: In internationalized SMEs, absorptive capacity (ACAP) positively affects innovative capability (IC).
5	ACAP → NC	Hypothesis 5: In internationalized SMEs, absorptive capacity (ACAP) positively affects networking capability (NC).
6	IC → NC	Hypothesis 6: In internationalized SMEs, innovative capability (IC) positively affects networking capability (NC).

The evaluation of the path model and associated estimation rules has been explained in the previous section on data analysis.

3.8.2 Specifying the Outer Model (Measurement Model)

Generally, LVs are measured by observable indicators, whether reflectively or formatively. In this regard, there are two types of measurement models, reflective measurement models and formative measurement models. When the causality is from the LV to its indicators, the measurement model is *reflective*; in PLS-SEM, it is also called **Mode A**.

In contrast, when indicators cause the LV then the measurement model is formative. The *formative* measurement model in PLS-SEM is called **Mode B**. In this study, except for NC (is Mode B), all other constructs are Mode A. It is important to know that indicators in Mode A are interchangeable, whereas those in Mode B are not. This is because in formative constructs, each indicator covers a specific domain of the LV (Hair et al., 2013).

Based on another classification, in the context of the PLS-SEM, outer models (measurement models) are classified into two types. The first type, *first-order models*, refers to those models where the construct is conceptualized as a single layer and directly measured by a single or multiple observed indicators. The second type of outer models are called *hierarchical component models (HCMs)*. HCMs are more complex compared to the first-order models. HCMs, as higher-order models, refer to those models where the focal latent variable contains multilayers of constructs. HCMs are formed based on two elements, (1) the higher-order component (HOC) and (2) the lower-order components (LOCs). The abstracted entity of HOC is formed based on LOCs units (e.g., LOC1, LOC2, LOC3) as sub-dimensions of the HOC. For instance, if LOC is a first order construct, then it is measured based on multiple indicators. In the literature, strategic management second-order models are more common HCMs types. It is important to know that the relationship between observed indicators to the LOCs as well as the LOCs' relations to the HOC can be considered either reflective or formative. In this regard, according to the classification of Jarvis et al. (2003) about HCMs, and particularly the second-order models, in this study the path model consists of two types of second-order factor models, that is to say: (a) *reflective* first-order, *reflective* second-order (reflective-reflective type); and (b) *reflective* first-order, *formative* second-order (reflective-formative type). On this basis, in this study *ACAP* is a *reflective-reflective model* (Mode A), whereas *NC* is a *reflective-formative type* (a combination of Mode A and Mode B). *ACAP*, as a second-order latent variable, includes four reflective first-order dimensions (LOCs), namely acquisition (Aq), assimilation (As),

transformation (Tr) and exploitation (Ex), each of which is measured by several reflective indicators. When it comes to NC (as HOC), there are four formative dimensions (LOCs), that is to say coordination (CO), partner knowledge (PK), relational skills (RS) and internal communication (ICO). All given dimensions are measured by reflective indicators.

As **Table 3-3** shows, in addition to NC and ACAP as second-order LVs, the path model consists of three first-order constructs, international performance (IP), innovative capability (IC) and market uncertainty (MU), that are measured reflectively by multiple indicators. However, age and size, as control variables, are single-item constructs. **Table 3-3** indicates the characteristics of the measurement model in this study. The model is a combination of three types of measurement models, i.e. second-order, first-order and single-item constructs.

When it comes to the HCMs, estimation of parameters could be difficult; therefore, it is necessary to decrease the complexity of the model through obtaining LOCs' scores. In this respect, particularly in the context of PLS-SEM, in order to estimate parameters (construct scores) in such HCM, researchers have suggested three approaches: (i) the repeated indicators approach, (ii) the sequential latent variable score method (two-stage approach), and (iii) the hybrid approach (Becker et al., 2012). In other words, these methods are applied to reduce the complexity of the model.

Figure 3-2: The stages of PLS-SEM evaluation for hierarchical component models (HCMs) and simple models, adapted from the works of several authors (Becker et al., 2012; Sarstedt et al., 2014). Notes: LVs= Latent Variables, Mode A= reflective outer model measurement, Mode B= formative outer model measurement.

Table 3-3: The characteristics of the measurement model.

<i>Variable</i>	<i>Type of construct</i>	<i>Type of measurement model</i>	<i>Lower-order construct</i>	<i># of indicators</i>
ACAP	Second-order	– Reflective first-order with multiple indicators – Reflective second-order (four dimensions)	Acquisition (Ac)	3
			Assimilation (As)	4
			Transformation (Tr)	3
			Exploitation (Ex)	3
			Coordination (CO)	6
NC	Second-order	– Reflective first-order with multiple indicators – Formative second-order (four dimensions)	Partner knowledge (PK)	4
			Relational skills (RS)	4
			Internal communication (ICO)	5
IC	First-order	Reflective-multiple indicators		6
IP	First-order	Reflective-multiple indicators		7
Control variables				
MU	First-order	Reflective-multiple indicators		4
Int_Exp	Single item	Reflective		1
Size	Single item	Reflective		1

In this research, I have used a two-stage approach to reduce the complexity of the high-order hierarchical latent variable, as well as to estimate associated parameters of HOC. To do this, the two stages were performed using Smart-PLS. This two-stage approach has been explained in detail in the next section. The process of these two stages, along with the PLS-SEM analysis and associated substeps, have been visualized in **Figure 3-2**, based on the studies of several authors (Becker et al., 2012; Hair et al., 2012; Sarstedt et al., 2014).

Stage 1. (1) The measurement model (outer model) for all first-order LV was assessed (both reliability and validity). In the event an indicator does not cover the necessary thresholds, then it

would be held or removed. Consequently, the realized model will be used for the next step, (2). In this step, LV scores were obtained for all LOCs including acquisition, assimilation, transformation, exploitation, coordination (CO), partner knowledge (PK), relational skills (RS) and internal communication (ICO). The original model has been depicted in **Figure 3-3**.

Stage 2. In the second stage, the scores obtained for the given LOCs from the first stage were used as indicators for NC and ACAP as HOCs. The outcome of this stage is a path model with new reduced measurement models, as shown in **Figure 3-4**. In the reduced model, all LVs are first order-types because ACAP and NC as second-order constructs were reduced to the first-order types. Compared to the original path model, the outer model is now less complicated and its assessment would be easier. Obviously, this resulting model is the final model for assessing both the measurement model and structural (inner) model. In the data analysis section, I have explained the method of outer and inner model assessment.

Figure 3-3: PLS-SEM, original model. *Notes:* ACAP= Absorptive Capacity, NC= Networking Capability, IC= Innovative Capability, IP= International Performance, MU= Market Uncertainty, Aq= Acquisition, As= Assimilation, Tr= Transformation, Ex= Exploitation, CO= Coordination, RS= Relational Skills, PK= Partner Knowledge and ICO= Internal Communication. ACi= Absorptive Capacity Indicators, NCi= Networking Capability Indicators, IPi= International Performance Indicators, ICi= Innovative Capability Indicators, MU_i = Market Uncertainty Indicators.

Figure 3-4: PLS-SEM, the reduced model.

3.9 Data Analysis (Evaluation of PLS-SEM Results)

Different techniques of analysis, such as first-generation (e.g., regression, ANOVA) and second-generation (e.g., structural equation modeling (SEM)), are applied in social science and business research disciplines (Becker et al., 2012). SEM is applied to overcome disadvantages of the first-generation methods. SEM is considered a comprehensive statistical means to analyze the relation of different latent variables (Hair et al., 2011, 2010).

Covariance-based Structural Equation Modeling (CB-SEM) and Partial Least Square Structural Equation Modeling (PLS-SEM), as complementary methods, are two powerful frameworks which are used in IB (e.g., international marketing) research to estimate parameters in causal path models with different types of unobserved (latent) variables. Specifically, in recent years the application of PLS-SEM has been more popular in marketing research (Henseler et al., 2009). In this research, to analyze the data and test the theoretical model, Partial Least Squares (PLS), a *variance-based* structural equation modeling (PLS-SEM) application, was used. To do

this, Smart PLS, Version 3.2.3, was applied as the statistical software package. Needless to say, that estimation procedure for PLS-SEM is based on the ordinary least squares (OLS) regression-based method; for CB-SEM, in contrast, maximum-likelihood is used as the estimation method (Brown, 2006).

In this study, PLS-SEM was used instead of CB-SEM for the following reasons: (1) as the purpose of this study is explanatory and its objective is predicting variances of key endogenous constructs (Hair et al., 2012, 2011), e.g. IC, NC, and IP; (2) as was explained in the last sections, the existence of formative latent variable in the structural model such as networking capability, that, in turn, is a second-order reflective-formative in nature; and (3) the complexity of the structural model is high, because it includes more than 50 observed indicators, 8 lower-order latent variables (LOCs), 3 first-order latent variables, and two higher-order constructs (HOC) (see *Table 3-3*).

In order to analyze the PLS-SEM results, typically two steps, measurement model (outer model) assessment and structural model (inner model) assessment, should be performed (Henseler et al., 2009). If the outcome of the first step is satisfactory, then the next step should be followed. In each step, different criteria should be examined. In this research I have accomplished the two steps. In the next sections, outer model evaluation, inner model assessment, and related criteria will be discussed.

It is important to note that when the following two conditions exist, then estimation will be truer (Chin et al., 2008) and the results of the PLS-SEM and CB-SEM analysis can be highly similar (Hair et al., 2013). The associated conditions are: (i) using a large sample size (large data set) and a large number of indicators per construct (4+); and (ii) the existence of normal data. ***In this research***, both of these conditions have been realized, because the number of cases is 330 (more than the 250 emphasized by Hair and colleagues), the number of indicator variables for each latent variable is greater than four, and all observed indicators are normal. Accordingly, it is expected that the results of this study (PLS-SEM) are similar to the results of CB-SEM.

3.9.1 Step 1: Outer Model Assessment

By evaluation of the outer model, relationships between LVs and their indicators are assessed. And, without outer model evaluation, analyzing the structural model is meaningless. The

adequacy of the outer model can be examined by assessment of reliability and validity of the measurement model, each of which includes different factors as follows:

- Reliability: indicator reliability, internal consistency reliability.
- Validity: convergent validity and discriminant validity.

However, these assessments for reflective measurement models (Mode A) and formative measurement models (Mode B) are followed by different guidelines (Hair et al., 2013). As previously noted, the path model in this study is a combination of formative and reflective LVs. Accordingly, they have to be analyzed separately, as was done in this research.

3.9.1.1 Reflective outer model (Mode A) assessment

In this study, except for networking capability (NC), all other latent variables are reflective. In this regard, a large part of the outer model assessment is allocated to the reflective outer model assessment. In the following two sub-sections I have explained how the reliability and validity of the reflective measurement model should be examined. It is important to note that CO, PK, RS and ICO as LOCs of NC are reflective in nature.

• Reliability

To analyze reliability, in PLS-SEM, two kinds of reliability, indicator reliability and internal consistency reliability, should be assessed for each outer model. It is important to note that reliability is a necessary condition for validity, however it is not sufficient.

Indicator (item) reliability. This is assessed by evaluating simple correlations (loadings) between observable items and associated LVs. Higher values of outer loadings on LVs show a higher level of indicator reliability. Indicator reliability is established when the shared variance between LV and the related indicator is 0.50 percent or more. This minimum value can be realized by a standardized outer loading value of 0.708 or more (Hulland and Business, 1999). However, social researchers have considered weaker values for social studies. For instance, a value of 0.70 is an acceptable level of indicator reliability. In this enquiry, the following conditions were established to retain or remove an indicator in a given construct (Hair et al., 2013, 2011; Hulland and Business, 1999). First, it is essential to have a statistical significance level for the indicators' outer loadings (statistic t-value greater than 1.96 or p-value lower than 0.05) resulting by means

of the bootstrapping procedure in the PLS software. Second, indicators with standardized outer loadings of 0.7 or higher are retained, and those lower than 0.5 are removed. Third, outer loadings greater than 0.5 and smaller than 0.7 are deleted, but only if deletion of the indicator increases the values of AVE and CR above the threshold, otherwise it would be retained.

Internal consistency reliability. Reliability refers to the consistency of a measurement. To assess the internal consistency reliability several measures, i.e. Cronbach's alpha (Cronbach, 1951) and composite reliability (Werts et al., 1974), are used by researchers. Cronbach's alpha is based on the intercorrelation of the indicators and it considers all indicators with equal reliability, whereas composite reliability (CR) assumes that indicators have different loadings (Henseler et al., 2009). PLS calculates both Cronbach's alpha and CR. However, in SEM the CR is a more common means of reliability testing. The value of CR varies between 0 and 1. In this study, values equaling 0.7 or above are acceptable as desirable levels of internal consistency reliability in reflective constructs. In other words, the critical value of 0.7 is a cut-off threshold to have sufficient construct reliability for all associated evaluations.

- *Validity*

In order to assess validity, PLS-SEM researchers usually examine two types of validity, convergent validity and discriminant validity. Existence of these two validities at the same time means that the construct validity has been established (Henseler et al., 2009). Needless to say, in theory development or theory testing, establishment of construct validity is essential (Jarvis et al., 2003).

Convergent validity. This validity refers to the degree to which a set of indicators represents a latent variable (construct). Fornell and Larcker (1981) stated that if the average variance extracted (AVE) for each construct is higher than 0.50, then the condition of convergent validity would be established. It is important to note that convergent and discriminant validity for formative variables are not applicable. In this study, the $AVE > 0.5$ has been considered as the cutoff for realizing convergent validity.

Discriminant validity. This refers to a condition by which the distinction degree of a construct from other construct (s) is established. Heir et al. (2013, p. 104) defined discriminant validity as "*the extent to which a construct is truly distinct from other constructs by empirical standards*".

In other words, discriminant validity is established when each construct is unique and it is only represented by its own measures, not measures of other constructs in the structural model. Researchers have evaluated discriminant validity in different ways, each of which with its own advantages and disadvantages.

In the context of PLS-SEM there are three methods for examining discriminant validity. One method is the Fornell-Larcker (1981) criterion. Based on this method, the square root of the AVE ($AVE^{1/2}$) is compared with the correlation of the given construct with other constructs. When $AVE^{1/2}$ for a construct is bigger than the correlation of that construct with other latent variables, consequently the discriminant validity is established. Another method is cross loadings of the indicators (or item-level discriminant validity). As its name implies, discriminant validity is realized when the values of an indicator's cross loadings are lower than the outer loading of that indicator on its own latent variable (Gefen and Straub, 2005; Hair et al., 2011). A third method is the Heterotrait-monotrait (HTMT) ratio of correlations. As a new alternative for traditional discriminant validity, this was developed by Henseler et al. (2015) based on the multitrait-multimethod matrix. According to this method, if the value of HTMT is significantly lower than 1.00, then discriminant validity will be established. These authors explained that methods like Fornell-Larcker's (1981) criterion have some potential weaknesses, and for this reason it is necessary to check discriminant validity in several ways.

As a result, in this research, in order to establish discriminant validity in *reflective measurement models*, I have used all three of the above methods. In this regard, the following criteria were considered as rules of thumb for each method: HTMT lower than 0.85, $AVE^{1/2}$ (for each construct) should be bigger than the highest correlation with other LVs, and outer loadings (for an indicator on a latent variable) should be higher than all cross-loadings with other LVs.

3.9.1.2 Formative outer model (Mode B) assessment

The differences in the reflective and formative measurement models were noted previously. It was discussed that in formative measurement models, the LV is caused by the related indicators (the direction of the arrows is reversed). In other words, compared to reflective measures, the nature of the relationship between formative constructs and their measures are different. In this regard, the rules for assessing reflective measurement models, e.g. indicator reliability,

composite reliability, and discriminant validity, are not applicable to assess the quality of formative constructs. For instance, applying internal consistency reliability for measurement models is not meaningful because it is assumed that the formative indicators are error-free and not interchangeable (Diamantopoulos, 2006). To evaluate the quality of formative measures (Mode B), in this investigation I have relied on the three different criteria of convergent validity (not AVE), indicators' collinearity and outer weights (instead of outer loadings), as suggested by Hair et al. (2013).

First, regarding *convergent validity*, it is essential to test the correlation of NC as a formative construct with the same construct (NC) that has been measured by one or more reflective indicators. This method, called *redundancy analysis*, is used by Chin (1998) and Hair et al. (2013). To do this, I used the $NC^{formative}$ as the exogenous LV (including formative indicators CO, PK, RS, and ICO) predicting the $NC^{reflective}$ as the endogenous LV. The $NC^{reflective}$ was operationalized by one question reflectively.

It is better, as a researcher when collecting the data, to at the same time measure this reflective construct using an independent question. However, in this study, I did not add a specific question to the questionnaire to operationalize $NC^{reflective}$. Then, to solve the problem I used the item NC12 (from a collection of 19 indicators of NC in the questionnaire) as the representative of $NC^{reflective}$. This item was used because it somehow represents a high degree of networking capabilities in the firm. In other words, when a firm has information about its partners' products, procedures and services, it could be a sign about the existence of the NC. According to Chin (1998), if the correlation (path coefficient) between two constructs such as this case were 0.7 or more ($R^2 > 0.64$), then it can be concluded that convergent validity has been established for the formative constructs.

Second, indicators' collinearity. A high correlation between formative indicators is not expected, as there is between reflective indicators. On this basis, the existence of multicollinearity between formative indicators can create problems through affecting the estimation of path correlations and related statistical significance in the structural model. The multicollinearity was assessed by evaluating the level of the variance inflation factor (VIF) (O'brien, 2007) for formative indicators, i.e. CO, PK, RS and ICO. In this respect, the VIF

values lower than five ($VIF < 5$) were considered as the rule of thumb to deal with likely multicollinearity threats. In other words, if VIF is 5 or more then the corresponding indicator should be removed.

Third, outer weights' significance and relevance. According to Hair et al. (2013, 2010), if the formative indicators behave like independent variables on the formative construct as dependent variables, then the outer weights are related correlations resulting from multiple regression. Comparing the outer weights' values together indicates the importance of each formative indicator and associated contribution to formative LV.

To examine the extent of this contribution, in this research, after utilizing the two-stage approach (reducing the complexity of second-order constructs), CO, PK, RS and ICO were considered as composite formative indicators for NC. For these indicators, the outer weights along with related statistical significance levels (t-value and p-value) resulting from the bootstrapping procedure were assessed based on several rules and criteria used by Hair et al. (2013) and Sarstedt et al. (2014). On this basis, for those significant outer weights (the statistical t-value is 1.96 (or more) and p-value is lower than 0.05), it can be concluded that the given indicators have an important contribution to the formative LV, and consequently, it should be retained. If an indicator's outer weight is high but not significant, then it can be important absolutely, however not relatively. Therefore, these kinds of indicators should not be removed. In the event an indicator's outer weight is non-significant, and its outer loading is lower than 0.5, then it should be removed.

It is important to note that when computing t-values and p-values for the purpose of this study, I applied a bootstrapping routine (as a resampling technique) in order to create random subsamples from the original data set (330 cases). Using a large number of subsamples guarantees the stability of the PLS results. In this regard, I fixed the setting of the Smart-PLS software for 5,000 bootstrap samples (subsamples). This setting was used for all analysis in this research.

3.9.2 Step Two: Inner Model Assessment

It was mentioned that in order to assess the inner model, it is essential to pass the requirements of the first step (outer model assessment). In the last section, I discussed the required criteria to

assess the quality of the measurement model. In this section, the requirements of the inner model assessment are discussed for this study. Specifically, the ability of the model to predict and the relationship between LVs are discussed. The rules of structural model assessment in PLS-SEM are not the same as for CB-SEM. In CB-SEM methods, the researcher uses goodness-of-fit standards to evaluate the structural model, whereas in PLS-SEM, the predictive capability of the model, particularly for predicting endogenous LVs, is important. In the process of inner model assessment several stages, each of which has its own specific criteria, have been suggested by PLS-SEM scholars (Chin, 1998; Hair et al., 2013, 2011; Henseler et al., 2016; Sarstedt et al., 2014).

In this study I have applied these key factors to assess the inner model. They are as follows: (1) endogenous constructs' coefficient of determination (R^2), (2) predictive relevance or cross-validated redundancy (Q^2), and (3) path coefficients and their significance (standard errors, significance levels, t-values and p-values).

Collinearity. To assess the inner model, it is first of all necessary to evaluate the possible collinearity between LVs (predictors) in the structural model. To do this, I have examined VIF measures for all constructs in the model, as was done for the formative outer model. For those constructs with a VIF value greater than 0.2 and lower than five ($0.2 < \text{VIF} < 5$), there is no problem for a collinearity threat. In the next stages, the associated criteria for the inner model assessment are examined.

R-squared value. The R^2 value represents the combined shared variance in the endogenous LV, which has been affected by the exogenous LVs. The R^2 value varies between 0 and 1. There are different ranges for R^2 values as a rule of thumb, however it is not easy to determine a certain rule of thumb for that because it could be different discipline by discipline. However, in this study I have considered the following range, suggested by Chin (1998), as a rough rule of thumb: substantial, $R^2 = 0.67$; moderate, $R^2 = 0.33$; and weak, $R^2 < 0.19$. However, in the context of the internationalization of SMEs, there is no consensus in this regard.

Predictive relevance or cross-validated redundancy (Q^2). Predictive relevance, developed by Stone (1974) and Geisser (1975), is known as the Stone-Geisser's Q-square test. Predictive relevance refers to a test in PLS to evaluate the capability of the structural model to predict parameter estimation. In other words, this test shows at what extent observed values can be

reproduced by the path model. Predictive relevance is a kind of model fit indicator in the context of PLS-SEM. According to different studies (Chin, 1998; Hair et al., 2013; Henseler et al., 2016), the predictive relevance for a path model is realized when the Q-square value is greater than zero, and the lack of predictive relevance takes place when the Q-square value is zero or lower. This cut-off threshold is also used for this study to evaluate the predictive relevance for a given endogenous LV. It is important to note that I have used the blindfolding procedure in Smart-PLS to obtain the Q-square.

Inner model path coefficients. In the inner model, estimated path relationships between two or more constructs are known as path coefficients. In other words, path coefficient refers to a hypothesized causal connection between two LVs in the context of PLS-SEM. In the regression analysis they are called *betas*. The standardized value path coefficients can be vary between -1 and +1. Path coefficients' values close to +1 represent a strong positive relationship between two constructs. To evaluate a path coefficient, it is essential to have the level of significance for it. To do this, the empirical t-value and p-value should be obtained. In PLS-SEM, t-values and p-values could result from running the routine of Bootstrapping. Researchers generally use different t-values in different significant levels as critical values. In this respect, critical t-values of 1.65, 1.96, and 2.57 that belong to the significant levels of 10%, 5% and 1%, respectively, are used as rules of thumb. Similarly, in this study I have used these cut-off thresholds to assess path coefficients. However, in marketing studies, 5% is usually assumed as a common significant level (Hair et al., 2013). Furthermore, in this study I have used both t-value and p-value to assess six path coefficients associated with developed hypothesized relationships, that is $NC \rightarrow IP$, $ACAP \rightarrow IP$, $IC \rightarrow IP$, $ACAP \rightarrow IC$, $ACAP \rightarrow NC$, and $IC \rightarrow NC$, as well as $MU \rightarrow IP$, $Age \rightarrow IP$, and $Size \rightarrow IP$ as connections of the control variable with international performance. Obviously, a hypothesis can be supported when a path coefficient is significant.

Inner model fit. Although in PLS-SEM methods associated researchers commonly do not report model fit indicators, other scholars have stated that the approximated model fit criteria can be reported. For instance, in their recent article Henseler et al. (2016) stated that reporting the standardized root mean square residual (SRMR) is the criterion which should be considered by researchers. In this respect, in this study, the SRMR has been used as an indicator to show the approximate model fit. The SRMR's value can be varied between 0 and 1. When a model is

perfectly fit, it means that the value of the SRMR is closer to zero. For this study, a SRMR value lower than 0.08 is considered as an acceptable cut-off threshold for the PLS-path model fit (Henseler et al., 2016).

Indirect effect (mediation) analysis. If the total effect (TE) of a LV on an endogenous variable would be larger than its direct effect (DE), then it could be concluded that the indirect effect (IE) should be considered. In other words, the mediation effect should be analyzed in the structural model. Needless to say that in the structural model (see **Figure 3-4**), NC and IC can potentially play the mediation role for the relationship of ACAP on IP. In addition, at the same time IC can play the mediation effect for ACAP on NC. Furthermore, there is a likely potency for NC to mediate the relationship of the IC on IP as well. In this regard, and according to Hayes (2013), in this study the structural model could be considered as a *serial multiple mediator model*, because in the model, as was noted above, ACAP causes innovative capability (IC) that in turn causes NC and so forth. In this model, all LVs affect all constructs later in a causal sequence. On this basis, to analyze the indirect effect, several studies have provided related analytical approaches (Baron and Kenny, 1986; Hair et al., 2013; Hayes, 2013, 2009; Sarstedt et al., 2014; Zhao et al., 2010). Based on these analytical approaches, for the objective of this study I performed the following steps to analyze the likely mediation effect for IC and NC in the PLS structural model.

- (1) The total effects of ACAP on IP and IC on IP were analyzed, because the resulting significant estimations were larger than given direct effects further analysis was performed as follows.
- (2) The significance of the direct effect (IC on IP) was examined, and NC was excluded.
- (3) The significance of the direct effect (ACAP on IP) was assessed, and NC and IC were excluded.
- (4) The significance of the three indirect effects (IE) of ACAP on IP, ACAP on NC and IC on IP were assessed. In the event that the indirect effect is not significant, it means that there is no mediation effect, and if so, further analysis should be done.
- (5) For the significance in direct effects the variance accounted for (VAF) was calculated ($VAF = \text{Indirect effect} \times 100 / \text{Total effect}$). If the VAF is lower than 20%, then there is *no mediation* effect, while for VAF values higher than 80%, there is a *full mediation* effect. Finally, if VAF values are located between the range of 20% and 80%, then there is a *partial mediation*

effect (Hair et al., 2013). It is important to note that, in the process of mediation examination, for assessing the significance of total effects, indirect and direct effects the routine of bootstrapping with 5,000 resamples was run using the PLS software.

Thus far, in order to evaluate the model assessment, several criteria were explained to assess both the outer model and inner model. Taken together, all discussed criteria are summarized in a table (*Table 3-4*). *Table 3-4* depicts two categories of criteria, outer model assessment and inner model assessment.

Table 3-4: Evaluation criteria for assessing the quality of both outer and inner models in PLS-SEM.

		Criterion		Rules of thumb
Outer model assessment	Reflective (Mode A)	Reliability	Indicator reliability	<ul style="list-style-type: none"> For all indicators' outer loadings, $t\text{-value} > 1.96$ and $p\text{-value} < 0.05$, obtained from 5,000 bootstrap samples Indicators with outer loadings > 0.7 are retained and those lower than 0.5 are removed. If $0.5 < \text{outer loadings} < 0.7 \rightarrow$ should be deleted if deletion of the indicator increases values of AVE and CR above threshold, otherwise it would be retained.
			Internal consistency	<ul style="list-style-type: none"> Composite reliability (CR) > 0.7
		Validity	Convergent validity	<ul style="list-style-type: none"> Average variance extracted (AVE) > 0.5
			Discriminant validity	<ul style="list-style-type: none"> Fornell Larcker criterion: $\text{AVE}^{1/2} > \text{highest correlation with other LVs}$ Cross-loadings criterion: (outer loadings on associated LV $>$ all cross-loadings with other LVs) HTMT criterion < 0.85
	Formative (Mode B)		Convergent validity	<ul style="list-style-type: none"> Redundancy analysis. The correlation between constructs > 0.8
			Indicator collinearity	<ul style="list-style-type: none"> Multicollinearity among indicators ($0.2 < \text{VIF} < 5$)
			Outer weights' significance and relevance	<ul style="list-style-type: none"> Significant outer weights are retained, non-significant outer weight with outer loading > 0.5 are retained. Non-significant outer weight with outer loading < 0.5 are removed. Significance level: ($t\text{-value} > 1.96$ and $p\text{-value} < 0.05$ obtained 5,000 bootstrap samples).
Inner model assessment			Latent variables (LVs) collinearity	<ul style="list-style-type: none"> Multicollinearity among LVs ($0.2 < \text{VIF} < 5$)
			Inner model-fit	<ul style="list-style-type: none"> SRMR < 0.08
			Coefficient of determination (R^2)	<ul style="list-style-type: none"> Substantial: $R^2 = 0.67$, Moderate: $R^2 = 0.33$ and Weak: $R^2 < 0.19$
			Cross-validated redundancy (Q^2)	<ul style="list-style-type: none"> Q^2 for endogenous LV > 0 obtained from blindfolding procedure
			Size and significance of path coefficients	<ul style="list-style-type: none"> $T\text{-value} > 1.96$ and $p\text{-value} < 0.05$ obtained from 5,000 bootstrap samples
			Size and significance of indirect effects	<ul style="list-style-type: none"> $T\text{-value} > 1.96$ and $p\text{-value} < 0.05$ obtained from 5,000 bootstrap samples For every significant indirect effect if: <ul style="list-style-type: none"> $\text{VAF} < 20$ (no mediation effect) $20 < \text{VAF} < 80$ (partial mediation) $80 < \text{VAF}$ (full mediation)

For outer model assessment, related criteria and rules of thumb have been presented for two types of modes, Mode A (reflective measurement models) and Mode B (formative measurement models). In this table, six criteria for inner model assessment along with related rules of thumb have been highlighted. Accordingly, this table is a guideline to analyze data in PLS-SEM for this

study. In other words, the results of Smart-PLS for 330 cases will be presented and analyzed in Chapter 4 based on this table's content.

3.10 Common Method Variance

Measurement error could be created from common method biases (CMB), a problem that can threaten the results of a study. The measurement error could be generated either randomly or systematically, but the latter could be more problematic because of its strong effect on the validity and reliability of the study (Podsakoff et al., 2012, 2003).

According to Bagozzi, Yi, and Phillips (1991), when the variance is attributed to the method rather than the constructs' relationships, then this type of variance is called common method bias (CMB) and can act as the engine of systematic measurement error. CMB can change the estimated values associated with the path relationships between different constructs in a model. For example, CMB can create problems in the context of PLS-SEM (Kock, 2015). Several authors (MacKenzie and Podsakoff, 2012; Podsakoff et al., 2012, 2003) have identified different influential factors which can increase CMB. These authors have also provided several procedural and statistical techniques (remedies) to minimize or control the likely effect of CMB in research; in this study, some of them were considered as effective advice. However, applying all the given techniques is not easy and may not be possible.

On this basis, the following actions were followed in the process of the research design and implementation, such as when designing the questionnaire.

1. Avoid referring to words with different meanings in the questionnaire that have the potential to generate ambiguity by applying simple words and concepts.
2. Avoid using "double-barreled items" in a question
3. As an informant researcher, being available to the respondents via a telephone number written on the cover letter of the questionnaire. In case respondents had questions, they could call. For instance, several respondents called the given number and asked their questions.
4. Using measurements that had been tested and used in previous studies
5. Designing clear questions as much as possible

6. Explaining and highlighting the importance of the respondents' opinions in our study using an attached cover letter on the questionnaire
7. Using a multi-item, seven-point Likert-scale (1=strongly disagree, 7= strongly agree) rather than a five-point Likert-scale, which gives the respondent the possibility of more choices to answer a question.
8. Having the CEO choose a person who has the appropriate information and experience about the issues asked in the questionnaire.

Despite performing the above actions, the CMB problem may still appear, particularly when a self-report or single respondent (in this study CEO) is used to collect the data both for dependent and independent variables (Podsakoff and Organ, 1986). In this regard, the common bias variance problem should be checked. To do this, there are several techniques that have been used by researchers. In this study, however, like Rasoolimanesh et al. (2015) I have used the following tests: (1) Harman's one-factor test, (2) the inter-construct correlation and (3) full collinearity.

In order to perform Harman's one-factor test, all studied variables were entered into the factor analysis in SPSS. The principal component analysis was selected as the extraction method to find the single factor that could be considered as the source of the majority of the explained variance. To perform this analysis, the option of number of extracted factors was fixed on one. In this regard, the result of un-rotated factor analysis shows that the given factor only represented %27.307 of the explained variance. This means that there is no CMB problem as a considerable threat for the results of this study.

According to Bagozzi et al. (1991), the existence of inter-construct correlation values equal or greater than 0.90 could be considered as evidence of a CMB problem. The finding of this study (see **Table 4-7**) revealed that there is no inter-construct correlation value greater than 0.696 (correlation between ACAP and NC).

Another method to examine the CMB is the full collinearity test. Based on this method, if VIF, for each latent variable, is greater than or equal to 3.3, then the problem of CMB could exist (Kock and Lynn, 2012). My findings show that for all latent variables in the theoretical model, the value of VIF is lower than 3.3, and therefore there is no threat against the results of the study

from CMB. More information is available in *Appendix V (Collinearity Statistics for The Reduced Model)*. Given the results of the above tests, it can be concluded that in this study there is no common bias method that threatens the results of the research.

3.11 The Methodology of the Literature Review On IB and Capabilities

As was noted in Chapter 2, the results of a systematic literature review about organizational capabilities in the internationalization context was provided and discussed. In this respect, in this section the associated methodology for the given literature review is explained.

To perform a comprehensive literature review, several steps and actions should be carried out. In this regard, I applied the advice of several authors, e.g. Keupp and Gassmann (2009) and in particular the work of Tranfield et al. (2003).

Step 1: Determining keywords.

As our focus is about the impact of capabilities (or competencies) on internationalization of the firm, as the first step I had to choose a set of relevant keywords which cover different forms of our main concepts, such as “capabilities” and “internationalization”. In this respect, we selected different synonyms for them that are used by researchers such as “capability”, “capabilities”, “competence”, “competency”, “absorptive capacity”, “internationalization”, “international”, and “export”.

In line with Schmid and Kotulla (2011), in order to include both American English and British English (e.g., “internationalization” and “internationalisation”) on the one hand, and meet different forms of the concepts of capability and competency (e.g., singular nouns and plural nouns, verbs) on the other, the wildcard asterisk (*) was used as follows: (1) *Capabil**, *Competenc**, *absorptive cap**; (2) *International**, *export**.

Based on the above two groups of keywords, the title or abstract of each article should cover at least one keyword from Group 1 and another keyword from Group 2 (e.g. Title: The impact of “*absorptive capacity*” on SMEs’ “*internationalization*”).

Step 2: Database and delimitation of the search.

After getting advice from the library of the university, I decided to search the keywords through three well-established electronic databases, that is Scopus, Web of Knowledge and

ScienceDirect. Then, I limited the search, first of all, to the business and management domains while excluding other fields. Moreover, within the selected field a search was conducted based on article title, keywords and abstract of publications for the date range of all years through 2015. It is clear that the capabilities approach within the context of internationalization is not so old. However, I limited my research only to journal articles. Other document types, such as book chapters or books, conference papers, and conference reviews were excluded. The references of found articles from all electronic databases were exported to Zotero and merged, and then repeated documents were located and deleted by this software. In total, 958 articles were identified.

Step 3: Identifying eligible articles.

In order to select eligible articles, the focus of the article should be on the relationship of capabilities (or competencies) to the different aspects of internationalization of the firm, for example the influences of capabilities on international performance, export performance, internationalization, international expansion, rapid internationalization, speed of internationalization, and degree of internationalization. The impact of internationalization of the firm on its capabilities was excluded. Furthermore, we omitted the influence of capabilities on globalization of the firm and foreign direct investment (FDI). On this basis, the abstracts of 958 articles were scanned, and 164 articles were identified as potentially qualifying articles.

Step 4: Analysis of the selected articles.

The full texts of the articles were read, after which I selected 98 articles. The articles were analyzed based on the factors of author(s)/date, journal, focus of the article, used theory, type of capability, method, context/sample and key findings (relation of capability to internationalization of the firm).

Stage 5: Final screening according to the level of the journal.

In this step I screened read articles based on the ranking of the relevant journals which had published the articles. On this basis, a final list of 60 articles was accepted to be focused on further analysis. The result of this step yielded a list of various influential capabilities within the context of internationalization. All 60 articles, along with related factors, are shown in *Appendix I (Identified Capabilities by Systematic Literature Review)*.

Stage 6: Understanding capabilities.

Finally, in order to understand the nature of the identified capabilities, they were analyzed one by one. Based on the analysis of this step, three clusters emerged: relational-based FSAs (NC), learning-based FSAs (ACAP), and innovative-based FSAs (IC). These were discussed in Chapter 2 and are shown in ***Table 2-3***.

4 Analysis

4.1 Research Context and Descriptive Analysis

As was noted in the last chapters, the focus of this study was on the internationalized manufacturing SMEs in the context of Sweden as an advanced economy in the Scandinavian countries. According to OECD reports, among OECD economies, the national economy in Sweden facilitates SMEs and entrepreneurship activities (OECD, 2010). Because of the small domestic market in Sweden, going abroad can be crucial for Swedish SMEs' survival. In Sweden there are several industrial sectors, e.g. service and manufacturing. Internationalization is a common approach for Swedish SMEs. The government also plays a supportive role for SMEs.

Before starting the analysis, the main characteristics of the collected data (330 cases) are presented as follows.

Industry. As can be seen from *Table 4-1*, according to the Swedish standard industrial classification (SNI-code 2007), the collected data is a representative of internationalized SMEs from the major sub-production sectors of the entire manufacturing sector including the manufacture of (1) fabric, fabricated and basic metal (21.8%); (2) food, beverage and tobacco (5.15%); (3) chemical, pharmaceutical, rubber and plastic (10.3%); (4) clothing, textile and leather (2.7%); (5) electronic and electrical equipment (12.2%); (6) wood, paper, furniture and printing (12.42%) ; (7) machinery and equipment, motor vehicles (27%); (8) non-metallic minerals (2.4%); and (8) other (6.1%).

Size. *Table 4-1* presents an overview of the size of the SMEs within the collected data. The size is denoted by the number of people in each SME. The mean score for the size is 49.70 people. The breakdown was SMEs with a size of 10-19 (25.8%), 20-49 (43.3%), 50-99 (17%), 100-199 (11.8%) and 200-250 (2.1%). As can be seen from the data, the main body of the data belongs to SMEs with a size of 20-49 people.

Age. As *Table 4-1* shows, the summary statistics for the age of SMEs show that 2.1% of the SMEs are between 4-9 years of age, 15.2% belong to the range of 10-19 years of age, 46.9% are located between 20-49 years of age, and 35.8% of them are older than 49 years old. The average

age for these 330 case enterprises is 47.63 years old. The minimum and maximum ages are 4 and 355 years old, respectively.

International experience. The results of the descriptive analysis show that 9.1% of SMEs have 1-9 years' experience in international markets, 23% of SMEs have 10-19 years' experience, 49.1% of SMEs have 19-49 years' experience, and 18.8% of the SMEs have more than 49 years' experience in IB activities. In general, the mean score for the SMEs' international experience is 31.62 years. The lowest international experience is 1 year, and the highest experience for an old SME is 115 years (see ***Table 4-1***).

Internationalization scale (foreign revenue/annual sales). Further analysis (see ***Table 4-1***) revealed that the level of outward involvement in IB is different for these 330 SMEs. In this regard, the foreign revenue of 14.2% of the SMEs is lower than 10% (0.7-0.9%) of annual sales, for 12.8% of the SMEs it ranges from 10-19%, for 28.2% of the SMEs it is from 20-49%, and for 44.8% of the SMEs, it is more than 49% of annual sales.

Internationalization scope. Another factor that was analyzed is the number of countries that each SME has been involved with in IB activities. The results indicate that 37.9% of the SMEs have entered lower than 10 countries, while 51.5% of the SMEs have their IB in more than 9 and less than 50 countries. It was also revealed that 10.6% of the SMEs belong to a large international scope (more than 49 countries). A maximum international scope is associated with a SME involved with 170 countries. The average value of international scope for these SMEs is 19 countries.

Speed of internationalization (Globalness). The analysis of the data indicates that there are two main groups of SMEs: those that have been internationalized rapidly (the first foreign sales) five years after establishment and which are called born global (BG) SMEs, and those SMEs that have been internationalized slowly (after six years) which are labeled non-born global (NBG) SMEs. As ***Table 4-1*** shows, of the 330 SMEs, 152 (46.1%) are BG and 176 (53.9%) are NBG.

Table 4-1: The descriptive analysis and the main characteristics of the collected data.

Total Valid cases		330 cases collected from internationalized manufacturing Swedish SMEs							
Type of Industry based on Swedish SNI-code 2007 for manufacturing sector	Fabric, fabricated and basic metal	Food, beverage and tobacco	Chemical, pharmaceutical, rubber and plastic	Clothing, textile and leather	Electronic and electrical equipment	Wood, paper, furniture and printing	Machinery and equipment, motor vehicles	Non-metallic mineral	Others
Number	72	17	34	9	40	41	89	8	20
(percent)	(21.8%)	(5.15%)	(10.3%)	(2.7%)	(12.2%)	(12.42%)	(27%)	(2.4%)	(6.1%)
Total valid cases		330 cases collected from internationalized manufacturing Swedish SMEs							
	Min	Max	Mean	SD	Range (percent)				
Size (# people)	10	250	49.69	46.87	10-19 (25.8%)	20-49 (43.3%)	50-99 (17%)	100-199 (11.8%)	200-250 (2.1%)
Age (year)	4	355	47.63	39.22	4-9 (2.1%)	10-19 (15.2%)	20-49 (46.9%)	> 49 (35.8%)	
International experience (year)	1	115	31.62	20.27	1-9 (9.1%)	10-19 (23%)	20-49 (49.1%)	>49 (18.8%)	
International scale (Foreign revenue *100/Annual sale)	0.7%	100%	44.21%	31.10%	0.7-9 (14.2%)	10-19 (12.8%)	20-49 (28.2%)	>49 (44.8%)	
Scope of internationalization (# country)	1	170	19.00	21.12	1-9 (37.9%)	10-49 (51.5%)	>50 (10.6%)		
Globalness	152 (46.1%) Born Global (BG) and 176 (53.9%) Non-Born Global (NBG)								

4.2 Data Analysis (Evaluation of PLS-SEM Results)

As was noted previously, in this study, PLS-SEM is used to analyze the data. On this basis, in this section the data are analyzed in two steps, namely the outer model assessment and the inner model assessment. But, as was explained in the methodology chapter, because of the existence of NC and ACAP as the two second-order constructs, the nature of the theoretical model is a hierarchical component model (HCMs) which, in turn, is more complicated compared with first-order models. For this reason, in order to analyze the theoretical model, it should first of all be reduced into a simpler model. In other words, the second-order model should be reduced into a first-order model. To do this, the two-stage approach was used. In stage one, the first-order latent variables of the non-reduced model are assessed based on reliability and validity measures. After assessing the non-reduced outer model, the values of the first-order latent variables i.e., acquisition, assimilation, transformation (Tr), exploitation (Ex), coordination (CO), partner knowledge (PK), relational skill (RS) and internal communication (ICO) calculated by PLS software.

These eight first-order latent variables are considered the indicators of ACAP and NC. For example, in order to get the value of assimilation (As), it should be calculated based on its indicators, i.e. AC4, AC5, AC6, and AC7. The resulting value for assimilation will be considered as the first-order indicator of ACAP in the second stage. In this respect, the associated data are presented both for the first stage and the second stage. In the first stage, the outer model assessment is done so that the related data is presented in the next section. In the second stage the model is reduced, and following that the outer model assessment and inner model assessment is performed. In the following sections the analyzed data is presented.

4.3 Stage 1: Reflective-Outer Model Assessment for the Non-Reduced Model

In this part, the data associated with indicator reliability and internal consistency reliability are presented.

4.3.1 Indicator Reliability

To have indicator reliability, it is essential to examine the simple correlation between all observable indicators and related latent variables (LVs). It is important to note that, for the non-reduced model (the original model), the relationships of indicators for each LV are reflective. For

this reason, in this stage, only the outer-loadings have been evaluated based on the *bootstrapping* procedure. The results are shown in **Table 4-2**.

Examining the outer-loading values, i.e. loading factors, the *t* and *p* statistics show that except for MU1 as an indicator of market uncertainty (MU), the simple correlation of all indicator-LV is significant (t-statistic bigger than 1.96 and p-value lower than 0.05). For MU1-MU, the t-statistic is **1.947** and the p-value is **0.052**, meaning that the indicator should be removed from the construct.

Another condition for indicator reliability was the amount of the outer loading factors that should be equal to or higher than 0.70 in significant level (t-value > 1.96 and p-value < 0.05). A higher level of outer loading factors indicates a greater level of indicator reliability (Hair et al., 2013, 2011).

As depicted in **Table 4-2**, of 50 indicators only five indicators, that is to say MU1 (as an indicator of MU), AC6 (as an indicator of assimilation (As)), IC5 (as an indicator of innovative capability), NC14 (as an indicator of partner knowledge (PK)), and NC15 (as an indicator of internal communication (ICO)) are less than 0.70 and greater than 0.50. Their loading factors are equal to 0.563 0.655, 0.679, 0.646 and 0.546, respectively, which have been highlighted within the table. As was noted above, the loading factor of MU1 is **not significant** and it was removed. But, the other four loading factors are significant (with high t-values and very low p-values).

According to Hair et al. (2013, 2011), in this situation where outer loadings are greater than 0.5 and less than 0.7, it is necessary to make the decision to remove or retain given indicators. In this regard, an indicator could be omitted only if its deletion increase values of AVE and CR above the threshold, otherwise it would be retained. As AVE and CR for associated LVs (As, IC, PK and ICO) were greater than 0.5 and 0.7 respectively, I retained all four of these indicators. Accordingly, indicator reliability is established for the first-order LVs (except MU1-MU) in the first stage of the two-stage approach.

Table 4-2: Measurement scales, reliability and convergent validity for the non-reduced outer model.

	<i>Items for each construct</i>	<i>Loading</i>	<i>t-Value</i>	<i>C_a</i>	<i>CR</i>	<i>AVE</i>
	Acquisition (AQ)			0.844	0.906	0.763
AC1	The search for relevant information concerning our industry is every-day business in our company.	0.866	51.737			
AC2	Our management motivates the employees to use information sources within our industry.	0.911	74.670			
AC3	Our management expects that the employees deal with information beyond our industry.	0.841	39.638			
	Assimilation (As)			0.780	0.860	0.608
AC4	In our company ideas and concepts are communicated cross-departmental.	0.844	40.696			
AC5	Our management emphasizes cross-departmental support to solve problems.	0.870	53.115			
AC6	In our company there is a quick information flow, e.g., if a business unit obtains important information it communicates this information promptly to all other business units or departments.	0.655	13.254			
AC7	Our management demands periodical cross-departmental meetings to interchange new developments, problems, and achievements.	0.729	21.950			
	Transformation (Tr)			0.889	0.923	0.750
AC8	Our employees have the ability to structure and to use collected knowledge.	0.844	44.597			
AC9	Our employees are used to absorb new knowledge as well as to prepare it for further purposes and to make it available.	0.903	66.654			
AC10	Our employees successfully link existing knowledge with new insights.	0.888	63.717			
AC11	Our employees are able to apply new knowledge in their practical work	0.829	37.450			
	Exploitation (Ex)			0.743	0.854	0.661
AC12	Our management supports the development of prototypes.	0.772	24.902			
AC13	Our company regularly reconsiders technologies and adapts them accordant to new knowledge.	0.863	49.333			
AC14	Our company has the ability to work more effective by adopting new technologies.	0.802	28.699			

	<i>Items for each construct</i>	<i>Loading</i>	<i>t-Value</i>	<i>C_a</i>	<i>CR</i>	<i>AVE</i>
	Innovative capability (IC)			0.837	0.881	0.552
IC1	Our firm has an organizational culture and a management comprehension that support and encourage innovation.	0.804	38.001			
IC2	At our firm, knowledge from different resources is used for product development activities efficiently and rapidly.	0.770	27.899			
IC3	Our firm is able to reflect changes at market conditions (such as changes from customer wants, competitors' products, etc.) to own products and processes as soon as possible.	0.728	23.643			
IC4	Workers of our firm are supported and encouraged to participate in activities such as product development, innovation process improvement and to produce new ideas such topics.	0.747	25.168			
IC5	New ideas that come from customers, suppliers, etc. are evaluated continuously and try to include into product development activities.	0.679	15.856			
IC6	Our firms could adapt to environmental changes easily and in the short time by making suitable improvements and innovations at its products and processes.	0.723	23.191			
	Coordination (CO)			0.847	0.887	0.568
NC1	We analyze what we would like and desire to achieve with which partner.	0.751	22.725			
NC2	We match the use of resources (e.g., personnel, finances) to the individual relationship.	0.735	22.088			
NC3	We inform ourselves of our partners' goals, potentials and strategies.	0.779	29.089			
NC4	We judge in advance which possible partners to talk to about building up relationships.	0.780	31.461			
NC5	We appoint coordinators who are responsible for the relationships with our partners.	0.701	19.292			
NC6	We discuss regularly with our partners how we can support each other in our success.	0.772	30.683			
	Relational skill (RS)			0.863	0.907	0.709
NC7	We have the ability to build good personal relationships with business partners.	0.846	46.939			
NC8	We can put ourselves in our partners' position.	0.863	46.099			
NC9	We can deal flexibly with our partners.	0.838	42.291			
NC10	We almost always solve problems constructively with our partners.	0.820	33.572			

	<i>Items for each construct</i>	<i>Loading</i>	<i>t-Value</i>	<i>C_a</i>	<i>CR</i>	<i>AVE</i>
	Partner knowledge (PK)			0.796	0.868	0.624
NC11	We know our partners' markets.	0.836	43.227			
NC12	We know our partners' products/procedures/services.	0.831	38.447			
NC13	We know our partners' strengths and weaknesses.	0.828	40.754			
NC14	We know our competitors' potentials and strategies.	0.649	15.609			
	Internal communication (ICO)			0.801	0.865	0.566
NC15	In our organization, we have regular meetings for every project.	0.546	8.928			
NC16	In our organization, employees develop informal contacts among themselves.	0.804	29.464			
NC17	In our organization, communication is often across projects and subject areas.	0.837	42.812			
NC18	In our organization, managers and employees do give intensive feedback on each other.	0.793	32.289			
NC19	In our organization, information is often spontaneously exchanged.	0.745	23.135			
	International performance (IP)			0.881	0.907	0.584
IP1	Generally speaking, we are satisfied with our success in the international markets.	0.737	19.02			
IP2	We have achieved the turnover objectives we set for internationalization.	0.724	18.049			
IP3	We have achieved the market share objectives we set for internationalization.	0.717	17.679			
IP4	Internationalization has had a positive effect on our company's profitability.	0.805	29.587			
IP5	Internationalization has had a positive effect on our company's image.	0.773	24.309			
IP6	Internationalization has had a positive effect on the development of our company's expertise.	0.774	26.025			
IP7	The investments we have made in internationalization have paid themselves back.	0.815	32.603			
	Market uncertainty (MU)			0.837	0.863	0.617
MU1	Customer needs and product preferences changed quite rapidly.	0.563	1.947			
MU2	Customer product demands and preferences were highly uncertain.	0.826	4.035			
MU3	It was difficult to predict changes in customer needs and preferences.	0.808	3.734			
MU4	Market competitive conditions were highly unpredictable.	0.903	4.191			

Note: P-value for all items except MU1 $P < 0.001$, p-value for MU1 = 0.052, CR = Composite Reliability and C_a = Cronbach's Alpha.

4.3.2 Internal Consistency Reliability

In order to assess the consistency of a measurement, in this stage I examined Cronbach's alpha (C_a) and composite reliability (CR) as the two factors calculated with PLS software.

In this respect, for all LVs, CR and Cronbach's alpha (C_a) were calculated, which are depicted in **Table 4-2**. As the content of this table indicates, the values of Cronbach's alpha (C_a) and composite reliability (CR) for all first-order LVs, in the unreduced outer model, are higher than 0.7. This means that the internal consistency reliability for given LVs is well established (Cronbach, 1951; Henseler et al., 2009; Werts et al., 1974). In other words, indicators for each of the LVs provide the same results of measuring.

4.3.3 Validity

To assess the validity of the reflective outer model, two kinds of validity, convergent validity and discriminant validity, were considered. In this section, all related data generated by the PLS software are provided as follows.

4.3.3.1 Convergent validity

To analyze this validity for the non-reduced outer model, the average variance extracted (AVE) criteria for each construct is assessed based on its calculation by PLS. The related results (AVE values) are shown in **Table 4-2** in a previous section. Findings show that for all first-order constructs, the value of AVE is more than 0.5 as the threshold cut-off. This means that for each LV, associated indicators are good representors (Fornell and Larcker, 1981).

4.3.3.2 Discriminant validity

In order to analyze this validity for the non-reduced outer model, as was explained before, three techniques, the cross-loadings of the indicators, the Fornell Larcker criterion, and the Heterotrait-monotrait ratio (HTMT), were used. The data related to each method are presented as follows.

The cross-loadings of the indicators. This is a traditional method to evaluate discriminate validity, and using this method cross-loadings between all indicators and LVs are examined. PLS software can generate cross-loading data. A closer look at the data indicates that all indicators have been loaded strongly on their own constructs. AC13 and IC1 as the two indicators have

been loaded both on exploitation (Ex) and innovative capability (IC), however their loading values on the cross LVs are not higher than their own construct. For instance, the loading value AC13 on IC is 0.633, which is so close to 0.679 as the value of IC5 on the IC construct, that it possibly creates a problem, particularly when the model will be reduced. To solve the problem, these two indicators were removed from the outer model, and the new cross-loadings were calculated by the PLS software. The results, after removing indicators, indicates that there is no problem for cross-loading values on other LVs. In other words, after removing IC5 from the construct of the IC and AC13 from the exploitation construct, the outer loadings of indicators on their own LVs are much stronger than their correlations with other LVs (Gefen and Straub, 2005; Hair et al., 2011). More information is available in *Appendix III (Cross Loadings for The First-Order Models)*

The Fornell Larcker criterion. Based on this method, the square root of the average variance extracted ($AVE^{1/2}$), for each LV, was calculated using PLS software, and then this value compared with the correlation of that construct with other LVs. Associated results are shown in **Table 4-3**. $AVE^{1/2}$ has been highlighted on the table's diagonal as Fornell Larcker criterion. As can be seen, this value ($AVE^{1/2}$) for each construct, in each column, is greater than the correlation of that LV with other constructs. Therefore, it could be concluded that discriminant validity based on this method is established for each first-order LV (Fornell and Larcker, 1981).

Heterotrait-monotrait ratio (HTMT). This is a new approach, as was noted previously, that recently has been developed by Henseler et al. (2015) to examine the discriminant validity of LVs. In this study, HTMT of correlations of first-order LVs for non-reduced outer model were calculated by SmartPLS. The results of the HTMT criterion are shown in **Table 4-3**. As can be seen, for all LVs the HTMT criterion is lower than 0.85. However, the related value between assimilation and internal communication (ICO) is 0.821, which is close to the threshold cut-off. As a result, discriminant validity based on the HTMT method is established (Henseler et al., 2015).

Following the analysis and discussion above and the results of these three methods, it can be concluded that each measurement indicator correlates strongly with its construct, and weakly correlates with other LVs, meaning that the discriminant validity has been well established for the outer model.

In this section, the data of outer model assessment was provided for the original model. This analysis resulted in the removal of several indicators from the non-reduced model. These indicators were MU1 from the market uncertainty construct (MU), AC13 from exploitation (Ex), and IC1 from innovative capability (IC). Removing the given items resulted in a model that does not have any problems associated with indicator reliability, internal consistency reliability, convergent validity and discriminant validity. In this respect, the model is ready to be reduced into a simpler model.

Table 4-3: Discriminant validity based on Fornell-Larcker and HTMT criteria.

Fornell-Larcker Criterion											
	<i>Aq</i>	<i>As</i>	<i>CO</i>	<i>IC</i>	<i>ICO</i>	<i>IP</i>	<i>MU</i>	<i>PK</i>	<i>RS</i>	<i>Tr</i>	<i>ex</i>
Acquisition (Aq)	0.873										
Assimilation (As)	0.423	0.780									
Coordination (CO)	0.406	0.520	0.753								
Innovative capability (IC)	0.372	0.532	0.524	0.743							
Internal communication (ICO)	0.375	0.644	0.494	0.583	0.752						
International performance (IP)	0.280	0.270	0.309	0.349	0.383	0.764					
Market uncertainty (MU)	0.110	0.018	0.101	0.156	-0.035	-0.133	0.786				
Partner knowledge (PK)	0.254	0.244	0.410	0.422	0.342	0.322	-0.089	0.79			
Relational skill (RS)	0.210	0.383	0.535	0.500	0.487	0.388	-0.003	0.509	0.842		
Transformation (Tr)	0.409	0.547	0.442	0.597	0.505	0.385	0.075	0.337	0.465	0.866	
Exploitation (Ex)	0.393	0.423	0.366	0.649	0.426	0.263	0.191	0.257	0.350	0.424	0.813
HTMT Criterion											
	<i>Aq</i>	<i>As</i>	<i>CO</i>	<i>IC</i>	<i>ICO</i>	<i>IP</i>	<i>MU</i>	<i>PK</i>	<i>RS</i>	<i>Tr</i>	
Assimilation (As)	0.512										
Coordination (CO)	0.483	0.637									
Innovative capability (IC)	0.438	0.658	0.628								
Internal communication (ICO)	0.457	0.821	0.608	0.706							
International performance (IP)	0.321	0.322	0.357	0.402	0.452						
Market uncertainty (MU)	0.161	0.098	0.160	0.262	0.106	0.135					
Partner knowledge (PK)	0.316	0.306	0.491	0.521	0.427	0.387	0.123				
Relational skill (RS)	0.245	0.469	0.622	0.591	0.577	0.448	0.091	0.601			
Transformation (Tr)	0.470	0.658	0.509	0.691	0.594	0.436	0.142	0.406	0.529		
Exploitation (Ex)	0.498	0.545	0.459	0.813	0.546	0.322	0.288	0.335	0.434	0.517	

4.4 Stage 2: The Analysis of the Reduced Model (Outer and Inner Model Assessment)

In the last stage the outer model (the non-reduced) was assessed and several indicators were removed. On this basis, the values of the first-order LVs for NC and ACAP were calculated, and subsequently calculated values were considered as indicators of NC and ACAP. In other words, the model was reduced into a simpler one as previously shown in *Figure 3-4*. Consequently, in stage two, for the reduced model, both the outer model and the inner model are assessed for the final analysis. Needless to say, in the reduced model all LVs, whether endogenous or exogenous, are first-order, however in the model there are two types of first-order LVs, the formative type (NC) and the reflective type (e.g., ACAP, IC, IP, and MU). In this respect, the data of the reflective outer model and the formative outer model are provided separately. Then, in the final part, the inner model assessment will be done.

4.4.1 Reflective Outer Model Assessment for the Reduced Model

To assess the reflective outer model several factors, including indicator reliability, internal consistency reliability and construct validity (convergent and discriminant validity), should be examined. In this respect, in the following sub-sections the data about these factors are presented and analyzed.

4.4.1.1 Indicator reliability for the reduced model

As explained previously, except for NC's indicators, all other indicators are reflective. Like stage one, in this step the simple correlations (loadings) between reflected items and related constructs should also be examined. The outer loadings of the reflective variables are calculated by running the *PLS-Bootstrapping* procedure, which has been presented in *Table 4-4*. As can be seen from the table, there is no outer loading lower than 0.5, and all loading factors are acceptable because of the following reasons: (1) the values of loading factors are higher than 0.7 or are very close to this threshold cut-off (e.g., loadings of Aq $\leftarrow$ ACAP which is 0.694); and (2) all indicators' outer loadings have a statistical significance level with a statistic t-value greater than 1.96 and a p-value less than 0.05. Higher values of outer loadings on LVs show a higher level of indicator reliability (Hair et al., 2013, 2011; Hulland and Business, 1999). Accordingly, it can be concluded that indicator reliability is established for the reduced (final) model.

Table 4-4: The outer and cross loadings of the reflective indicators in the reduced model.

	Absorptive capacity (ACAP)	Innovative capability (IC)	International performance (IP)	Market uncertainty (MU)	International experience (Int_Exp)	Size
Aq	0.694	0.348	0.281	0.114	0.103	0.209
As	0.806	0.515	0.271	0.023	-0.082	0.024
Tr	0.809	0.591	0.385	0.081	-0.081	-0.030
Ex	0.691	0.527	0.254	0.181	-0.002	0.053
IC2	0.537	0.753	0.313	0.097	-0.103	-0.036
IC3	0.471	0.734	0.218	0.085	-0.112	0.019
IC4	0.553	0.757	0.294	0.078	0.008	0.051
IC5	0.457	0.718	0.208	0.140	-0.074	-0.021
IC6	0.453	0.749	0.256	0.181	0.010	-0.002
IP1	0.287	0.249	0.727	-0.051	0.096	0.102
IP2	0.258	0.253	0.715	-0.030	0.091	0.171
IP3	0.246	0.252	0.709	-0.060	0.125	0.153
IP4	0.254	0.213	0.810	-0.205	0.161	0.105
IP5	0.344	0.280	0.780	-0.115	0.129	0.116
IP6	0.407	0.358	0.781	-0.045	0.122	0.109
IP7	0.311	0.252	0.818	-0.179	0.180	0.120
MU2	0.089	0.108	-0.104	0.831	-0.168	-0.143
MU3	0.102	0.164	-0.053	0.812	-0.074	-0.079
MU4	0.122	0.140	-0.140	0.900	-0.068	-0.127
Int_EXP	-0.036	-0.072	0.171	-0.121	1.000	0.222
Size	0.068	0.004	0.162	-0.144	0.222	1.000

4.4.1.2 Internal consistency reliability for the reduced model

In the last section, the indicator reliability was assessed, but in this step the internal consistency reliability is evaluated for all reflective constructs in the reduced model. I obtained the results of the composite reliability (CR) and Cronbach's alpha (C_a) for all reflective constructs estimated by the PLS software, which are depicted in **Table 4-5**. As the resulting values of the CR and C_a show, they are greater than 0.7, which is the acceptable desired level of internal consistency reliability for reflective constructs.

Table 4-5: Reliability and convergent validity for the reduced outer model

	Internal consistency reliability		Convergent validity
	(C _a)	CR	AVE
Absorptive capacity (ACAP)	0.745	0.838	0.566
Innovative capability (IC)	0.769	0.860	0.551
International performance (IP)	0.881	0.907	0.584
Market uncertainty (MU)	0.818	0.885	0.720
Networking capability (NC)	<i>Formative construct</i>		<i>Formative construct</i>
International experience (Int_Exp)	<i>Single construct</i>		<i>Single construct</i>
Size	<i>Single construct</i>		<i>Single construct</i>

4.4.1.3 Convergent validity

As was explained earlier, in this study, convergent validity is examined by average variance extracted (AVE) for each construct. For the reduced model, AVE was calculated for all reflective constructs, as shown in **Table 4-5**. As the value of AVE for all constructs demonstrates, they are higher than 0.5. This means that the convergent validity has been established for all reflective constructs (Fornell and Larcker, 1981). Consequently, it could be concluded that a set of indicators represent the associated construct.

4.4.1.4 Discriminant validity

Like Stage 1, in this stage discriminant validity, for reflective variables, is also examined based on the three methods the cross-loadings of the indicators, the Fornell-Larcker criterion, and the Heterotrait-monotrait ratio (HTMT). Related data are provided as follows.

- *Cross-loadings of the reflective indicators*

By this method, cross-loadings between all indicators and constructs in the model are examined. As **Table 4-4** shows, the indicators' loadings and cross-loadings, all reflective indicators, have been highly loaded on their own constructs compared with their cross-loadings on other constructs. Therefore, according to this method the discriminant validity has been established.

- *Fornell-Larcker criterion*

To examine validity based on the Fornell Larcker criterion, the square root of the average variance extracted ($AVE^{1/2}$), for all reflective constructs, was calculated using PLS software (using *Algorithm procedure*). In addition, the correlation of each construct with other LVs was estimated at the same time. The results of these calculations can be found in **Table 4-6**. The outcomes of the Fornell-Larcker method indicate that $AVE^{1/2}$ for each variable is bigger than the associated correlation of that construct with other constructs. Therefore, according to this traditional criterion, there is no problem of discriminant validity (Fornell and Larcker, 1981).

- *HTMT criterion*

The Heterotrait-monotrait ratio (HTMT) in the context of PLS-SEM as a new approach is used to evaluate discriminant validity of the constructs. In this stage, I used the HTMT method as a more stringent criterion compared with the other two traditional approaches. The estimation of HTMT criterion is performed using Smart-PLS software. The results revealed that the two reflective LVs of IC and ACAP have a problem with discriminant validity, because the value of HTMT for IC and ACAP is not lower than 0.85. To solve the problem, I removed the two items, i.e IC2 and IC4, from the construct of IC to reduce the value of the HTMT between IC and ACAP. More information is available in *Appendix IV (HTMT Criterion for The Reduced Outer Model)*. After removing the related items, again the new HTMT was estimated by running the *PLS-Algorithm*. The outcome has been depicted in the **Table 4-6**. A closer look at these results show that by removing the two items from the IC construct, the HTMT criterion has been improved to a value of 0.80, which is lower than 0.85. Accordingly, based on this more stringent criterion, the discriminant validity for the outer model is established (Henseler et al., 2015).

Table 4-6: Discriminant validity based on Fornell Larcker and HTMT criteria for reduced model.

Fornell-Larcker Criterion							
	ACAP	IC	IP	Int_Exp	MU	NC	Size
ACAP	0.752						
IC	0.585	0.787					
IP	0.399	0.289	0.764				
Int_Exp	-0.036	-0.075	0.171	1.000			
MU	0.124	0.172	-0.13	-0.121	0.849		
NC	0.696	0.624	0.451	-0.005	0.003	<i>Formative</i>	
Size	0.068	-0.002	0.162	0.222	-0.144	0.106	1.000

HTMT Criterion						
	ACAP	IC	IP	Int_Exp	MU	Size
ACAP						
IC	0.801					
IP	0.482	0.369				
Int_Exp	0.103	0.100	0.180			
MU	0.166	0.244	0.147	0.133		
Size	0.122	0.021	0.174	0.222	0.150	

Following the above analysis, for the final model, the reflective outer model (*Mode A*) was assessed for indicator reliability, internal consistency reliability and construct validity (convergent and discriminant). As was discussed, the model does not have any problem associated with these indicators. In this regard, the model is ready to be analyzed for formative outer model assessment (*Mode B*).

4.4.2 Formative Outer Model Assessment

As discussed previously, in this study the model is a combination of reflective and formative LVs. In the last section, the reflective measurement model was assessed. In the model, NC is a formative LV. It was explained that in order to examine the formative outer models, different models are compared with reflective outer models. In this regard, I assessed the formative outer model based on the following three criteria: (1) convergent validity (not based on AVE), (2) outer weights (not outer loadings), and (3) collinearity. In the following subsection, related data are presented and analyzed.

4.4.2.1 Convergent validity

To evaluate convergent validity for the formative construct of the NC, I applied *redundancy analysis*. To do this, NC^{formative} with its four indicators of coordination (CO), relational skills (RS), partner knowledge (PK) and internal communication (ICO), was used as an exogenous LV.

Figure 4-1: Redundancy analysis to examine convergent validity for formative LV (NC).

On the other hand, of 19 indicators of NC, I used NC12 (we know our partners' products, procedures and services) as the representative of the reflective NC (NC^{reflective}). As **Figure 4-1** indicates, the result of the PLS software's estimation, the path coefficient between formative NC and reflective NC, is 0.833, which is greater than 0.7, and the R-squared of the reflective NC is 0.694 (greater than 0.64). This implies that convergent validity for the formative NC is established (Chin, 1998; Hair et al., 2013).

4.4.2.2 Outer weights

In order to examine the formative outer model, it is essential to assess the outer weights' significance and relevance. Each indicator has a specific contribution for its own formative LV. To evaluate the contribution level of coordination (CO), partner knowledge (PK), relational skill (RS) and internal communication (ICO) as composite formative indicators for NC with PLS software using the bootstrapping routine, the outer weights for all the NC indicators were estimated. The resulting outer weights, along with their statistical significance levels (t-value, p-value), are presented as follows: (1) CO → NC ($\beta = 0.335$, at t-value 5.385, $p < 0.001$); (2) PK → NC ($\beta = 0.201$, at t-value 3.020, $p < 0.01$); (3) RS → NC ($\beta = 0.217$, at t-value 3.095, $p < 0.01$);

and (4) RS $\rightarrow$ NC ($\beta = 0.217$, at t-value 3.095, $p < 0.01$). Looking at these results reveals that all outer weights are significant with t-values higher than 1.96 and p-values lower than 0.05. In this respect, there is no problem associated with outer weights for NC indicators. This means that all these formative indicators have a contribution to the NC formative LV (Hair et al., 2013, 2010).

4.4.2.3 Collinearity

Existence of a likely high correlation between indicators of the NC as a formative LV can create the problem of multicollinearity, which consequently can affect the estimation of path correlations in the structural model. The multicollinearity for indicators of the NC was examined by evaluating the level of VIF. PLS results indicate that there is no VIF value bigger than 1.755 for items of NC. If VIF values are lower than five, then it can be concluded that there is no problem of multicollinearity associated with NC formative indicators (O'brien, 2007). More information is available in *Appendix V (Collinearity Statistics for The Reduced Model)*

So far, by performing the two-stage approach, the hierarchical component model (HCM) including two second-order LVs (NC and ACAP) was first assessed, and the scores of the first order LVs (Aq, As, Tr, Ex, CO, PK, RS and ICO) were estimated. Following that, for simplicity, HCM was reduced into a first-order model. Then, for this reduced model, the outer model assessment, both for reflective measurements and formative measurements, was performed. In this process, reliability and validity of the two types of measurement models (reflective and formative) were examined. During this process, a total of five items from ACAP, IC and MU were removed to ensure the reliability and validity of the outer model. As was analyzed and discussed, the model passed the essential requirements of outer model assessment based on identified criteria. Therefore, the final model is ready to examine inner model requirements and hypothesis testing.

4.4.3 Inner (Structural) Model Assessment

In the last sections the outer models (reflective and formative) were assessed to determine the quality of measurement models as fundamental requirements of assessing the inner model. As was concluded in the last section, the validity and reliability of the measurement model were established. Therefore, it provided the necessary evidence for the quality of the outer model to continue structural model assessment, which is the objective of this section.

In the PLS-SEM research context, the inner (structural) model assessment is the final step. Needless to say, the structural model (inner model) was developed and specified based on theory, as was discussed in Chapters 2 and 3. Through the inner model, multiple hypotheses are linked together logically to explain a phenomenon. These hypotheses should be tested. In other words, the inner model represents the relationships between different constructs and their measurements. As was noted previously, the structural model in this study includes three endogenous (dependent) LVs., i.e. NC, IC and IP. It also contains several exogenous (independent) constructs such as ACAP, MU, size and international experience (Int_Exp). However, at the same time, IC and NC play dual relationships as exogenous and endogenous LVs. In order to assess the structural model, several criteria should be evaluated. I determined these criteria in Chapter 3 (see **Table 3-4**). On this basis, in the following sub-sections the data for several criteria, i.e. assessing collinearity issues, the significance, size (magnitude) and relevance of the path coefficients, R-squared, and cross-validated redundancy as well as associated interpretations, are provided.

Table 4-7: Correlations between constructs in the reduced structural model.

# cases= 330	Mean	SD	1	2	3	4	5	6	7
1 Absorptive capacity (ACAP)	5.19	0.83	1.000						
2 Innovative capability (IC)	5.22	0.96	0.585***	1.000					
3 International performance (IP)	4.94	1.13	0.399***	0.289***	1.000				
4 International experience (Int_Exp)	31.62	20.27	-0.036	-0.075	0.171**	1.000			
5 Market uncertainty (MU)	3.62	1.18	0.124*	0.172**	-0.130*	-0.121*	1.000		
6 Networking capability (NC)	5.29	0.70	0.696***	0.624***	0.451***	-0.005	0.003	1.000	
7 Size	49.69	46.87	0.068	-0.002	0.162**	0.222***	-0.144**	0.106	1.000

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (2-tailed), SD=Standard Deviation.

Table 4-8: R-Squared, R-Squared Adjusted and Q-squared (cross-validated redundancy).

	<i>R-Squared</i>	<i>R-Squared Adjusted</i>	<i>Q-Squared</i>
Innovative capability (IC)	0.342	0.340	0.208
Networking capability (NC)	0.555	0.553	0.313
International performance (IP)	0.271	0.258	0.150

4.4.3.1 Collinearity assessment among sets of constructs in the inner model

In addition to the outer model, the problem of collinearity could appear in the inner model as well. In order to assess the collinearity levels for involved LVs in the inner model, I have applied the variance inflation factor (VIF) criterion, as was used in the last section for formative LVs. The levels of the collinearity among LVs in the reduced structural model (inner VIF values) showed that no VIF value is less than 1.066 and greater than 2.339. In other words, all inner VIF values are greater than 0.2 and less than 5 as the acceptable range of threshold cut-off for collinearity. These results imply that the estimation of path coefficients in the inner model are not influenced by those LVs with high levels of VIF. Therefore, there is no threat associated with biased path coefficient estimation, whether for their signs or weights. In other words, the path coefficients are estimated correctly (Hair et al., 2012; O'brien, 2007).

4.4.3.2 Inner model fit

As was explained before in the context of PLS-SEM, in addition to the reliability and validity of the measurement model as an essential pre-condition of the inner model assessment, researchers recently have used the standardized root mean square residual (SRMR) criterion as another condition of structural model assessment. SRMR is an indicator to show approximate model fit. For the objective of this study, the value of SRMR for the reduced model obtained by PLS-SEM is 0.051. It is important to note that I have used the value associated with the composite model SRMR, which is reported by PLS, because the inner model includes both reflective and formative constructs. This value is lower than 0.08 as an acceptable cut-off threshold for PLS-path model fit. Therefore, it implies that there is no considerable difference between the theoretical model and empirical correlation matrix. In other words, the value of 0.051 represents the adequate fit between the data set and theoretical model (Henseler et al., 2016; Hu and Bentler, 1998).

4.4.3.3 Coefficient of determination (R-squared)

Shared variance in the endogenous LV is represented by the R-squared value. As **Figure 4-2** and **Table 4-8** depict for the three endogenous LVs, in the structural model the values of the R-squared have been estimated. The values for IC, NC and IP are 0.342, 0.555 and 0.271,

respectively. In this regard, explained variances for NC are substantial and for IC is strong, whereas for IP it could be considered as moderate. For example, the R-squared value of 0.555 for NC means that more than 55 percent of the variance has been shared by the two endogenous LVs, IC and ACAP. Whereas, for IP, the variance is shared by NC, ACAP and IC, and the source of shared variance in IC is ACAP. It is also important to note that the R-squared value for IP was calculated for the condition that only control variables were included (other LVs were excluded). In this situation, the R-squared value is 0.058.

4.4.3.4 Cross-validated redundancy (Q-squared)

Another model fit indicator is Stone-Geisser's Q-test, which determines the capability of the inner model to predict parameter estimation. The value of the Q-test was obtained by PLS software using the *Blindfolding* routine. To do this, I fixed the number of the omission distance at seven in the procedure of blindfolding. The obtained cross-validated redundancy values for all endogenous LVs are above zero, i.e. 0.208 for IC, 0.150 for IP and 0.313 for NC, as shown in **Table 4-8**. The estimated results indicate that the structural model is capable to predict associated estimations because the values have been well reconstructed (Chin, 1998; Hair et al., 2013; Henseler et al., 2016).s

4.4.3.5 Size, sign and significance of path coefficients (β)

A central issue in PLS-SEM is the estimation of the size, sign and significance level of the path coefficients (β) in a structural model. It is important because the hypothesis testing is performed in this step of the analysis. To do this, standardized path relationships between all constructs were estimated by PLS software using the *Bootstrapping* routine (5,000 resamples). This calculation at the same time generated several parameters, i.e. t-statistics, p-values, and percentile 95% confidence intervals, for each path relationship. Related estimations for the nine paths (six for hypotheses and three for control variables) have been depicted in **Table 4-9**. In this respect, the analysis for both hypothesis testing and control variables is provided as follows.

Table 4-9: Path coefficients and associated statistics

	Path	Path coefficients	t-value (bootstrap)	Percentile 95% confidence intervals (bootstrap) [Lower (2.5%), Upper (97.5%)]	Result
Hypothesis 1	NC → IP	0.290***	3.697	[0.138;0.444] Significant	<i>Supported</i>
Hypothesis 2	ACAP → IP	0.200**	2.712	[0.056;0.341] Significant	<i>Supported</i>
Hypothesis 3	IC → IP	0.025	0.417ns	[-0.091;0.144] Not Significant	<i>Not Supported</i>
Hypothesis 4	ACAP → IC	0.585***	14.659	[0.505;0.661] Significant	<i>Supported</i>
Hypothesis 5	ACAP→NC	0.503***	9.117	[0.395;0.608] Significant	<i>Supported</i>
Hypothesis 6	IC → NC	0.329***	5.622	[0.216;0.445] Significant	<i>Supported</i>
Control variables	MU→ IP	-0.132*	2.418	[-0.236; -0.036] Significant	<i>Effective</i>
	Int_Exp→IP	0.150**	3.252	[0.058;0.237] Significant	<i>Effective</i>
	Size→ IP	0.065	1.467ns	[-0.023;0.151] Not Significant	<i>Not effective</i>

Notes: * p < 0.05; ** p < 0.01; *** p < 0.001. ns: not significant, ACAP= Absorptive Capacity, IC= Innovative Capability, IP= International Performance, NC= Networking Capability, MU= Market Uncertainty, Int_Exp= International Experience.

Figure 4-2: Path model and PLS-SEM estimates. *Notes:* ACAP: Absorptive Capacity, NC: Networking Capability, IP: International Performance, IC: Innovative Capability, MU: Market Uncertainty, Int_Exp: International Experience.

(1) *The effect of the NC on IP.* Evaluating the link between networking capability (NC) and international performance (IP) in the inner model results in a test of *Hypothesis 1*. As the results indicate (see **Table 4-9**), networking capability (NC) has a positive association ($\beta = 0.29$) with international performance (IP) in a significant level at $p < 0.001$ and a t-value of 3.697. It is also important to note that the result of percentile 95% confidence intervals (bootstrap) does not contain zero (0.138; 0.444). Accordingly, these findings provide support for *Hypothesis 1*.

(2) *The effect of ACAP on IP.* As can be seen from **Table 4-9**, the path coefficient of the link (β) between absorptive capacity and international performance is 0.20, and it is significant at $p < 0.01$ and a t-value of 2.712. Furthermore, the associated confidence interval (95%) is 0.056; 0.341 in the lower and upper levels, respectively, which means that confidence interval also does not include zero. Therefore, it can be concluded that *Hypothesis 2* is supported by these results.

(3) *The effect of IC on IP.* As shown in **Table 4-9**, innovative capability (IC) has a small positive relationship ($\beta = 0.025$ at $p > 0.05$) which is not significant at the p-value lower than 0.05. Moreover, the result of percentile 95% confidence intervals (bootstrap) includes zero [-0.091; 0.144]. These results show that *Hypothesis 3* is not supported (rejected), an unexpected result from this study. It implies that, in the internationalized SMEs, the innovative capability does not affect the international performance directly.

(4) *The effect of ACAP on IC.* From the data (**Table 4-9**) we can see that absorptive capacity (ACAP) has a strong positive relationship with innovative capability (IC). The value of the path coefficient (β) is 0.585, with a t-value of 14.659 at $p < 0.001$. Similarly, the lower and upper values of the confidence interval [0.505; 0.661] indicate that zero is not included in the associated range. Based on this empirical evidence, it can be concluded that *Hypothesis 4* is supported.

(5) *The effect of ACAP on NC.* As was discussed in the theoretical part of this study, it is expected that networking capability (NC), in an internationalized SME, can be affected by absorptive capacity. The results of the correlational analysis (see **Table 4-9**) reveal that the correlation value is relatively large ($\beta = 0.503$) and is highly significant at $p < 0.001$ and a t-value of 9.117, as well as based on confidence interval (95%) values of [0.216; 0.445]. Hence, *Hypothesis 5* is confirmed as well.

(6) The effect of IC on NC. Another connection in the structural model is associated with innovative capability and networking capability (H5). The results obtained from the path analysis indicate that NC is affected by IC in the internationalized SMEs. In this regard, as depicted in **Table 4-9**, the relationship between IC and NC is positively significant with a t-value of 5.622 at $p < 0.001$ and confidence interval (95%) values of [0.216;0.445]. The path coefficient value between IC and NC is 0.329. In other words, this evidence provides support for **Hypothesis 6**.

(7) *The relationship of control variables on IP*. In the structural model, and only for the international performance (IP) as was explained in Chapter 3, I have considered the three control variables of market uncertainty (MU), international experience (Int_Exp) and size of the SME. In this respect, the correlations of control variables on IP were analyzed as is shown in **Table 4-9**. According to these results, as was expected, the market uncertainty (MU) has a negative significant relationship with international performance ($\beta = -0.132$, t-value 2.418 at $p < 0.05$ and interval confidence [-0.236; -0.036]). The meaning of these results is that IP can be affected by MU, however negatively (an expected result). In other words, higher market uncertainty leads to lower international performance.

Another control variable is the international experience (Int_Exp) of the firm. It was discussed that the firm with higher international experience should get better international performance. As the data indicate ($\beta = 0.15$, t-value 3.252 at $p < 0.01$ and interval confidence [0.058; 0.237]), the correlation between international experience and international performance is positive and significant. This means that the anticipated effect of international experience on IP is confirmed.

The final control variable was size of the firm. Again, an unexpected result emerged based on the correlation analysis of the data. As the associated data ($\beta = 0.065$, t-value 1.467 with $p > 0.05$ and interval confidence [-0.023; 0.151]) shows, the p-value is not lower than 0.05 and the confidence interval (95%) includes a zero value as well. These results mean that the relationship between size and international performance is not significant, and therefore that IP is not affected by the size of the internationalized SMEs. In other words, this result implies that the size of the firm does not matter for the international performance of SMEs in the manufacturing context in Sweden.

4.4.3.6 Indirect effects analysis for ACAP and IC

In the last section, the direct effect for all LVs was estimated and analyzed. But, if the indirect effect of independent variables such as ACAP and IC would be considered, then another aspect for this study could emerge. Specifically, as the structural model shows (see **Figure 4-2**), IC and NC could play the mediation role in the model. In this regard, the relationship of ACAP on IP could be mediated by IC and NC, and IC could play the mediation role for the relation of ACAP on NC. Examining these relations could highlight another picture from this study. To do this type of analysis, I performed the process explained in Chapter 3.

The standardized values of total effect (TE) for the three paths ACAP on IP, IC on IP and ACAP on NC in the model were estimated using the *Bootstrapping* procedure with the 5,000 resampling option. Like the last section, running this procedure in PLS-SEM resulted in several parameters for each calculation. These parameters are t-value, p-value and percentile 95% confidence intervals, which have been shown in **Table 4-10**. As the data indicate, TE is significant and larger than direct effect (DE) for all three given relationships. In this respect, it could be concluded that there is a likely indirect effect (IE) that should be considered. The assessment of the direct effects for IC on IP and ACAP on IP were done separately (when NC was excluded), and the results show that both IC and ACAP have significant direct relationships with IP as their correlations, as depicted in **Table 4-7** and **Table 4-9**. Then, the significance of the three indirect effects (IE) including ACAP on IP, ACAP on NC and IC on IP were assessed, and the associated results are provided as follows:

- *ACAP on IP*

As **Table 4-10** depicts, the indirect effect of ACAP on IP is positive and significant (IE= 0.216, t-value (3.743) at $p < 0.001$ and interval confidence [0.108; 0.335]). In addition, VAF is 52%, which is greater than 20% and less than 80%. This means that ACAP has a considerable indirect effect on IP which is *partially is mediated* by NC. In other words, of a 100% (TE=0.417) total effect of ACAP on IP, 48% is considered by direct relationship ($\beta=0.20$) and about 52% is mediated through indirect paths (IE=0.216) in the structural model.

- *IC on IP*

According the data presented in **Table 4-10**, the direct relationship of IC on IP is non-significant ($\beta=0.025$, t-value 0.417 at $P>0.05$ and interval confidence [-0.091; 0.144]), whereas the total effect of this LV on IP is positive and significant (TE=0.12, t-value 1.983 at $p<0.05$ and interval confidence [0.005; 0.244]). The analysis of indirect effect also indicates that IC has a positive significant, however small indirect effect on IP (IE=0.095, t-value 3.097 at $p<0.01$ and interval confidence [0.040; 0.163]). Computed VAF for IC is 79.2%, and this value means that the effect of IC on IP is partially mediated by NC, however this value (VAF=79.2%) is close to 80% as the threshold of full mediation (Hair et al., 2013). This is an interesting result for this study, because as was noted above the direct effect of IC on IP is not significant (*Hypothesis 1 rejected*), whereas, the indirect effect of IC on IP is significant. On this basis, it could be concluded that IC affects IP only through the indirect path of NC.

- *ACAP on NC*

As **Table 4-10** indicates, the total effect of ACAP on NC is 0.696, which is significant at $p<0.001$, and t-value 20.856 as well as interval confidence [0.628; 0.757]. On the other hand, as was previously discussed the direct effect (path coefficient) of ACAP on NC is significant ($\beta=0.503$, t-value 9.117 at $p<0.001$ and interval confidence [0.395; 0.608]) and smaller than the total effect. In other words, it could be concluded that NC can be affected by ACAP in both a direct and indirect way. Analyzing the data (see **Table 4-10**) associated with the indirect effect of ACAP on NC reveals that this indirect effect is positive and significant at $p<0.001$ (IE= 0.193, t-value 5.218 and interval confidence [0.125; 0.270]). Calculated VAF is 27% and implies that NC can be affected by ACAP indirectly (mediation effect of IC), and more than 70% through direct effect. Furthermore, because the VAF is above 20% and lower than 80%, then it could be concluded that the relation of ACAP and NC is *partially mediated* by IC.

As a result, the analysis of indirect effect shows that in the structural model NC plays a central mediator role for the relationships of IC on IP and ACAP on IP. Similarly, IC also plays the role of mediator for ACAP on NC.

Table 4-10: Total, direct and indirect effect of several latent variables on IP and NC.

	Total effect (TE)			Direct effect (DE)			Indirect effect (IE)			VAF
	Coefficient	<i>t-value</i>	Percentile 95% confidence intervals [Lower, Upper]	Coefficient	<i>t-value</i>	Percentile 95% confidence intervals [Lower, Upper]	Coefficient	<i>t-value</i>	Percentile 95% confidence intervals [Lower, Upper]	
ACAP on IP	0.417***	9.125	[0.328;0.505]	0.200**	2.712	[0.056;0.341]	0.216***	3.743	[0.108;0.335]	52.0%
IC on IP	0.121*	1.983	[0.005;0.244]	0.025 ns	0.417	[-0.091;0.144]	0.095**	3.097	[0.040;0.163]	79.2%
ACAP on NC	0.696***	20.856	[0.628;0.757]	0.503***	9.117	[0.395;0.608]	0.193***	5.218	[0.125;0.270]	27.0%

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. ns: not-significant, Lower (2.5%) and Upper (97.5%), ACAP= Absorptive Capacity, IC= Innovative Capability, IP= International Performance, NC= Networking Capability, VAF = Variance Accounted For.

5 Discussion

As was explained earlier, in Chapter 2 I examined the main internationalization theories. It was then concluded that to explain internationalization of the firm as a dynamic phenomenon, an innovative way to do so, whether for current IB theories or for new theories, is to apply a dynamic-based approach, e.g. dynamic capability. In other words, these *dynamic based-FSAs* enable existing or new theories to explain internationalization of the firm better, especially when the business environment is changing. The necessity of considering dynamic capabilities as a solution was highlighted by IB scholars. However, these scholars rarely have explained the associated component factors (forms) of the dynamic-based FSAs. In this regard, I tried to open the black box of the dynamic capability to determine related component factors of the dynamic-based FSAs which can be applied in the context of IB theories. On this basis, the literature on organizational capability in the context of internationalization was examined, identifying three component factors of the *dynamic capabilities* which are *pluripotent (multipotent)* by nature. They are the ***dynamic-based FSAs***, i.e. learning-based FSA (ACAP), relational-based FSA (NC) and innovative-based FSA (IC). Finally, after identifying these three dynamic-based FSAs, associated hypotheses based on a conceptual model (***Figure 2-4***) were developed and tested. In the last chapter, the data related to internationalized SMEs and hypothesis testing were analyzed and presented. In the next step, based on the analyzed data, I have discussed how these dynamic capabilities can affect each other and, at the same time, how they affect the internationalization performance of SMEs. Before discussing the hypotheses, however, I prefer to discuss the removed items from the construct innovative capability (IC) during outer model analysis, as well as a short discussion about measurement models of the absorptive capacity (ACAP) and networking capability (NC).

5.1 Second-Order Measurement Models and Removed Items

As was discussed in Chapter 3, in this study, in order to operationalize the constructs of networking capability (NC) and absorptive capacity (ACAP), I applied two hierarchical component models (HCMs) which rarely have been used in the context of SMEs' internationalization. Therefore, in the next sub-sections I will discuss them. In addition, during

the outer model assessment, whether in the first stage or second stage, several items were removed, and in respect to this I will discuss associated subjects.

5.1.1 Reflective-Reflective Measurement Model of ACAP

For the objective of this study, ACAP was considered as a complex multidimensional firm-level construct. Hierarchical component models (HCMs) include four different reflective dimensions, each of which is measured by several indicators reflectively (Reflective-Reflective type). The analysis of both outer and inner models for SMEs suggests that, in the structural model, ACAP consists of four dimensions. In other words, none of the components of the ACAP were omitted from the construct. However, only one indicator from the exploration (Ex) dimension was removed because of its cross-loading with IC5 as an indicator of innovative capability. A possible explanation for this deletion is that the nature of exploitation and IC are close to each other. This relatively similar nature of Ex and IC may create a kind of overlap that, in turn, resulted in cross-loading between indicators.

Nevertheless, the deletion of only one reflective item from the exploitation (Ex) latent variable (LV) does not alter the nature of the construct, because reflective items are interchangeable in nature and they share a common theme (Jarvis et al., 2003); consequently, exploitation (Ex) could be represented by the other retained reflective items. On this basis, it could be concluded that, in this study, in internationalized SMEs' ACAP is fully represented by all its four dimensions of Aq, As, Tr and Ex, however the level of ACAP value could be different firm by firm.

Measuring ACAP in this study could be different from other previous studies in the context of internationalization of SMEs. This is because none of these studies has measured the construct of the ACAP comprehensively based on the four dimensions of Aq, As, Tr, and Ex. Within the context of the internationalization, particularly those studies that have used Cohen and Levintal's (1990) measurement (R&D input or output) for SMEs, the picture of ACAP would not be matched with the reality of these entrepreneurial firms. The main reason for this non-realistic picture is that SMEs are usually *less R&D-driven*, and ACAP is realized by the other non-R&D activities (Hervas-Oliver et al., 2012). Then, the measurement scale should be able to take the picture of both R&D and non-R&D activities. Furthermore, those studies that

have also used unidimensional ACAP are not without problems, as it is not clear which component of ACAP is incorporated, a problem that has been highlighted by Flatten et al. (2011a, 2011b). The advantage of this study, compared with other studies within the context of SMEs internationalization, is that the picture of ACAP is more close to the reality in an SME. In line with this consideration, existence of all dimensions of ACAP means that the internationalized SME is able to perform the process of acquisition, assimilation, transformation and exploitation of useful external knowledge.

Despite these advantages, operationalization of ACAP is still not without its problems. Within the literature, a majority of leading scholars like Zahra and George (2002b) consider ACAP as a process including several steps such as acquisition, assimilation, transformation and exploitation. This means that these stages are not similar and the same, whereas in all studies, ACAP is considered as a first-order reflective or second order reflective-reflective construct. In other words, the components of ACAP are interchangeable, and consequently, omitting each item or dimensions of the construct of ACAP does not change its (ACAP) nature. This means that items or dimensions are measuring the same aspects. But, one can ask, "if ACAP is a process with several dimensions, then how could it be a reflective construct?" Accordingly, this problem could be considered for future research, and perhaps it is time to discuss the formative nature of ACAP.

5.1.2 Reflective-Formative Measurement Model of the Networking Capability (NC)

In this study, NC was applied as a complex hierarchical component model (HCMs) with the four different formative dimensions of coordination (CO), partner knowledge (PK), relational skills (RS) and internal communication (ICO). All of these first-order latent variables (LVs) are measured reflectively by multiple indicators. As was discussed previously, NC is a reflective-formative type construct. The analysis of outer-weights for components of NC in PLS-SEM showed that all four dimensions of the NC are positively associated with NC in significant levels of t-value and p-value. The results of the reduced outer model analysis also reveal that the contribution of each dimension on NC is different: (CO $\rightarrow$ NC ($\beta = 0.335$), PK $\rightarrow$ NC ($\beta = 0.201$), RS $\rightarrow$ NC ($\beta = 0.217$), and ICO $\rightarrow$ NC ($\beta = 0.519$)). These relations have previously been visualized in the PLS-SEM model depicted in **Figure 4-2**. These dimensions are not

interchangeable, and therefore each of captures a specific aspect of the NC. In other words, for internationalized SMEs as the target of this study, all dimensions of the NC effectively exist and each of them represents a portion of the NC (Diamantopoulos et al., 2008).

The findings also show that coordination (CO) and internal communication (ICO) have more contribution to the NC, compared with PK and RS. In this study I have measured NC using 19 questions which are connected to different formative dimensions. This kind of operationalization enables the researcher to take a *clearer picture* from the nature of the given LVs, e.g. NC. Therefore, it could be concluded that NC, in this study, has been measured comprehensively, compared with other similar studies, and consequently, this could be a significant advantage of this study.

The method of measuring NC applied in this study is different from the methods of the majority of the other studies in the context of internationalization, because many of them have measured this construct mostly by a reflective first-order LV with several reflective indicators. For instance, within the context of internationalization of SMEs, for researchers in several studies, NC is considered a reflective first-order construct which has been measured by only three items (Boso et al., 2013; Raymond and St-Pierre, 2013; Ripolles and Blesa, 2012). In line with this consideration, Chen et al. (2009) measured NC as a first-order construct using seven reflective items. It is very interesting that in some studies at the theoretical level, NC is argued comprehensively with different functions and abilities, but empirically it comes with a very narrow picture. It could be better if researchers create better alignment between theoretical functions of the NC and measurement tools.

Taken together, these results suggest that: (1) all four formative dimensions of the networking capability are existing; (2) all dimensions have a different positive contribution on NC, and (3) it appears that the picture of the NC in this study, compared with similar studies in the context of IB, is more comprehensive, and therefore the NC measurement scale applied in this study could be considered as one strength of this research.

5.1.3 Explanation for Removed Indicators of the Innovative Capability (IC)

Innovative capability (IC) in this study is measured by the six indicators reflectively. As was discussed in the process of the outer and inner model assessment, three items of these constructs

were omitted. This omission took place because of the problem of discriminant validity. As was explained, several items of the IC had cross-loading with those of the ACAP indicators, particularly with indicators of its sub-dimension, i.e. exploitation (Ex). Possible explanations for these omissions are provided as follows. First, theoretically there is a kind of overlap between IC and ACAP, and therefore this overlapping could be realized in the associated measurement scales. Consequently, it appears that the omitted items of the IC measure the same thing that is measured by the exploitation (Ex) as a dimension of the ACAP. Looking at the removed items of the IC and those of the Ex reveal that there are several indicators in two constructs that measure the same thing, however by different words. Second, another problem could be related to the way that the measurement scale of the IC is developed. As was argued previously in Chapter 2, for ACAP, researchers have come to a better consensus for ACAP compared with IC.

5.2 Hypotheses

Theoretical argument resulted in the development of six theoretical paths and related hypotheses. These theoretical paths are shown in a structural model (see *Figure 4-2*). In the next sub-section, the causal correlations are discussed.

5.2.1 Networking Capability and International Performance of SMEs (NC → IP).

Based on *Hypothesis 1* developed in Chapter 2, in the internationalized SMEs, international performance (IP) is positively affected by the networking capability (NC) as a relational-based FSA. As was discussed, in this study the networking capability was operationalized as a complex, multidimensional and formative second-order latent variable. As can be seen from *Table 4-9*, Hypothesis 1 is supported ($\beta = 0.29$ at t-value 3.697, $p < 0.001$ and percentile 95% confidence intervals [0.138; 0.444]). This result suggests that the performance of SMEs in international markets is affected by networking capability positively. As such, SMEs with greater networking capability have extracted better value from their business networks. In other words, these SMEs have managed their business relationships with their business partners better than those SMEs with a lower level of the NC. Consequently, their international performance is higher. Needless to say, the existence of the NC in a SME means that there are established associated activities and routines within the firm which have been developed over time to build and navigate external business relationships.

Given the formative nature and dimensions of the networking capability's construct applied in this study, it could be also concluded that firms with a higher level of NC have better established routines, particularly for activities related to coordination (CO), relational skills (RS), partner knowledge (PK) and internal communication (ICO) as four components of the NC. In this regard, it is possible to draw several interpretations from the above empirical result (supported *Hypothesis 1*) as follows.

First, Swedish SMEs that have had a higher level of the NC, in turn, have had better ability to coordinate network relationships with their business partners (BPs) in the international business network(s). In other words, SMEs with better coordination ability have experienced better resource allocation (e.g., people and finance) to their business relationships, and subsequently, achieve better international performance. Strong levels of the coordination (CO) ability also mean that the firm has identified its business partners (BPs) (e.g., new customers) to establish business relationships with them better than those SMEs with weaker CO ability. In contrast, SMEs without coordination ability are not able to connect direct or cross-business relationships with their BPs in the network to achieve desired objectives (Mohr and Spekman, 1994).

Second, SMEs with a higher level of networking capability have greater relational skills (RS), as a social competence (Baron and Markman, 2003), to manage their business relationships and to be linked with new business partners (BPs), whether on the personal level or at the firm level. Through relational skills (RS), SMEs find better social adaptability and flexibility to have favorable reactions with their BPs and solve associated problems. Moreover, having a high level of RS enables SMEs to initiate, develop and maybe terminate their business relationships better which, therefore, has a strong contribution to their success. This RS also enables the firm to have better conflict management, and in turn, better interaction with its customers, suppliers, competitors, and public and nonpublic institutions in the network.

Accordingly, those SMEs with powerful RS are able to get better credibility in the network (Chetty and Patterson, 2002), a situation, consequently, which facilitates exploration and exploitation of international business opportunities (Kontinen and Ojala, 2011). Then, getting these benefits implies that SMEs with higher levels of RS would be able to overcome

their resource limitations associated with their common problem liability of smallness (LOS) (Coviello and McAuley, 1999).

Third, based on this finding (positive association between NC and IP) it could be also concluded that Swedish SMEs that have had a higher level of partner knowledge (PK) about their BPs' strategies, markets, products, weaknesses and strengths had been more successful in their international markets. This is because having such organized and structured information about BPs decreases the level of transaction costs for the firm on the one hand, and creates better learning opportunity on the other (Powell et al., 1996; Walter et al., 2006). This outcome implies that SMEs with higher levels of PK had likely been more able to overcome the liability of foreignness (LOF) (Zaheer, 1995).

It is also important to know that greater levels of PK enable the SME to find better positioning within international markets and related business networks. Consequently, this better positioning then leads them to overcome the liability of outsidership (LOO) (Johanson and Vahlne, 2009). Moreover, having good positioning within the network enables the focal firm to access market knowledge, technological knowledge, information, competitive capabilities and other available resources (Chetty and Patterson, 2002; Gulati et al., 2000; Zaheer and McEvily, 1999). In addition, getting appropriate positioning within the network provides better problem solving and conflict management for the focal company with strong NC. Accordingly, under these conditions SMEs would be internationalized rapidly and take advantage of shorter time-to-market (Oviatt and McDougall, 2005). In contrast, SMEs with lower levels of PK have not had good position within the international network and are considered as outsiders of the business network; therefore, using associated disadvantages is unavoidable for them.

Fourth, as depicted in **Figure 4-2**, internal communication (ICO) has a strong positive association with NC ($ICO \rightarrow NC$ ($\beta = 0.519$)), or in other words, when the level of ICO is high, this implies that the level of the NC would also be high. In this respect, internationalized SMEs with higher levels of internal communication (ICO) should have more contribution to their performance across borders. When ICO exists, then it could be said that cross-functional meetings, formal and informal social communications within the firm is a good situation which facilitates information and knowledge (e.g., market knowledge) sharing processes between people and functions (Walter et al., 2006). This, in turn, enables the firm to be updated and learn

better from its international business relationships (Cohen and Levinthal, 1990; Powell et al., 1996). Consequently, greater ICO creates more synergy between different functions of the firm to support internationalization activities.

It is also important to note that when these four components of NC are found in an SME, consequently they (four components) can affect each other as well which are important to create more synergy. For instance, if a SME has powerful partner knowledge (PK), then the coordination could be performed more easily (Walter et al., 2006). Hence, all together this enhances the firm's ability to be internationalized better and get more benefits from international networks.

As was understood from the empirical result about the relation of the NC and IP, a SME, through several mechanisms such as CO, RS, PK, and ICO, as discussed above could take a variety of advantages embedded within the business networks. Advantages that exist within the network but without networking capability (inside of the firm) are impossible to be taken. In other words, a SME could be a successful actor, within the business network, only when it has established a high level of relational-based FSA (NC). Consequently, greater networking capability results in more benefits extracted from the international business networks. In this regard, I join Vahlne and Johanson (2013, p. 195) in believing that "*what happens, happens in relationships*". However, given the effect of the NC discussed above, to extract value from a business network (as a set of interconnected relationships), I would like to develop another statement borrowing from Vahlne and Johanson. This statement highlights both the importance of relationships outside the firm and the corresponding ownership firm-specific advantage (FSA) within the firm. Then, it could be said that *what happens in relationships, happens by networking capability*.

In addition to the above discussion, another aspect of the NC is associated with its dynamic role. As was noted above, through the mechanisms of CO, RS, PK, and ICO, as fundamental dimensions of networking capability, they continuously provide opportunities to acquire new resources from the network. This situation, in turn, provides the bricks and mortar with which to change the configuration of the firm's resources. This(re) configuration could be take place by integrating acquired resources (from their business network) with their own resources to achieve better performance. For instance, these internationalized SMEs with a

higher level of NC could renew or develop their operational capabilities, linking with different business partners in the network. In this case, such a characteristic is dynamic, as Teece (1997) explained.

Taken as a whole, these facts confirm the studies of several authors within the field of the international business (IB) network who have emphasized the importance of networking capability and its positive effect on different aspects of SMEs' internationalization. These aspects include international performance (Raymond and St-Pierre, 2013), internationalization speed (Mort and Weerawardena, 2006; Oviatt and McDougall, 2005; Tang, 2011; Weerawardena et al., 2007), export performance (Boso et al., 2013; Ling-Yee and Ogunmokun, 2001), and global opportunity learning (Van Geenhuizen, 2008).

Another important thing is, as substantial empirical evidence, to further support and corroborate the idea of IB scholars who have suggested that a relational-based FSA, e.g. NC, should be considered as a significant dynamic dimension for internationalization theories to explain new environmental change. Particularly, this relates to the idea of Narula and Verbeke (2015), who introduced the concept of partnership-specific advantages (PSAs) to enrich internalization theory. Cantwell and Narula (2003) also suggested partnership capability as dynamic key resource to the "O" advantage in the OLI model. In a similar vein, Vahlne and Johanson (2013), as authors of the U-M, revised the theoretical model and added NC as a dynamic feature for this new and final refinement of the U-M. The finding of this study about the relation of the NC and IP also seems to be consistent with the relational-based view developed by Dyer and Singh (1998) who, in a conceptual article, stated that relational rents could be generated from relational-based SFA in the firm.

Following the discussion above, it could be concluded, based on both theoretical and empirical results of this study, that NC could be considered as a *unique dynamic-based FSA* in internationalization theories.

5.2.2 Absorptive Capacity and International Performance of SMEs (ACAP → IP).

In this study, ACAP was defined as a dynamic learning-based FSA with the four acquisition dimensions of (Aq), assimilation (As), transformation (Tr) and exploitation (Ex).

In *Hypothesis 2*, it was stated that in internationalized SMEs, international performance (IP) is directly and positively affected by ACAP as a higher-order learning-based FSA.

As was presented in Chapter 4 (see **Table 4-9**), the association between absorptive capacity (ACAP) and international performance (IP), for internationalized Swedish manufacturing SMEs, is positive and significant ($\beta = 0.20$ at $p < 0.01$ and percentile 95% confidence intervals [0.056; 0.341]).

Given the nature of ACAP in this study, higher levels of ACAP mean that the studied internationalized manufacturing SMEs at the same time have high levels of several sub-capabilities including Aq, As, Tr and Ex. In this regard, the higher levels of ACAP, in this study, imply that: (1) useful external knowledge, including product and technological knowledge, market knowledge and internationalization knowledge, have been recognized, collected, and obtained from external sources by the studied SMEs; (2) obtained external knowledge and information have been analyzed, comprehended, interpreted and shared within the firms sufficiently and accurately; (3) then, interpreted external knowledge has been recorded, organized and stored and maintained by the given SMEs; and (4) the transformed knowledge is used for developing capabilities and other commercialization applications e.g. product development within SMEs. Existence of these capabilities and associated routines allows SMEs to combine or integrate acquired knowledge (e.g., experiential knowledge) with existing knowledge applied in a new setting to create value. This ability, in turn, enables the firm to replicate the knowledge in other business settings. Furthermore, by these learning mechanisms the transformation of the knowledge would be easier, which results in a new configuration of the knowledge. All together, it allows the firm to accumulate knowledge and experience within the firm and perform more effectively. It is also important to note that the existence of the above processes enable the firm to learn both through exploration (by acquisition and assimilation) and exploitation activities (by transformation and exploitation), and such a characteristic lets the firm recognize and exploit international opportunities and be more adaptive.

Taken together, then, those SMEs which had developed the sequential-process of knowledge generation including these four capabilities (Aq, As, Tr, and Ex) in a higher level had been more successful in international markets than others. In other words, as the data shows, SMEs with higher levels of ACAP (existence of a bundle of learning process) have performed

better internationally than SMEs with weaker levels of ACAP. Given the indicators of international performance (IP) applied in this study, higher levels of IP have been realized by several objectives such as getting planned turnover, market share, profitability, company's image, firm's expertise and a good rate of return on internationalization investment.

Getting a high IP level could occur because of well-integrated components of the ACAP that enable SMEs to generate different substantive knowledge such as technological knowledge, market knowledge and internationalization knowledge, which are applicable for different objectives within the firm. In other words, SMEs with strong ACAP are better learners, and therefore would be more powerful than other SMEs to make effective decisions and commitment in international markets. Strong ACAP in these SMEs also provide better accumulation of external knowledge which, in turn, decreases the problem of uncertainty in international markets (Autio et al., 2000). This accumulated knowledge could also be served as prior knowledge to identify international opportunities.

It also could be concluded that in this study, IP is a function of learning capability in internationalized manufacturing SMEs. ACAP perhaps allows the studied SMEs to reduce their costs, particularly the cost of doing business abroad (Eden and Miller, 2004) from one side and differentiation enhancement (Schwandt and Marquardt, 2000) from the other. Hence, cost reduction and differentiation enhancement could act as the two sources of achieving high performance in international markets.

Strong ACAP, particularly for those young SMEs that are more knowledge-intensive (or technological-based), can play a central role to generate unique knowledge as the vital driver of rapid internationalization as well as an important factor to overcome on the LON. Moreover, without a doubt it could be said that in the studied internationalized SMEs, the role of external knowledge absorption had been significant, and this would be, especially, more important for SMEs because they are generally faced with the problem of the LOS. Therefore, by this learning-based FSA, it seems that the studied SMEs have overcome the problems of the LOF, LON and LOS.

This result is generally in agreement with studies by authors such as Cohen and Levinthal (1990) , Zahra and George (2002b), Lane et al. (2006), Jansen et al. (2005), Lewin et al. (2010), Volberda et al.(2010), Liao et al. (2003) and Muscio (2007), who highlighted the importance of

ACAP as a higher-order organizational capability as well as its critical effect on the outcome (e.g., performance) of the firm, both for large-scale enterprises (LSEs) and SMEs.

But, specifically, in the context of SMEs' internationalization, a positive and significant association between ACAP and IP confirms the studies of Fletcher (2009) and Fletcher and Harris (2012), who suggested that ACAP plays a central role in the process of internationalization of SMEs. This result (positive effect of ACAP on IP) also supports the association between learning-based FSA and different aspects of internationalization performance, aspects such as international performance (Javalgi et al., 2014; Zhou et al., 2010), export performance (Guan and Ma, 2003; He and Wei, 2013), international survival (Coeurderoy et al., 2012), early internationalizing (Freeman et al., 2010), and accelerated internationalization (Weerawardena et al., 2007).

Furthermore, the finding of this study (the impact of ACAP on IP) confirms the central role of learning and knowledge accumulation in both early and incremental internationalization models. For instance, in their learning-based model of the U-M, Johanson and Vahlne (1977) stated that the major obstacle for internationalizing the firm is the lack of knowledge associated with overseas markets. However, the U-M does not cover explorative learning as ACAP does. This finding is also in line with the study of Autio (2000), Oviatt and McDougall (2005) who stated that ACAP is required for those technological/knowledge-based SMEs to overcome their liability of newness (LON), and consequently to be internationalized rapidly. However, these findings do not support the results of Monferrer et al. (2015) on Spanish SMEs, who empirically showed that there is not any significant direct relationship between ACAP and IP.

5.2.3 Absorptive Capacity and IC in Internationalized SMEs (ACAP → IC).

In the last section, the impact of the ACAP on IP was discussed; in this section, the impact of the ACAP on IC is argued. It was hypothesized that in internationalized manufacturing SMEs, innovative capability (IC) could be affected by ACAP. Results from the PLS-SEM analysis used in this research related to the association between ACAP and IC (see **Table 4-9** and **Figure 4-2**) show that there is a strong positive and significant relationship between ACAP and IC ($\beta = 0.585$ at $p < 0.001$, t -value 14.659 and percentile 95% confidence intervals [0.505; 0.661]). This strong association implies that with SMEs, the higher the level of ACAP, the greater the degree of the

innovative capability. Given the nature of the IC indicators remaining in the reduced structural model, a higher level of the IC in internationalized manufacturing SMEs means that these firms: (1) have been able to own products and processes at the right time to address changes at market conditions, particularly changes in customer wants and competitors' products; (2) have continuously included those new ideas which have come from outside the firm (e.g., customers and suppliers) into their product and process development; and (3) have been easily adapted to the environmental changes through suitable process and product development and improvement in a shorter time.

Needless to say that a SME, in order to perform these innovative activities and achieve a new resource configuration, needs an integration, and (re) combination of different resources. By looking at the nature of these activities, it could be concluded that during performing these innovative activities the firm needs a variety forms of knowledge within different categories, e.g. technological knowledge and market knowledge as well as associated insights. These different pieces of knowledge could be used from internal or external sources, which can be generated by a set of consequential learning capabilities (Aq, As, Tr, Ex) as four dimensions of the ACAP, as discussed in the last section. Particularly, for SMEs that suffer from the problem of LOS, acquiring external knowledge is a critical source to facilitate innovation activities.

New practices need new routines. New routines, consequently, need new knowledge and skills which can be provided by ACAP. The results of this study indicate that ACAP, through its knowledge generation routines, have provided this essential accumulated knowledge, insights, skills and experiences as the fuel of product and process development. In other words, SMEs with a higher level of ACAP have a stronger IC to develop new products and processes or improve existing products and processes.

These findings empirically confirm the studies of several authors (Eisenhardt and Martin, 2000; Lane et al., 2006; Teece, 2007; Teece et al., 1997; Volberda et al., 2010; Zahra and George, 2002b) who theoretically stated that IC as a dynamic capability can be affected by learning capability. This finding, particularly, supports the idea of Collis (1994) as well as Ambrosini and Bowman (2009), who suggested that learning capability is a *learn-to-learn capability* (Meta capability) which can be used to develop other dynamic capabilities such as innovative capability. Furthermore, a positive association between ACAP and IC resulting from

this study is also consistent with data obtained in the studies of Cohen and Levinthal (1990); Knudsen and Roman (2004) and Liao et al. (2003), who pointed out that ACAP plays a central role to develop firms' innovative capability.

5.2.4 Absorptive Capacity and NC in Internationalized SMEs (ACAP → NC).

It was argued that a large part of the literature on NC provides an explanation of the NC on the firm's learning capability, but in this study I hypothesized that NC can also be affected by ACAP as a substantial learning capability. As analyzed data depicted in **Figure 4-2** and **Table 4-9** indicated ($\beta = 0.503$ at $p < 0.001$, t-value 9.117 and percentile 95% confidence intervals [0.395; 0.608]), the association between ACAP and NC is positively significant (supported *Hypothesis 5*). This finding implies that networking capability can strongly be affected by ACAP. It also can prove my argument about the impact of the ACAP on NC provided in the Chapter 2.

As was discussed in the last sections, in this study, internationalized SMEs perform their partnership activities using several routines, i.e. coordination (CO), partner knowledge (PK), relational skills (RS) and internal communications (RS). In this regard, according to the findings of this study when the level of ACAP is high it means that the firm is able to generate different types of knowledge, e.g. market knowledge, internationalized knowledge, and market knowledge.

It could also be interpreted that knowledge about business partners (BPs), knowledge for BPs, and knowledge from BPs are processed by ACAP within the firm. In this regard, given the nature of the NC construct applied in this study, a higher level of ACAP can affect NC through the following possible mechanisms. (1) When an SME performs the coordination activities it should identify possible partners to create business relationships with as well as allocate different types of resources to the given relationship. This resource allocation without associated knowledge such as knowledge about, and from, their BPs, would be difficult. In other words, effective resource allocation is happening when the firm has the experiential knowledge developed and accumulated within the firm by ACAP over time. (2) Another component of the NC is knowing-how to perform relational skills. Performing relational skills effectively requires knowledge of the partners' position in the network and how to be flexible with them, as well as solving BPs' problem. Handling such activities requires acquired knowledge, particularly from

the relational context. A high level of learning capability would be effective to acquire this needed knowledge during performing relational skills within the firm. (3) SMEs in the process of networking should have knowledge about their business partners (BPs) such as BPs' markets, strategies, products, procedures, services, strengths and weaknesses, opportunities and threats, which is called partner knowledge. In this regard, it could be concluded that powerful ACAP would be a crucial antecedent to acquire knowledge about partners through associated processes. (4) Another significant factor in networking capability is internal communication. Given the nature of the knowledge which is socially constructed, in order to be assimilated, it requires cross-functional communications. This cross-communication, in turn, empowers internal communication, which is a vital factor for successful networking capability. In other words, greater assimilation (as a component of ACAP) creates a higher level of internal communication and knowledge sharing.

According to the above discussion, greater investment on ACAP means that networking capability could also be empowered because of the strong effect of ACAP on NC. In other words, this finding shows that those SMEs which have applied the consequential mechanisms of learning such as acquisition, assimilation, transformation and exploitation at a high level, get greater development of coordination, relational skills, partner knowledge and internal communication as components of the NC. This finding then implies that *networking-by-learning* is not only a theoretical claim, but also a reality in the context of internationalized SMEs.

These results suggest that ACAP as a dynamic-based FSA plays a central role to develop NC as another dynamic-based FSA, which is consistent with the findings of Collis (1994), who theoretically concluded that learning capability is a meta-higher order DC (a higher order DC that develops other DC). This specific role confirms that ACAP is a *pluripotent dynamic capability* which is able to develop, renew or modify other organizational capabilities, e.g. NC and related skills and routines.

Positive and direct association between ACAP and NC also support the studies of different business relationship scholars (Gebert et al., 2003; Im and Rai, 2008; Inkpen and Beamish, 1997; Inkpen and Tsang, 2005; Kale and Singh, 2007; Selnes and Sallis, 2003; Weitz and Bradford, 1999) who, in different contexts, stated that greater organizational capability leads to more successful partnership ability.

5.2.5 Innovative Capability and International Performance of SMEs (IC → IP).

It was hypothesized that IC directly and positively affects international performance of manufacturing SMEs. IC was defined as the firm's ability to develop new (or existing) products/processes and ideas continually to meet existing and new international markets' needs. Surprisingly, examining the analyzed data (see **Table 4-9** and **Figure 4-2**) indicates ($\beta = 0.025$ at $p > 0.05$, t-value 0.417 and percentile 95% confidence intervals [-0.091; 0.144]) that there is no significant direct association between IC and IP. This result is inconsistent with the studies of many scholars (Basile, 2001; D'Angelo et al., 2013; Guan and Ma, 2003; Knight and Cavusgil, 2004; Monreal-Perez et al., 2012; Raymond and St-Pierre, 2013), who have found that IC and new product development are directly associated with SMEs' outcome, e.g. international performance (IP) and export performance. However, this finding is in line with the findings of Kaleka (2012) who, similarly, did not find any direct association between IC and international performance.

Given the central role of IC on the internationalization of the firm, the following plausible explanation could be addressed for this unexpected result. However, given the different nature of IC's constructs applied in other studies, comparing the results of this study with them is not easy. In any event, within the literature of the DC some scholars believe that DC does not have direct association with the performance of the firm. For instance, in their theoretical article Helfat and Peteraf (2003, p. 999) stated that "*dynamic capabilities do not directly affect output for the firm in which they reside, but indirectly contribute to the output of the firm through an impact on operational capabilities*". Likewise, in an empirical study several other scholars found that the effect of dynamic capabilities on the firm's performance is mediated by operational capabilities (Protogerou et al., 2012). On this basis, in this study a lack of a direct relationship of the IC and IP does not imply that there is no indirect effect between these two constructs.

A closer look at the data and further analysis such as examining the total effect of the IC on IP (see **Table 4-9**) indicates (total effect= 0.121 at $P < 0.05$ and percentile 95% confidence intervals [0.005; 0.244]) that there is a significant, indirect association between these two constructs. In other words, this result shows that IC through networking capability can affect IP. This finding (indirect effect of IC on IP), thus, also is in line with the theoretical argument of

Zahra et al. (2006), who pointed out that DC may influence the performance of a firm indirectly. However, it could be said that IC could exert its effect on IP through other operational capabilities (OC) such as production capability, pricing capability (Kaleka, 2012) or even innovation performance (Lawson and Samson, 2001). In other words, production capability or other organizational assets may play a mediation role between IC (as a DC) and IP because IC, through new product and process development (or improvement), can act as driving force for production capability. Another alternative that could be considered is the direct effect of IC on competitive advantage (Kaleka, 2012), however more research is needed to address association between IC and IP. In spite of the lack of direct effect of IC on IP, in this study, based on the significant indirect effect of IC on IP, it could be concluded that IC however indirectly, is a driving force for IP of SMEs.

5.2.6 Innovative Capability and NC in Internationalized SMEs (IC → NC).

Another hypothesis that was developed is about the impact of SMEs' IC on their NC. As depicted in **Table 4-9**, ($\beta = 0.329$ at $p < 0.001$, t-value 5.622 and percentile 95% confidence intervals [0.216;0.445]) there is a significant direct and positive relationship between IC and NC. This finding confirms the argument that was provided about this relationship. In other words, it confirms that SMEs' ability to develop (or improve) new products and processes has operated as a driving force to develop their networking capability.

Given the sub-components of networking capability applied in this study, the result shows that the formative dimensions of the NC could be influenced by greater levels of IC in studied SMEs. For instance, coordination is a sub-component of the NC in that identifying the new business partners (BPs) (as business opportunities) is one of its significant functions. From the other side, it was discussed that IC plays a critical role to enhance the firm's technological insight, and therefore taken together it could be interpreted that greater IC can influence the coordination capability of the firm to recognize new business opportunities (e.g., new BPs) (Madhok and Phene, 2001). Likewise, it was argued that the strong level of IC implies that the firm can provide different solutions for its BPs in the network. This ability could be considered as a critical driving force for relational skill (RS) as another component of the NC. In line with this respect, SMEs with strong IC can handle their business relationships better because of the

firms' ability to develop unique, high-quality products as an important factor to attract its customers. Similarly, by powerful IC the firm is able to determine better technical specifications to handle its relations with given suppliers. It is also possible to say that RS would be more affected by IC when the nature of the exchange includes products, technology, production solutions, skills, and associated information and knowledge. Because such exchanged substances are the main outcome of strong IC and would be more attractive for BPs (Hüttinger et al., 2012), it could be considered as the source of power during business relationships (Meldrum and Millman, 1991; Porter, 1979).

Moreover, SMEs with stronger IC would be more capable to understand their BPs' problems, markets, products, procedures, services and associated strengths and weaknesses, opportunities and threats. Consequently, IC can be considered a driving determinant to enhance the partner knowledge (PK) dimension of NC in the firm.

It is also important to note that a SME with strong technological capability would be able to provide better technical knowledge for its BPs as an effective factor during networking activities. Obviously, for those SMEs with strong IC presence a powerful cross-functional relationship within the firm is a pre-essential condition. Therefore, it could be concluded that SMEs with greater IC would have better internal communication as a vital component in their networking capability.

Accordingly, based on the positive correlation between IC and NC, it could be suggested that SMEs with strong IC have influenced several dimensions of NC such as coordination (CO), relational skills (RS), partners' knowledge (PK) and internal communication (ICO). This fact confirms the qualitative study of Chetty and Stangl (2010), who found that innovation plays a significant role to extend business relationships in the context of SMEs' internationalization. This finding, thus, confirms the importance of networking-by-innovating in the context of IB. This finding also supports the study of Wang and Ahmed (2007), who argued that IC is a high-order dynamic capability and it is able to develop other organizational capabilities. However, this result also suggests that, like ACAP, IC is a *meta-dynamic capability* (Collis, 1994), because it is able to develop another dynamic capability (not operational capability) such as NC. This meta-dynamic capability role is often proposed for learning capability (such as ACAP). In other words, IC is a dynamic capability that is able to develop the other dynamic capability. This

specific role confirms that IC is a *multi-potent/pluripotent dynamic capability*, as discussed in Chapter 2. Taken together, this result highlights the importance of IC as a driving force for NC, as well as a driving force to overcome liability of outsidership (LOO) in internationalized SMEs.

5.3 Indirect (Mediation) Effect

So far, the direct effects of exogenous and endogenous latent variables (LVs) were discussed. But in this section, another aspect of the study can be argued. As was noted in Chapter 3 that if the total effect (TE) of a LV on an endogenous variable would be larger than its direct effect (DE), then it could be concluded that the indirect (mediation) effect (IE) should be considered. In this regard, the results of the further analysis of the PLS-SEM about the indirect effect of the ACAP on NC and IP as well as IC on international performance (IP) were provided (see **Table 4-10**). It was also explained that the PLS structural model in this study is a *serial multiple mediator model*, because IC and NC are located causally between ACAP and IP.

In this respect, the mediation effect of the IC and NC, thus, could be considered as another finding of this study to be discussed. On this basis, the following discussion is presented to explain the mechanisms through which ACAP influences IP, ACAP influences NC and IC influences IP.

5.3.1 Indirect Effect of ACAP on International Performance (IP)

As was discussed in the last sections, given the close direct association between ACAP, IC and NC on the one hand, and NC and IP on the other, it is expected that NC and IC mediated the association between ACAP on IP. In this regard, the results (See **Table 4-10**) from PLS-SEM used in this research for the relationship between ACAP and IP show (Total effect = 0.417, Direct effect = 0.200 and Indirect effect = 0.216) that there is also a considerable positive and significant (at $p < 0.001$) indirect effect (VAF = 52%) of ACAP on IP. The value of the VAF indicates that a significant amount of the ACAP's total effect is transmitted through indirect paths. On this basis, the indirect effect of ACAP is partially mediated by the two other dynamic capabilities, i.e. IC and NC. In other words, these findings demonstrate a mediating effect of the NC and IC to contribute to the effect of ACAP on IP. As discussed earlier, since IC does not have the direct effect on IP, then NC could be considered as a mediator variable that plays a

central role to transmit the influence of ACAP to the international performance (IP). In this regard, ACAP leads to greater IP through *mediator variable* of the NC.

This is an interesting new finding, in the context of SMEs' internationalization, that highlights the mechanism through which learning capability influences SMEs' IP. This result gives a useful insight to international business (IB) researchers, because little consideration has been given to this mechanism. It is important because previous studies remain silent about how learning capability (e.g., ACAP) exerts its effect on IP in SMEs.

5.3.2 Indirect Effect of ACAP on NC

Another indirect path is the impact of ACAP on NC through IC. The association between ACAP and IC, as well as the direct relationship between ACAP and NC, was discussed in the previous sections based on empirical evidence from this study. As the results of the further analysis (see **Table 4-10**) show (Total effect = 0.696, Direct effect = 0.503 and Indirect effect = 0.193, all at $p < 0.001$ and with percentile 95% confidence intervals that do not include zero; VAF = 27%), ACAP has a large total effect on NC. The main effect of this association is exerted through its direct effect, and about 27% of the total effect is also mediated by IC on NC. This means that SMEs with strong ACAP influence their NC not only directly, but also through variation in IC. In other words, learning, knowledge and information resulted from ACAP have been exploited by IC, and turn has been transmitted to NC, possibly in a new form of technological knowledge.

It was discussed how coordination (CO), partner knowledge (PK), relational skills (RS) and internal communication (ICO) as four dimensions of the NC could be influenced by learning, as well as different types of knowledge, whether generated by ACAP or IC. On this basis, it could be interpreted that there are some knowledge-based processes within the IC that could be influenced by ACAP and, at the same time, these processes affect dimensions of NC. In other words, variation in these features which are affected by ACAP lead to change in dimensions of the NC. For instance, it could be argued that through the knowledge-based processes of new product development, different types of knowledge (explored and processed by ACAP) can be exploited to generate other knowledge forms such as technical knowledge (or novel solution), which in turn could be used as antecedents of NC activities. This argument could be in line with the studies of several authors on dynamic capabilities who have identified

knowledge processes as the building blocks of dynamic capabilities (Eisenhardt and Martin, 2000; Teece, 2007; Wang and Ahmed, 2007; Zollo and Winter, 2002). However, in order to uncover the different aspects of the IC mediation effect on NC in the context of internationalized SMEs, further qualitative studies are recommended.

5.3.3 Indirect Effect of the Innovative Capability (IC) on IP

As can be seen from **Table 4-10**, IC does not have a significant direct effect on IP (discussed earlier), whereas the total effect (TE = 0.121 at $P < 0.05$ and percentile 95% confidence intervals [0.005;0.244]) and indirect effect (IE = 0.095 at $P < 0.01$ and percentile 95% confidence intervals [0.040;0.163]) are positive and significant. This result indicates that a large amount (VAF = 79.2%) of the effect of IC on IP is carried by indirect path. Given that the value of VAF which is so close to the full mediation effect threshold, NC fully mediates the effect of the IC on IP. According to this result, variation in IC activities, such as new product development and process developments, indirectly leads to variation in IP. This impact is transmitted by the NC's processes such as CO, RS, ICO, and PK.

To my knowledge, this finding has not been previously considered within the context of internationalized SMEs. However, this significant indirect association is also not such a large effect compared with ACAP and NC discussed previously, while as reported in **Table 4-7** the average value of IC in the studied SMEs is 5.22. This means that the level of IC within the studied SMEs is high, but its association with IP is not very encouraging. In other words, findings related to the association between IC and IP (TE = 0.121) are unexpected. A possible explanation for this challenge might be that we have to consider other alternatives, such as the indirect impact of the IC on IP through operational capabilities, e.g. manufacturing capability and marketing capability. Possibly, IC exerts its effect through the mediator variable of the operational capabilities (OC), which was discussed previously in the section where the direct relationship of the IC and IP (IC → IP) was evaluated.

5.3.4 Overall Discussion

In the last sections, hypothesized relationships between different latent variables (LVs) were discussed path by path. In this section, I will attempt to shed some light on the overall picture resulting from the findings.

First, according to above findings related to all confirmed hypothesized relationships, it is now evident that ACAP has played multiple strategic roles in internationalized SMEs. This has taken place through the four main learning processes of acquisition (Aq), assimilation (As), transformation (Tr) and exploitation (Ex). The first role has a strong direct effect ($\beta = 0.585$) on IC (*innovating-by-learning*). In its second, very strong role, it has positively affected NC (*networking-by-learning*), both directly and indirectly (Total effect = 0.696). In its third role, it has influenced international performance (IP) (Total effect = 0.417), whether directly or indirectly (*internationalizing-by-learning*). In other words, ACAP as a central learning-based FSA, in the context of SMEs' internationalization, plays the role of a “*wellspring*” of knowledge and learning (Verona, 1999) to modify, develop, renew and build the high-order routines of relational-based FSA, innovative-based FSA, and consequently influence SMEs' international performance. Given this strong role of the ACAP compared with the other two DB-FSAs, it also could be concluded that “*the business of business is learning, and all else will follow*” (Owen, 1991, p. 1). This overall finding (multiple role of the ACAP) confirms the arguments of different IB scholars who suggested that it is essential to consider a type of learning-based FSA as a dynamic component in IB theories, whether for improving existing theory or developing a new one.

Second, another finding was associated with innovative-based FSAs (IC) that highlights the impact of the innovative capability (IC) on networking capability (NC) and international performance (IP). IC both directly has a strong impact on SMEs' relational-based FSAs (NC), and at the same time, partially mediates the effect of ACAP on NC. However, unexpectedly it does not have a direct significant link with international performance (IP), but indirectly it creates value in the international markets for the studied SMEs. At the same time, IC in this study is influenced by learning-based FSAs and affects NC. IC is a dynamic capability that can develop other dynamic-based FSA such as NC.

Third, as the results show, NC is influenced by multiple sources of ACAP and IC. At the same time, it plays the mediation role both for ACAP and IC to transmit their effects on IP. It also has a positive direct effect on IP. In other words, NC is central for studied SMEs to affect IP. This means that greater innovation capability and learning capability strongly lead to NC enhancement. Whereas, as was discussed, within the extant literature, the firm's external

collaboration and business relationship management also has a powerful impact on both learning capabilities and IC. In other words, NC plays the role of a *gateway* in the firm through which it can both affect IC and ACAP as well as be affected by them, as the results of this study indicated. Therefore, these findings highlight the very important role of NC to overcome different forms of liabilities, particularly LOF and LOO, to be internationalized.

Fourth, given the above discussion, in this study I uncovered the mechanism by which the three identified component factors of dynamic-based FSAs (DB-FSA) affect each other and IP. In this respect, it could also be said that a bundle of the three unique component factors was applied in this study, each of which addresses specific function(s) in the firm, i.e. learning, innovating and networking, to change resource configuration of the firm continuously. However, within the business network literature, the common emphasis of scholars is that business networking strongly affects the firms' learning and innovation capabilities, whereas in this study, as was analyzed and discussed, it is learning capability (ACAP) and innovative capability (IC) that strongly influence networking capability (NC). This means that the three component factors of dynamic-based FSAs (i.e., NC, ACAP and IC) are able to develop and renew each other, as well as modify their existing routines and skills. Needless to say, these three component factors of dynamic-based FSAs are also able to develop other ordinary capabilities, as was discussed in the theoretical chapter. In other words, according to the findings of this study and other related theoretical literature, they (the three component factors) are interrelated and interdependent, as each is influenced by the other two. These abilities, collectively, guarantee the adaptability, survival, growth and evolution of SMEs over time in different international markets. Given the potency of these three component factors of dynamic-based FSAs to play multiple roles, they should be recognized correctly as an influential set of *multi-potent/pluripotent dynamic capabilities*. An ownership advantage that has enabled SMEs, to explore and exploit new opportunities and neutralize likely competitive threats. As a result of the findings, internationalized SMEs with stronger component factors of dynamic-based FSAs are more successful in the context of IB activities. This implies that developing and utilizing these three dynamic organizational capabilities have possibly formed a unique source of superiority to create an international performance advantage over foreign markets. However, the impact of the three component factors of dynamic-based FSAs vary on IP. As was revealed, the total effect (0.42)

of ACAP on IP is stronger than the effect ($\beta = 0.29$) of the NC on IP. The lower total effect (0.12) on IP is associated with IC. Taken together, above findings and discussion showed why some internationalized SMEs have greater overall IP than others.

6 Conclusion and Research Implications

6.1 Introduction

In the first chapter, the key role of SMEs in economic development was mentioned. The existing literature suggests that SMEs' internationalization has received enough attention to be studied by related international business (IB) scholars, particularly for those countries with small domestic markets such as Sweden, and further attention should be given to that, as SMEs' internationalization is an essential and sufficient condition for their survival and growth.

It was discussed that, in general, two factors are more influential for firms' internationalization, namely country-specific advantages (CSAs) and firm-specific advantages (FSAs). The focus of FSAs studies is on the inside of the firm, whereas CSAs consider the external elements that are located in the outside of the firm. Building on the RBV and DCV literature, in this study I focused on the inside of SMEs rather than CSAs as external antecedents of the firm's internationalization.

When it comes to SMEs, liability of smallness (LOS) is the main source of resource limitation, and this problem in the IB context perhaps creates other consequential problems such as liability of foreignness (LOF) and liability of outsidership (LOO). Given this problem (LOS), many IB scholars have emphasized the role of intangible resources, such as organizational capabilities, as significant FSAs to overcome SMEs' LOS, LOF and LOO, because FSAs are a substantial source of sustainable competitive advantage, particularly in the IB context. Building upon RBV and DCV, reviewing the IB theories revealed that dynamic capabilities (dynamic-based FSAs) are vital to refine or develop IB theories to explain the internationalization behavior of the firm. However, little is known about which component factors (forms) of dynamic-based FSAs should be considered, and how these component factors can affect the internationalization of SMEs. In this regard, the purpose of this study was to explore and understand dynamic-based FSAs and their impact on IP, in the context of internationalized SMEs. To perform the purpose of the study, this thesis tried to address the following research questions.

Research question one (RQ1): What are the critical component factors of dynamic-based FSAs for internationalizing the firm, particularly in the context of SMEs?

Research question two (RQ2): What is the impact of the identified component factors of dynamic-based FSAs on SMEs' international performance (IP)?

Research question three (RQ3): What, if any, is the relationship between the identified component factors of dynamic-based FSAs, and *how* do they impact international performance?

The first question was answered through a theoretical literature review, while the other two questions were answered empirically using PLS-SEM. In this regard, six hypotheses were developed. The answers to each of the questions are presented separately as follows.

6.2 The Component Factors (Forms) of Dynamic-Based FSAs (DB-FSAs) (RQ1)

The primary goal of this study has been to identify those specific advantages that should be considered as critical dynamic-based FSAs (DB-FSAs) in the internationalization of the firm. To find the answer of this question, the literature on organizational capabilities and their relations with the internationalization of the firm was systematically examined, resulting in the identification of *three component factors of DB-FSAs*, which are *pluripotent* dynamic capabilities in nature. Each of these have a different nature and characteristics (see **Table 2-3**) that are critical for the firm's sustainable competitive advantage (SCA) and performance, particularly in the international business (IB) context. The *three component factors of DB-FSAs* are relational-based FSA (NC), learning-based FSA (ACAP), and innovative-based FSA (IC), all of which are important to help overcome different liabilities of the firm such as liability of smallness (LOS), liability of newness (LON), liability of foreignness (LOF) and liability of outsidership (LOO).

6.2.1 Relational-Based FSA (Networking Capability)

As can be seen from **Table 2-3** this is an emerging component factor of dynamic capability that emphasizes the ownership advantage which enables the firm to initiate, maintain, develop and terminate business relationships. This is a neglected relational-based specific advantage in international business (IB) theories that has been strongly recommended by related scholars as a vital element for IB theories, whether current or new theories. Within the IB literature, this

relational-based FSA has been labeled in different forms such as relational capability, alliance capability, networking capability, network capability, networking competency and linkage capability; in this study, however, it was operationalized as networking capability. The *relational-based FSA*, according to the RBV and DBV, is a unique, dynamic, intangible resource, however it is rooted in network theory as well.

6.2.2 Innovative-Based FSA (*Innovative Capability*)

As **Table 2-3** shows, the second identified component factor of the dynamic capability, as an important driver of internationalization, is an *innovative-based FSA* that is rooted in the Schumpeterian approach. With this *innovative-based FSA*, knowledge and ideas are continually transformed into new products and processes in the firm. It also helps the firm to improve current products and processes. In this study, it was operationalized as innovative capability (IC). The innovative-based FSA serves as a key source of the firm's renewal and sustainable competitive advantage (SCA).

6.2.3 Learning-Based FSA (*Absorptive Capacity*)

The third component factor of the dynamic-based FSA that emerged from the international business (IB) literature (see **Table 2-3**) is a knowledge-based ownership advantage that enables the firm to generate new knowledge which is needed to develop new routines, skills, dynamic capabilities and operational capabilities as well as continual learning. This *learning-based FSA* is rooted in several theories, such as the learning-based view (LBV) and the knowledge-based view (KBV). As was previously explained, for this *learning-based FSA*, knowledge in its different forms is central. Like the relational-based FSA, the *learning-based FSA* has also strongly been recommended by IB scholars as a critical ownership advantage to empower existing and new internationalization theories to explain different internationalization behaviors in all types of firms. In this research, it has been operationalized as absorptive capacity (ACAP), a dynamic capability that enables the firm to acquire, assimilate, transform and exploit valuable external knowledge.

6.3 The Impact of dynamic-based FSAs on SMEs' international performance (RQ2) and Associated Mechanism (RQ3)

This thesis was also designed to determine the impact of three identified component factors of dynamic-based FSAs on international performance (IP), as well as to examine their impact on each other. To do this, a set of six hypotheses was developed and tested using PLS-SEM to analyze the collected data. The empirical findings of the study are provided as follows.

- (1) This study has empirically shown that in internationalized manufacturing SMEs, international performance is positively affected by absorptive capacity (ACPA) as a learning-based FSA.
- (2) This study has found that international performance, in internationalized manufacturing SMEs, is positively affected by networking capability (NC) as a relational-based FSA.
- (3) In spite of the existence of strong theoretical support about the direct and positive association between innovative capability (IC) and international performance (IP), the findings of this study suggest that, unexpectedly, there is no significant *direct relationship* between innovative-based FSA and IP in internationalized manufacturing SMEs.
- (4) As was expected, in the internationalized SMEs, innovative capability (IC) is positively and directly associated with ACAP. In other words, in the studied SMEs, innovative capability could be affected by absorptive capacity (*innovating-by-learning*).
- (5) The results also indicate that absorptive capacity (ACAP) is a strong reliable predictor for networking capability (NC). In other words, in internationalized SMEs NC is directly and positively affected by ACAP (*networking-by-learning*). This result is different from prior investigations that have mostly emphasized *learning-by-networking*.
- (6) The other major finding was that in internationalized SMEs, networking capability (NC) is directly and positively affected by innovative capability (*networking-by-innovating*).

Further PLS-SEM analysis revealed the following:

- (7) An interesting finding that emerged from this study is that the impact of the innovative capability (IC) on international performance (IP) is accomplished through networking capability (NC). In other words, NC plays a significant role to mediate the effect of the

innovative capability (IC) on IP. This finding indicates, however, that there is no direct relationship between IC and IP, but IP has been affected by the indirect effect of the IC.

- (8) It was also shown that ACAP not only directly, but also indirectly influences international performance (IP). In this respect, a large amount of the effect of ACAP is transmitted on IP through its indirect effect, particularly by networking capability (NC). In other words, the result of this study specifies that NC is a considerable mediator for the relationship between ACAP and IP.
- (9) In addition, the study identified that innovative capability (IC) also partially mediates the effect of ACAP on networking capability (NC). This finding suggests that NC both directly and indirectly can be affected by ACAP.

The overall picture resulting from this thesis indicates that the *learning-based FSA (ACAP)* in internationalized SMEs is a “wellspring” to develop both innovative-based FSA and relational-based FSA and influence IP. At a lower level, innovative-based FSA affects relational-based FSA and IP. Moreover, relational-based FSA is a vital *gateway* to transmit the effect of the other two dynamic-based FSAs on international performance (IP) and, at the same time, directly influence IP. Taken together, it is evident that ACAP and IC have played a meta-role associated with other dynamic-based FSAs. This means that these dynamic-based FSAs are pluripotent dynamic capabilities for SMEs.

6.4 Contribution

Several contributions are proposed by this study to theory and practice.

1. The first contribution of this study is that the “black box” of the dynamic-based FSA, as fundamental ownership advantages in the context of international business (IB), was highlighted and opened up by identifying the dynamic component factors of dynamic-based FSAs, namely relational-based FSA (NC), learning-based FSA (ACAP) and innovative-based FSA (IC). This, in turn, extends our knowledge and provides a better understanding about the nature and dimensions of the given dynamic-based FSAs that are necessary to refine and develop IB theories.
2. The second contribution of this study is related to its strong empirical support for the influence of dynamic-based FSAs on the international performance of SMEs. This study

empirically highlights the importance of the three specific dynamic capabilities, i.e. ACAP, IC and NC, which enable internationalized SMEs to be unique in their international markets.

3. The theoretical model and related empirical findings of this study also extend a new insight about interrelated and interdependent relations between ACAP, IC and NC. According to this study, it is now evident that networking-by-learning and networking-by-innovating are also important aspects for SMEs, alongside other aspects such as innovating-by-networking and learning-by networking, which have often been the focus of IB researchers.
4. This study also contributes to the dynamic capability literature by showing the mediation effect of the innovative capability (IC) and networking capability (NC) to transmit the effect of the absorptive capacity (ACAP) on NC and international performance (IP), as well as IC on IP. This is a subject that has rarely been evaluated in the context of internationalized SMEs.
5. This study provides a different understanding about the picture of ACAP in the context of internationalization of SMEs by operationalizing this construct based on its four dimensions, that is to say Aq, As, Tr, and Ex. In previous studies, ACAP is mostly measured by a single item such as R&D input or output, that for SMEs does not provide a real picture from the level of ACAP in the firm, because SMEs are usually *less R&D-driven* and ACAP is realized by other non-R&D activities.
6. Like absorptive capacity (ACAP), the realized picture of the networking capability (NC), in this study, is different from the majority of studies in the context of internationalization, because many of them have mostly measured this construct using a reflective, first-order latent variable (LV) with several reflective indicators. In this study, however, it was measured using a formative LV (19 questions) with the four sub-dimensions of coordination (CO), relational skill (RS), partner knowledge (PK) and internal communication (ICO). This comprehensive measurement could result in better alignment between theoretical functions of the networking capability and its measurement tool (real picture).

6.5 Managerial Implication

The findings of this study proved that the three pluripotent component factors of the dynamic-based FSA (absorptive capacity, networking capability, and innovative capability) as

organizational stem cells play very important multiple roles, in manufacturing SMEs, to sustain competitiveness in international markets. In this respect, the following managerial implications are provided both for SME managers and the government.

Among the three component factors of the dynamic-based FSA, absorptive capacity (ACAP) plays a meta-role to influence both the other two dynamic capabilities and international performance (IP). As has emerged from this study, ACAP is a “wellspring” of the other two component factors of the dynamic-based FSA. Therefore, as the first priority, investment on acquisition, assimilation, transformation and exploitation, as the four sequential dimensions of ACAP in SMEs, is strongly recommended because ACAP is a very strong antecedent for both networking capability (NC) and innovative capability (IC). In other words, those activities that enhance ACAP should be considered as significant factors to have better IP in international markets. At the same time, enhancing IC also leads to the development of the NC. However, NC could be strongly developed when the firm develops the other two component factors of the dynamic-based FSA, i.e. ACAP and IC, but it is also essential for managers to focus on the components of the NC and try to develop them. Investment in these capabilities is important because they compensate for the liability of smallness (LOS), liability of foreignness (LOF), liability of newness (LON) and liability of outsidership (LOO).

In order to develop the above component factors of the dynamic-based FSA, it is first of all necessary that the SMEs’ managers be aware of these concepts and their importance in the process of capability development as well as successful internationalization. In this respect, government planning and policies would be a critical supportive activity to provide a national program for SMEs to empower associated enablers of the three component factors of the dynamic-based FSA. For instance, short-period educational programs could be a part of this support.

In addition, given the critical effect of these three dynamic-based FSAs on the SMEs’ international performance, it would be important for managers to consider them as *critical components* of SMEs’ *business models*.

6.6 Research Limitation

This research is limited in several ways, as follows.

- Operationalization of the three component factors of the dynamic-based FSAs was performed using the existing constructs of absorptive capacity (ACAP), networking capability (NC) and innovative capability (IC). In other words, in this study the new measurement was not developed for each component factor of the dynamic-based FSA.
- The study did not evaluate the relations between dynamic-based FSAs and the main operational-based FSAs (ordinary capabilities). This is because it may be possible that a part of the dynamic-based FSAs is mediated by operational-based FSAs on IP.
- A limitation of this study is that its generalizability is restricted to internationalized manufacturing SMEs, as service SMEs were not included to collect related data.
- Given the limited ability of the PLS-SEM method, this study was not able to assess mutual relationships between the three component factors of dynamic-based FSAs. In other words, these relations are unknown because the study was limited to evaluate *recursive models* rather than *nonrecursive models*.
- The questionnaires were only completed by the CEOs of the firms, whereas to decrease the common bias method, they could also have been completed by managers as well, e.g. R&D and marketing managers.
- The collected data were limited by a cross-sectional design; consequently, it does not explain the evolutionary picture of dynamic-based FSAs and their impact on IP over time for the studied cases.

6.7 Further Research

Given several limitations noted in the previous section, along with a set of questions that have emerged from the study, the results of this study have directed me to recommend further research for the future.

1. More research is required to develop a specific measurement scale for each of the identified component factors of dynamic-based FSAs, particularly using a qualitative study to explore and extract associated items.

2. It would be more useful if the study could assess the interrelated relationships (non-recursive models) between the three component factors of dynamic-based FSAs. In this regard, using an analytical technique that is able to facilitate such a study is also suggested. This type of study will uncover new aspects of dynamic-based FSAs and related relationships.
3. As was previously explained, the cross-sectional design used in this study was not able to provide a comprehensive picture from the three component factors of dynamic-based FSAs. In this respect, applying a longitudinal study, whether qualitative or quantitative, will highlight new insights about the role of dynamic-based FSAs to evolve other dynamic and operational capabilities, particularly in the context of the internationalization of SMEs.
4. In this study, unexpectedly the direct association between innovative capability (IC) and international performance (IP) was nonsignificant, however, the possible explanations were provided. It would be interesting if in the future research was performed to evaluate those SMEs with a high level of IC and look at its relationship to the internationalization of SMEs, particularly in Sweden.
5. Given the focus of this study on manufacturing SMEs, it would be useful to evaluate the impact of the three component factors of dynamic-based FSAs, applied in this study, for service SMEs.
6. Based on this study, it was concluded that unique dynamic-based FSAs play a central role to enhance the competitiveness of SMEs in international markets and further value creation. Obviously, acquiring these types of FSAs in SMEs, for instance in Sweden, can lead to national economic development. In this regard, designing a study to explore the impact of country-specific advantages (CSAs) on dynamic-based FSAs in SMEs also is recommended.

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Appendices

Appendix I (Identified Capabilities by Systematic Literature Review)

	Author (s)	Type of capabilities	Theory	Method	Context	Related to	C1	C2	C3
1.	(FladmoeLindquist, 1996)	– Specific capabilities of the international franchisor	– RBV – DCV	– Theoretical	– Theory	– Franchisors internationalization			
2.	(Lefebvre et al., 1998)	– R&D-related capabilities: – A scientific and technological culture – R&D being firm-specific – The ability to resort to external collaboration – The capability to gather technological knowledge from different sources	– RBV	– Quantitative – Survey – Factor analysis and Regression	– Canada/ 101 SMEs	– Export performance	**	**	**
3.	(Andersen and Suat Kheam, 1998)	– Functional and organizational capabilities: – International product and production capability – International marketing capability – International management capability	– RBV – Growth strategy theory	– Quantitative – Survey – SEM	– 697 Norwegian SMEs	– International growth	*	**	*
4.	(Luo, 2000)	– Dynamic capabilities: – Possessing – Deploying – Upgrading	– RBV/DCV – Learning theory	Theoretical	– Theory	– International expansion and global success			***
5.	(Ling-yee and Ogunmokun, 2001)	– Relational capability	– RBV – Networking theory	– Quantitative – Survey – Hierarchical regression	– 111 Chinese exporting companies	– Export competitive advantages and performance	***		
6.	(Kaleka, 2002)	– Informational capabilities – Supplier relationship capabilities – Customer relationship capabilities – Product development capabilities	– RBV	– Quantitative – Survey – Multiple regression analysis	– 202 UK manufacturing SMEs	– Three types of advantages (cost, service and product) in export	***	**	**
7.	(Tallman and Fladmoe-Lindquist, 2002)	– Component capability – Architectural capability	– Capability based theory – Knowledge based view	– Theoretical	– Theory	– International expansion – global integration strategy			**

Author (s)	Type of capabilities	Theory	Method	Context	Related to	C1	C2	C3
8. (Guan and Ma, 2003)	<ul style="list-style-type: none"> – <i>Innovation capability:</i> – Manufacturing capability – Learning capability – R&D capability – Marketing capability – Organizational capability – Resource exploiting capability – Strategic capability 	– RBV	<ul style="list-style-type: none"> – Quantitative – Survey – Multiple regression analysis 	– 213 Chinese industrial firm	– Export performance		***	**
9. (Zou et al., 2003)	<ul style="list-style-type: none"> – <i>Export marketing capabilities:</i> – Product development capability – Distribution capability – Communication capability – Pricing capability 	– RBV	<ul style="list-style-type: none"> – Quantitative – Survey – CFA 	– Chinese export venture	– Export performance	**	*	
10. (Morgan et al., 2004)	<ul style="list-style-type: none"> – Informational capabilities – Relationship-building capabilities – Product development capabilities 	<ul style="list-style-type: none"> – Structure-conduct-performance (SCP) – RBV 	<ul style="list-style-type: none"> – Mix – CFA 	– 17 interview and 287 export ventures	– Export venture performance	**	*	*
11. (Knight and Cavusgil, 2004)	<ul style="list-style-type: none"> – Technological competence capability – Unique product development capability – Quality focus capability – Leveraging foreign distributor competences 	– DCV	<ul style="list-style-type: none"> – Mix – EFA – CFA 	– Interview with 33 SMEs' managers and survey	– Superior performance in international markets	*	***	
12. (Luo et al., 2005)	<ul style="list-style-type: none"> – Marketing capability – Innovative capability 	– RBV	<ul style="list-style-type: none"> – Quantitative – Survey – Multiple regression analysis 	– US E-Commerce Companies (ECC)	– Speed of internationalization		***	
13. (Freeman et al., 2006)	<ul style="list-style-type: none"> – Network development capabilities – Alliance-building capabilities 	– RBV	<ul style="list-style-type: none"> – Quantitative – Survey – Principal components analysis – Regression analysis 	– 88 Spanish exporting firms	– Overcome constraints to Rapid Internationalization	***		

Author (s)	Type of capabilities	Theory	Method	Context	Related to	C1	C2	C3
14. (Flor and Oltra, 2005)	– Technological innovation capabilities: – Production capabilities – Investment capabilities – Co-operation capability	– RBV – Networking theory	– Qualitative – Case study – Focus group	– 20 in-depth interviews born-global SMEs in Australia	– Export performance	***	**	*
15. (Mort and Weerawardena, 2006)	– Networking capability	– DCV	– Qualitative – Multiple case studies	– 6 Australian BGs SMEs	– Rapid internationalization and international market performance	***		
16. (Elango and Pattnaik, 2007)	– Parental network capabilities	– The Uppsala model of internationalization – Network theory	– Quantitative – Survey – Multiple linear regression analysis	– 794 Indian firms	– Internationalization	***		
17. (Weerawardena et al., 2007)	– Market-focused learning capability – Internally focused learning capability – Networking capability – Marketing capability	– DCV – Organizational learning theory	– Theoretical	– Theory	– Accelerated internationalization of BGs	***		***
18. (Yiu et al., 2007)	– Technological capabilities – Management capabilities	– RBV – Institutional theory – Network theory	– Quantitative – Survey – Regression and path analysis	– 274 Chinese manufacturing firms	– International venturing			***
19. (Zahra and Hayton, 2008)	– Absorptive capacity	– Organizational learning theory	– Quantitative – Survey – Multiple linear regression	– 217 global manufacturing firms	– International venturing – Financial performance			***
20. (Van Geenhuizen, 2008)	– Internal capabilities: – Networking capability – Absorptive capacity – Combinative capability	– Knowledge networking – Networking capability	– Mix – Qualitative – Quantitative	– 21 young biotechnology companies from Netherlands	– Seizing local and global opportunities of learning	***	*	***
21. (Knight and Kim, 2008)	– International business competence	– RBV – KBV	– Mix – Case study – Survey – CFA	– 16 interview USA SMEs – 354 SMEs	– International performance			

Author (s)	Type of capabilities	Theory	Method	Context	Related to	C1	C2	C3
22. (Petersen et al., 2008)	– Absorptive capacity	– Internationalization process view – Organizational learning Theory	– Quantitative – Survey	– Danish and Swedish firms	– Closing knowledge gaps in foreign markets			***
23. (Casillas et al., 2009)	– Absorptive capacity	– Stage models – The international entrepreneurship – Learning theory	– Theoretical	– Theory	– International behavior			***
24. (Camison and Villar, 2009)	– Capability for internationalization – Innovation and technology capabilities – Human and organizational capabilities – Commercial capabilities	– RBV	– Quantitative	– 401 Spanish firm	– Degree of international involvement – Cooperative internationalization	*	***	*
25. (Chen et al., 2009)	– Technological capability – Financial capability – Networking capability	– RBV – Social capital theory	– Quantitative – Survey – CFA – ANOVA	– 238 Chinese high-tech firm	– Growth strategies and internationalization	***	*	**
26. (Lu et al., 2010)	– Adaptive capability – Information acquisition capability	– RBV – Capability-building perspective	– Quantitative – Survey	– 775 Chinese entrepreneurial firms	– International performance	*		**
27. (Zhou et al., 2010)	– Knowledge capability upgrading – Network capability upgrading	– Learning theory – RBV – Entrepreneurship theory	– Quantitative – Survey	– INVs from China	– International performance of newness of INVs	***		***
28. (Lages et al., 2009)	– Organizational learning capabilities – Relationship capabilities – Quality capabilities	– RBV	– Quantitative – Survey	– 112 Portuguese exporting firms	– Product innovation – Product quality – Export performance	***		***
29. (Filatotchev et al., 2009)	– Innovative capabilities	– RBV – KBV	– Quantitative – Survey	– 711 Chinese High-tech SMEs	– The export orientation and export performance		***	**
30. (Bianchi, 2009)	– Innovation orientation – Organizational learning capability – Marketing knowledge capability – Management team capability – Networking capability	– RBV	– Qualitative – Single longitudinal case study	– 32 in-depth interviews in Chilean's retailer Flabella in Latin America	– Internationalization of the company	***	*	***

Author (s)	Type of capabilities	Theory	Method	Context	Related to	C1	C2	C3
31. (Freeman et al., 2010)	– Absorptive capacity	– RBV – KBV	– Theoretical	– Theory	– Early internationalizing smaller BG firms			***
32. (Li, 2010)	– Learning capability: – Unilateral learning – Bilateral learning – Absorptive capacity	– Learning theory	– Theoretical	– Theory – Multinational enterprise (MNE)	– Accelerated internationalization			***
33. (Tolstoy and Agndal, 2010)	– Network resource combination capability	– RBV – Network perspective	– Qualitative – Multiple case study	– 6 Swedish NIVs biotech industry	– New international market – Product venture	***		
34. (Murray et al., 2011)	– Marketing capabilities: – Pricing capability – New product development capability – Marketing communication capability	– RBV	– Quantitative – Survey	– 491 Chinese export ventures	– Competitive advantage – Performance	**	***	
35. (Kaleka, 2011)	– Export Marketing Capabilities: – Customer relationship capability – Informational capability – Product development capability	– RBV – DCV	– Quantitative – Survey	– 312 UK exporter manufacturing SMEs	– Service advantage – Export venture performance	***	***	**
36. (Leonidou et al., 2011)	– Export related organizational capabilities	– RBV	– Quantitative – Survey	– 430 UK manufacturing firms	– Export marketing strategy – Export performance	**	**	*
37. (Hortinha et al., 2011)	– Innovation capabilities: – Exploratory Innovation capability – Exploitative Innovation capability	– RBV – Organizational learning theory	– Quantitative – Survey	– 746 Portugal firms	– Export performance		**	***
38. (Lisboa et al., 2011)	– Explorative capabilities: – Product development explorative capabilities – Market-related explorative capabilities – Exploitative capabilities: – Product development exploitative capabilities – Market-related exploitative capabilities	– RBV – Organizational learning theory	– Quantitative – Survey	– 254 Portuguese exporting manufacturers	– New product differentiation – Market effectiveness		***	***

Author (s)	Type of capabilities	Theory	Method	Context	Related to	C1	C2	C3
39. (Kaleka, 2012)	– <i>Dynamic marketing capabilities</i> : – Informational capabilities – Customer relationship capabilities – Product development capabilities	– RBV – DCV	– Quantitative – Survey	– 268 UK-based exporting manufacturers	– Export venture performance	***	***	**
40. (He and Wei, 2011)	– <i>Market orientation capabilities</i> : – Generating – Disseminating – Responding to market intelligence	– RBV	– Quantitative – Survey	– 230 Chinses firms	– International market selection – International performance	**		**
41. (Kylaheiko et al., 2011)	– Technological capabilities	– RBV – Penrosian approach	– Quantitative – Survey	– 300 Finnish firm	– Innovation – Internationalization			
42. (Prange and Verdier, 2011)	– <i>Dynamic exploitative</i> – Threshold capabilities – Consolidation capabilities – <i>Dynamic explorative</i> – Value-adding capabilities – Disruption capabilities	– DCV	– Theoretical	– Theory	– International performance	**	**	
43. (Morgan et al., 2012)	– Marketing capabilities – Architectural marketing capabilities – Specialized marketing capabilities – Marketing capability integration	– RBV – DCV	– Quantitative/survey	– 219 exporting manufacturer ventures	– Export venture performance	**	**	**
44. (Khalid and Larimo, 2012)	– Firm-specific advantage (FSA) consisting of capabilities – Alliance management capability – New product advantage – Marketing planning and implementation capability – Alliance learning capability	– DCV	– Quantitative – Survey	– 100 ICT, China and India	– International survival and growth	***	***	**
45. (Coeurderoy et al., 2012)	– Knowledge intensity (absorptive capacity)	– KBV – Network theory	– Qualitative – Survey	– UK and German new technology-based firms	– International survival			***

Author (s)	Type of capabilities	Theory	Method	Context	Related to	C1	C2	C3
46. (Raymond and St-Pierre, 2013)	<ul style="list-style-type: none"> – Product development capabilities – Market development capabilities – Networking capabilities – Technological capabilities – HR development capability 	<ul style="list-style-type: none"> – RBV/DCV – Contingency theory 	<ul style="list-style-type: none"> – Quantitative – Survey 	– 292 manufacturing SMEs, Canada and France	– International performance	***	***	**
47. (Beleska-Spasova et al., 2012)	<ul style="list-style-type: none"> – Organizational capabilities: – Export planning capabilities – Marketing mix competencies – Quality/Service – Advanced technology capabilities 	– RBV	<ul style="list-style-type: none"> – Quantitative – Survey – SEM 	– 356 British exporters	– Export performance			
48. (De Clercq et al., 2012)	– Learning capability	– Learning theory	– Theoretical	– Theory	– Early internationalization			***
49. (Yi et al., 2012)	– Innovative capability	<ul style="list-style-type: none"> – RBV – Institutional based view 	<ul style="list-style-type: none"> – Quantitative – Panel data 	– Chinese manufacturing (2005–2007)	– Export performance		***	
50. (He and Wei, 2013)	– Absorptive capacity (moderator)	<ul style="list-style-type: none"> – RBV – Network theory 	<ul style="list-style-type: none"> – Quantitative – Survey 	– 196 Chinese exporting firms	– Export performance			***
51. (Boso et al., 2013)	– Channel networking capabilities	<ul style="list-style-type: none"> – RBV – Contingency theory – Social network theory 	– Quantitative	– Exporters from Bosnia (117) and Ghana (160)	– Export performance	***		
52. (Al-Aali and Teece, 2014)	<ul style="list-style-type: none"> – Dynamic capabilities: – Sensing – Seizing – Continued renewal 	<ul style="list-style-type: none"> – Entrepreneurship theory – Organizational theory 	– Theoretical	– Theory	– Internationalization behavior of MNEs and INVs			

Author (s)	Type of capabilities	Theory	Method	Context	Related to	C1	C2	C3
53. (Teece, 2014)	– Dynamic capabilities: – Sensing – Seizing – Transforming	– RBV – DCV	– Theoretical	– Theory	– IB activities for MNEs			
54. (Freeman and Styles, 2014)	– Market-based capabilities – Information capability – Relationship capability – New product development capability	RBV	– Mix	– 13 interviews – Survey	– Export performance	***	***	**
55. (Weerawardena et al., 2014)	– Internally focused learning capability – Network learning capability – Market-focused learning capability – Marketing capability	– RBV – Learning theory – DCV	– Mix	– 14 case studies – 238 INVs in US and Australia	– Early internationalization	***		***
56. (Bortoluzzi et al., 2014)	– Managerial capabilities – Marketing Capabilities: – Distribution network – Brand management – Product innovation	– RBV	– Quantitative – Survey	– 271 Italian manufacturing firms	– International expansion	**	***	
57. (Chen et al., 2014)	– Dedifferentiation capability	– RBV – Attention-based view	– Quantitative – Survey	– Chinese 156 IJVs	– IJVs performance		***	
58. (Javalgi et al., 2014)	– Absorptive capacity	– RBV and KBV – Entrepreneurship theory	– Theoretical	– Theory	– International performance			***
59. (Villar et al., 2014)	– Knowledge management dynamic capabilities(KMDC): – External knowledge integration – Internal knowledge development	– RBV – KBV	– Quantitative – Survey	– 157 Spanish and Italian Manufacturing ceramic SMEs	– Export intensive		***	***
60. (Dutot et al., 2014)	– IT capabilities	– RBV – Information system	– Quantitative – Survey	– 174 Canadian SMEs	– International performance			

Note: C1= Relational-Based FSA (e.g., networking capability), C2= Innovative-Based FSA (e.g., innovative capability), C3= Learning-Based FSA (e.g., absorptive capacity). The number of stars (*): The extent to which the identified capability in a given study can be classified within the C1, C2 and C3.

Appendix II (Survey Questionnaire)

The English version

Dear

The division of Industrial Economics at Linköping University is currently conducting a study on the internationalization of small and medium-sized enterprises (SMEs). We appreciate if you have the opportunity to answer this survey associated with internationalized SMEs. Participation is completely voluntary.

It is widely accepted that Small and medium enterprises (SMEs) play a central role for national economy of countries all over the world. Internationalization of SMEs has been an essential subject for sustainable growth and development particularly for countries with small size market such as Sweden. Following this approach, a key question can be raised that, what kinds of internal resources and capabilities are needed for SMEs (like your company) to be success in foreign markets? Particularly, when they face with the rapid changes in today's business world.

In this regard, the purpose of this study is to explore the influences of different types of dynamic capabilities on the SMEs' successful internationalization within the industrial context of Sweden. We do not doubt that the result of this study can be useful for policy makers, managers of SMEs as well as researchers to improve successful internationalization of Swedish SMEs in global market.

On this basis, a number of firms including your company have been randomly selected as a substantial target to perform the purpose of our study.

In our questionnaire, each question plays a significant part of the research puzzle; therefore, if you agree to participate (your participation is voluntary) in this research study, it would be great to answer all questions and return the completed questionnaires through enclosed envelope by the two next weeks.

The survey takes about 20 minutes to fill out. There are no risks associated with participating in this study. It is important to note that all information will remain confidential and will only be used in statistical analysis.

If you have any questions or concerns, please feel free and contact to 0722970587.

We would like to thank you in advance for your participation,

Yours sincerely,

Division of Industrial Economics at Linköping University

Part 1

Please answer the following questions about your business

1	In what industry is your business?	5	The proportion of foreign sale generated from foreign markets to total sale?
2	The year of first foreign sale in?	6	The proportion of Marketing and selling expenditure to total sale?
3	The number of full time employees in your company?	7	The proportion R&D expenditure to total sale?
4	The age of your company (from the founded time)?	8	The number of countries in which your company has entered?

Part 2:

Please specify to what extent your company uses external resources to obtain information (e.g., personal networks, consultants, seminars, internet, database, professional journals, academic publications, market research, regulations, and laws concerning environment/technique/health/security):

1 = strongly disagree... 7 = strongly agree

1	The search for relevant information concerning our industry is every-day business in our company.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
2	Our management motivates the employees to use information sources within our industry.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
3	Our management expects that the employees deal with information beyond our industry.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Please rate to what extent the following statements fit the communication structure in your company:

1 = strongly disagree... 7 = strongly agree

4	In our company ideas and concepts are communicated cross-departmental.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
5	Our management emphasizes cross-departmental support to solve problems.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
6	In our company there is a quick information flow, e.g., if a business unit obtains important information it communicates this information promptly to all other business units or departments.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
7	Our management demands periodical cross-departmental meetings to interchange new developments, problems, and achievements.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Please specify to what extent the following statements fit the knowledge processing in your company:

1 = strongly disagree... 7 = strongly agree

8	Our employees have the ability to structure and to use collected knowledge.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
9	Our employees are used to absorb new knowledge as well as to prepare it for further purposes and to make it available.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
10	Our employees successfully link existing knowledge with new insights.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

11	Our employees are able to apply new knowledge in their practical work	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Please specify to what extent the following statements fit the commercial exploitation of new knowledge in your company (NB: Please think about all company divisions such as R&D, production, marketing, and accounting):

1 = strongly disagree... 7 = strongly agree

12	Our management supports the development of prototypes.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
13	Our company regularly reconsiders technologies and adapts them accordant to new knowledge.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
14	Our company has the ability to work more effective by adopting new technologies.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Part 3:

Please specify to what extent the following statements fit in your company:

1 = strongly disagree... 7 = strongly agree

1	Our firm has an organizational culture and a management comprehension that support and encourage innovation	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
2	At our firm, knowledge from different resources is used for product development activities efficiently and rapidly	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
3	Our firm is able to reflect changes at market conditions (such as changes from customer wants, competitors' products, etc.) to own products and processes as soon as possible	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
4	Workers of our firm are supported and encouraged to participate in activities such as product development, innovation process improvement and to produce new ideas such topics.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
5	New ideas that come from customers, suppliers, etc. are evaluated continuously and try to include into product development activities.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
6	Our firms could adapt to environmental changes easily and in the short time by making suitable improvements and innovations at its products and processes.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Part 4:

Please rate to what extent the following statements fit the coordination activities in your company:

1 = strongly disagree... 7 = strongly agree

1	We analyze what we would like and desire to achieve with which partner.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
2	We match the use of resources (e.g., personnel, finances) to the individual relationship.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
3	We inform ourselves of our partners' goals, potentials and strategies.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
4	We judge in advance which possible partners to talk to about building up relationships.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
5	We appoint coordinators who are responsible for the relationships with our partners.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

6	We discuss regularly with our partners how we can support each other in our success.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Please rate to what extent the following statements fit the relational skills in your company:

1 = strongly disagree... 7 = strongly agree

7	We have the ability to build good personal relationships with business partners.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
8	We can put ourselves in our partners' position.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
9	We can deal flexibly with our partners.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
10	We almost always solve problems constructively with our partners.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Please rate to what extent the following statements fit the partner knowledge in your company:

1 = strongly disagree... 7 = strongly agree

11	We know our partners' markets.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
12	We know our partners' products/procedures/services.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
13	We know our partners' strengths and weaknesses.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
14	We know our competitors' potentials and strategies.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
15	In our organization, we have regular meetings for every project.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
16	In our organization, employees develop informal contacts among themselves.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
17	In our organization, communication is often across projects and subject areas.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
18	In our organization, managers and employees do give intensive feedback on each other.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
19	In our organization, information is often spontaneously exchanged.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Part 5:

Please rate to what extent the following statements fit the firm's goals in international markets in your company:

1 = strongly disagree... 7 = strongly agree

1	Generally speaking, we are satisfied with our success in the international markets.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

2	We have achieved the turnover objectives we set for internationalization.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
3	We have achieved the market share objectives we set for internationalization.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
4	Internationalization has had a positive effect on our company's profitability.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
5	Internationalization has had a positive effect on our company's image.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
6	Internationalization has had a positive effect on the development of our company's expertise.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
7	The investments we have made in internationalization have paid themselves back.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐

Part 6:

Please indicate how much do you agree or disagree with the following statements:

1 = strongly disagree... 7 = strongly agree

1	There exists a very strong emphasis on the development of new and innovative products.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
2	In general, we favor a strong emphasis on R&D, technological leadership and innovations.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
3	In the last 3 years we have developed many new lines of products or services.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
4	Typically, we initiate actions to which competitors then respond.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
5	In dealing with our competitors, we are often the first business to introduce new products/services, administrative techniques, operating technologies, etc.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
6	Adopt a very competitive, "undo-the-competitors" posture.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
7	In general, we have a strong proclivity for high-risk projects (with chances of very high returns	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
8	In general, we believe that owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
9	When confronted with decision-making situations involving uncertainty, we typically adopt a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐

Part 7:

Please indicate your agreement with each of the following statements with respect to your firm's environment:

1 = strongly disagree... 7 = strongly agree

1	It was very difficult to forecast technology developments in our industry.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
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2	Technology environment was highly uncertain.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
3	Technological developments were highly unpredictable.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
4	Technologically, our industry was a very complex environment.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
5	Customer needs and product preferences changed quite rapidly.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
6	Customer product demands and preferences were highly uncertain.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
7	It was difficult to predict changes in customer needs and preferences.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
8	Market competitive conditions were highly unpredictable.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
9	Access to capital is difficult.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
10	Products become obsolete quickly.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
11	Bankruptcy among companies in the industry is high.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
12	Demand for industry products is declining.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
13	Our company must often change its marketing practices to keep up with the competitors.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐

Part 8:

Please compare your firm over the past 3 years relative to your two most important competitors on the following criteria:

1 = Much Worse ...7 = Much Better

1	Return on Investment (ROI).	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
2	Return on assets (ROA).	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐

Thank you for your time in completing this survey

Note: In this study, parts 6, 7 (except questions 5-8), and 8 from the above questionnaire were not used as collected data.

Survey: The Swedish version

Hej!

Avdelningen för Industriell Ekonomi vid Linköpings universitet genomför just nu en studie om export och exportens interna förutsättningar bland små och medelstora företag (SMF). Vi uppskattar om Du har möjlighet att svara denna undersökning om företag som exporterar. Deltagande är helt frivilligt.

Det är allmänt känt att små och medelstora företag (SMF) spelar en central roll för ett lands ekonomi . Denna internationalisering bland SMF har varit en viktig förutsättning för hållbar tillväxt och utveckling, särskilt för länder med en liten hemmamarknad som Sverige. En viktig fråga ur detta perspektiv är: Vilka interna resurser och förmågor behövs för att SMF (som ditt företag) ska vara framgångsrika på utländska marknader?

Syftet med denna studie är att undersöka inverkan av olika typer av dynamiska förmågor (eng. capabilities) hos svenska, industriella SMF som framgångsrikt internationaliserat sig. Enkäten är utformad för att hitta och exemplifiera dessa resurser och förmågor, och det är därför viktigt att vi får svar på alla delar.

Ett antal företag bland alla exportorienterade svenska SMF har slumpmässigt valts ut att delta i undersökning, däribland ditt. Enkäten tar ca 20 minuter att fylla i. All information kommer att behandlas konfidentiellt och kommer endast att användas i en statistisk analys där enskilda företag inte kan identifieras av annan än forskaren.

Vi i forskargruppen är övertygade om att resultatet av denna studie är till nytta för ägare och ledning i SMF, politiska beslutsfattare, samt forskare som vill öka framgången vid internationalisering av svenska SMF på den globala marknaden.

Vi är tacksamma för att Du tar Dig tid att svara på frågorna, och att Du returnerar det ifyllda frågeformuläret i det bifogade, förfrankerade kuvertet senast två veckor.

Om du har några frågor eller funderingar är du välkommen att kontakta på 0722970587.

Vi tackar på förhand för din medverkan!

Med vänlig hälsning,

Avdelningen för Industriell ekonomi vid Linköpings universitet

Del 1:*Vänligen besvara följande frågor om ditt företag*

1	I vilken bransch är ditt företag (SNI-kod)?	5	Andelen export av den totala försäljningen? [%]
2	Vilket år skedde den första exporten?	6	Andelen marknadsförings- och försäljningskostnader av den totala försäljningen? [%]
3	Antal anställda i företaget omräknat till heltidstjänster?	7	Andelen FoU av den totala försäljningen? [%]
4	När grundades ditt företag grundades)?	8	Antalet länder till vilket ditt företag har exporterat?

Del 2:

Ange i vilken utsträckning företaget använder externa resurser för att få information (t.ex. personliga nätverk, konsulter, seminarier, internet, databas, facktidsskrifter, vetenskapliga publikationer, marknadsundersökningar, bestämmelser och lagar om miljö/teknik/hälsa/säkerhet):

1 = instämmer inte alls ...7 = instämmer helt

1	Sökandet efter relevant information om vår bransch är en del av vardagen i vårt företag.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
2	Vår ledning motiverar de anställda att använda informationskällor för vår bransch.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
3	Vår ledning förväntar sig att de anställda hanterar information med ursprung utanför vår egen bransch.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Bedöm i vilken utsträckning följande påståenden passar kommunikationsstrukturen i ditt företag.

1 = instämmer inte alls ...7 = instämmer helt

4	I vårt företag kommuniceras idéer och koncept mellan avdelningarna.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
5	Vår ledning betonar att olika avdelningar ska hjälpas åt att lösa problem.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
6	I vårt företag finns det ett snabbt informationsflöde, t.ex. om en affärsenhet erhåller viktig information meddelar den denna information snabbt till alla andra affärsenheter eller avdelningar.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
7	Vår ledning kräver regelbundna möten där alla avdelningar deltar för att utbyta information om nya händelser, problem och framgångar.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Ange i vilken utsträckning följande påståenden passar kunskapsbearbetningen i ditt företag:

1 = instämmer inte alls ...7 = instämmer helt

8	Våra medarbetare har förmågan att strukturera och använda insamlad kunskap.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
9	Våra anställda är vana vid att ta till sig ny kunskap samt att förbereda den för andra ändamål och att göra den tillgänglig (för andra).	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
10	Våra medarbetare kopplar framgångsrikt samman befintlig kunskap med nya insikter.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
11	Våra medarbetare kan tillämpa ny kunskap i sitt praktiska arbete.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Ange i vilken utsträckning följande påståenden passar kommersiellt utnyttjande av ny kunskap i företaget (OBS: Tänk på alla företagets avdelningar såsom FoU, produktion, marknadsföring och redovisning):

1 = instämmer inte alls ...7 = instämmer helt

12	Vår ledning stödjer utveckling av prototyper.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
13	Vårt företag omprövar regelbundet använd teknik och anpassar den i enlighet med ny kunskap.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
14	Vårt företag kan arbeta effektivare genom att ta till sig ny teknik.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Del 3:

Ange i vilken utsträckning följande påståenden avspeglar ditt företag:

1 = instämmer inte alls ...7 = instämmer helt

1	Vårt företag har en organisationskultur och en förståelse hos ledningen som stödjer och uppmuntrar innovation.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
2	I vårt företag används kunskap hos olika resurser(t.ex. IT, maskiner, material, anställda) för effektiv och snabb produktutveckling.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
3	Vårt företag har förmåga att snabbt avspegla förändringar på marknaden (såsom förändringar i kundbehov, konkurrenters produkter, etc.) i de egna produkterna och processerna.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
4	Anställda i vårt företag stöds och uppmuntras i att delta i aktiviteter såsom produktutveckling, processförbättringar och att ta fram nya idéer och dylikt.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
5	Nya idéer som kommer från kunder, leverantörer, etc. utvärderas löpande och vi försöker få med dessa i produktutvecklingen.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
6	Vårt företag kan anpassa sig till miljöförändringar enkelt och på kort tid genom att göra lämpliga förbättringar och innovationer i våra produkter och processer.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Del 4:

Bedöm i vilken utsträckning följande påståenden avspeglar förmågan att samordna i ditt företag:

1 = instämmer inte alls ...7 = instämmer helt

1	Vi analyserar våra mål och planer och därefter vilka partners att arbeta med.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
2	Vi matchar användningen av resurser (t.ex. personal, ekonomi) till den enskilda relationen.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
3	Vi informerar oss om våra partners mål, möjligheter och strategier.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
4	Vi bedömer i förväg vilka möjliga partners vi ska prata med om att bygga upp relationer.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
5	Vi utser samordnare som ansvarar för relationerna med våra partners.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
6	Vi diskuterar regelbundet med våra partners om hur vi kan stödja varandra i vår gemensamma framgång.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Bedöm i vilken utsträckning följande påståenden avspeglar den relationella kompetensen i ditt företag:

1 = instämmer inte alls ...7 = instämmer helt

7	Vi har förmåga att bygga goda, personliga relationer med affärspartners.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
8	Vi kan sätta oss in i våra partners position.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
9	Vi kan hantera våra partners flexibelt.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
10	Vi löser nästan alltid problem konstruktivt med våra partners.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Bedöm i vilken utsträckning följande påståenden avspeglar kunskapen om partners i ditt företag:

1 = instämmer inte alls ...7 = instämmer helt

11	Vi känner våra partners marknader.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
12	Vi har kännedom om våra partners produkter/procedurer/tjänster.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
13	Vi känner till våra partners styrkor och svagheter.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

14	Vi känner till våra konkurrenters möjligheter och strategier.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
15	I vår organisation har vi regelbundna möten för varje projekt.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
16	I vår organisation, utvecklar medarbetarna informella kontakter sinsemellan.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
17	I vår organisation sträcker sig kommunikation ofta över projekt och ämnesområden.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
18	I vår organisation ger chefer och anställda frekvent återkoppling till varandra.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
19	I vår organisation, utbyts information ofta spontant.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Del 5:

Bedöm i vilken utsträckning följande påståenden avspeglar ditt företags mål på den internationella marknaden:

1 = instämmer inte alls ...7 = instämmer helt

1	Generellt sett är vi nöjda med vår framgång på internationella marknader.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
2	Vi har uppnått de omsättningsmål vi satte för vår internationalisering.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
3	Vi har uppnått de mål rörande marknadsandelar som vi satte för vår internationalisering.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
4	Internationalisering har haft en positiv effekt på vårt företags lönsamhet.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
5	Internationalisering har haft en positiv effekt på vårt företags image.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
6	Internationalisering har haft en positiv effekt på vårt företags kompetensutveckling.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
7	De investeringar vi gjort i internationalisering har återbetalat sig.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Del 6:

Ange hur mycket du instämmer eller inte instämmer med följande påståenden:

1 = instämmer inte alls ...7 = instämmer helt

1	Det finns en mycket stark betoning på att utveckla nya och innovativa produkter inom vårt företag.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

2	I allmänhet föredrar vi en stark betoning på forskning och utveckling, tekniskt ledarskap och innovationer.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
3	Under de senaste tre åren har vi utvecklat många nya produkt- eller tjänstelinjer.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
4	Vanligtvis tar vi initiativ till aktiviteter på vilka konkurrenterna sedan svarar.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
5	I jämförelse med våra konkurrenter, är vi ofta det första företaget att introducera nya produkter/tjänster, administrativa tekniker, driftteknik etc.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
6	Inom vårt företag är det viktigt att anta en mycket konkurrenskraftig, "neutralisera-konkurrenter" hållning.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
7	I allmänhet har vi en stark förkärlek till högriskprojekt (med chans till mycket hög avkastning).	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
8	Generellt anser vi att, på grund av den miljö vi verkar i, djärva och omfattande aktiviteter är nödvändiga för att uppnå företagets mål.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
9	När vi konfronteras med beslutsfattande som omfattar osäkerhet, antar vi typiskt en djärv, aggressiv hållning i syfte att maximera sannolikheten för att eventuella möjligheter ska kunna utnyttjas.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Del 7:

Ange om du håller med följande påståenden med avseende på ditt företags miljö:

1 = instämmer inte alls ...7 = instämmer helt

1	Det är mycket svårt att förutse den tekniska utvecklingen i vår bransch.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
2	Den tekniska miljön är mycket osäker.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
3	Den tekniska utvecklingen är mycket oförutsägbart.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
4	Tekniskt sett är vår bransch en mycket komplex miljö.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
5	Kundernas behov och produktpreferenser förändras ganska snabbt.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
6	Kundernas krav och preferenser rörande produkter är mycket osäkra.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
7	Det är svårt att förutse förändringar i kundernas behov och önskemål.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
8	Villkoren för konkurrensen på marknaden är mycket svåra att förutspå.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

9	Tillgången på kapital är begränsad.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
10	Produkter blir snabbt föråldrade.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
11	Antalet konkurser bland företagen i vår bransch är hög.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
12	Efterfrågan på industriprodukter minskar.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
13	Vårt företag måste ofta ändra sin marknadsföring för att hålla jämna steg med konkurrenterna.	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Del 8:

Jämför ditt företag i förhållande till dina två viktigaste konkurrenter under de senaste tre åren avseende följande kriterier:

1 = mycket sämre ...7 = mycket bättre

1	avkastning på investering (ROI).	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐
2	avkastning på totalt kapital (ROA).	1	2	3	4	5	6	7
		☐	☐	☐	☐	☐	☐	☐

Tack för att du tog dig tid att slutföra denna undersökning!

Appendix III (Cross Loadings for The First-Order Models)

Appendix III-1 (Outer Cross Loadings Before Removing Items in The First Stage Analysis)

	Aq	As	Tr	ex	IC	IP	CO	RS	PK	ICO	MU
AC1	0.866	0.366	0.320	0.315	0.265	0.214	0.345	0.167	0.248	0.295	0.047
AC2	0.911	0.413	0.382	0.373	0.360	0.239	0.398	0.204	0.225	0.365	0.077
AC3	0.841	0.325	0.367	0.340	0.346	0.282	0.317	0.177	0.194	0.318	0.165
AC4	0.352	0.844	0.462	0.366	0.417	0.182	0.389	0.284	0.132	0.542	-0.031
AC5	0.406	0.870	0.461	0.403	0.464	0.256	0.498	0.359	0.246	0.533	0.037
AC6	0.198	0.655	0.413	0.224	0.382	0.197	0.320	0.306	0.207	0.456	-0.023
AC7	0.338	0.729	0.369	0.300	0.393	0.209	0.400	0.245	0.182	0.475	0.070
AC8	0.336	0.434	0.844	0.301	0.493	0.383	0.375	0.364	0.294	0.423	-0.010
AC9	0.356	0.443	0.903	0.345	0.505	0.346	0.394	0.419	0.304	0.419	0.086
AC10	0.321	0.498	0.888	0.370	0.481	0.305	0.350	0.367	0.332	0.406	0.048
AC11	0.401	0.516	0.829	0.445	0.585	0.305	0.410	0.455	0.240	0.498	0.127
AC12	0.319	0.290	0.316	0.772	0.432	0.260	0.237	0.225	0.219	0.313	0.102
AC13	0.304	0.386	0.399	0.863	0.633	0.218	0.372	0.321	0.212	0.415	0.170
AC14	0.340	0.349	0.314	0.802	0.506	0.167	0.274	0.301	0.198	0.303	0.190
IC1	0.361	0.459	0.468	0.609	0.804	0.263	0.363	0.372	0.256	0.509	0.152
IC2	0.276	0.405	0.466	0.510	0.770	0.313	0.338	0.365	0.328	0.444	0.090
IC3	0.228	0.346	0.432	0.447	0.728	0.220	0.398	0.400	0.440	0.370	0.075
IC4	0.305	0.458	0.455	0.482	0.747	0.293	0.380	0.349	0.249	0.509	0.074
IC5	0.266	0.349	0.401	0.414	0.679	0.206	0.422	0.373	0.315	0.394	0.134
IC6	0.210	0.340	0.437	0.417	0.723	0.257	0.450	0.375	0.306	0.359	0.173

(Cont.)

	Aq	As	Tr	ex	IC	IP	CO	RS	PK	ICO	MU
IP1	0.143	0.188	0.335	0.191	0.248	0.737	0.189	0.386	0.318	0.219	-0.057
IP2	0.178	0.145	0.277	0.198	0.243	0.724	0.281	0.362	0.253	0.246	-0.033
IP3	0.187	0.140	0.270	0.173	0.237	0.717	0.240	0.306	0.253	0.229	-0.064
IP4	0.186	0.190	0.260	0.119	0.224	0.805	0.174	0.238	0.223	0.287	-0.208
IP5	0.243	0.235	0.307	0.234	0.286	0.773	0.217	0.219	0.221	0.356	-0.119
IP6	0.293	0.278	0.333	0.325	0.368	0.774	0.293	0.278	0.234	0.392	-0.048
IP7	0.247	0.247	0.273	0.146	0.244	0.815	0.251	0.302	0.229	0.294	-0.181
NC1	0.389	0.423	0.354	0.306	0.486	0.218	0.751	0.388	0.256	0.390	0.079
NC2	0.351	0.412	0.322	0.288	0.469	0.236	0.735	0.359	0.279	0.384	0.093
NC3	0.266	0.372	0.364	0.271	0.407	0.209	0.779	0.435	0.414	0.350	0.081
NC4	0.278	0.368	0.318	0.238	0.345	0.215	0.780	0.353	0.336	0.343	0.031
NC5	0.344	0.377	0.314	0.320	0.314	0.262	0.701	0.403	0.210	0.372	0.105
NC6	0.223	0.401	0.325	0.239	0.352	0.259	0.772	0.472	0.343	0.396	0.071
NC7	0.217	0.361	0.377	0.319	0.437	0.308	0.485	0.846	0.423	0.448	-0.075
NC	0.159	0.293	0.424	0.284	0.405	0.348	0.476	0.863	0.531	0.408	-0.015
NC9	0.165	0.263	0.371	0.297	0.410	0.336	0.418	0.838	0.387	0.402	0.017
NC10	0.164	0.376	0.391	0.277	0.433	0.315	0.417	0.820	0.361	0.381	0.070
NC11	0.192	0.204	0.281	0.180	0.337	0.250	0.316	0.447	0.836	0.242	-0.058
NC12	0.195	0.220	0.312	0.235	0.350	0.282	0.330	0.458	0.831	0.262	-0.051
NC13	0.205	0.222	0.222	0.218	0.352	0.262	0.387	0.419	0.828	0.350	-0.104
NC14	0.223	0.105	0.261	0.177	0.290	0.221	0.249	0.255	0.649	0.214	-0.066
NC15	0.288	0.416	0.276	0.232	0.348	0.252	0.409	0.176	0.228	0.546	0.050
NC16	0.252	0.466	0.358	0.308	0.370	0.319	0.338	0.380	0.269	0.804	-0.098
NC17	0.355	0.535	0.414	0.365	0.492	0.348	0.380	0.426	0.239	0.837	-0.037
NC18	0.307	0.527	0.487	0.366	0.560	0.283	0.430	0.423	0.306	0.793	0.040
NC19	0.204	0.468	0.336	0.310	0.396	0.232	0.309	0.388	0.242	0.745	-0.080
MU1	0.149	0.106	0.185	0.240	0.279	0.013	0.158	0.097	0.143	0.059	0.563
MU2	0.048	0.004	0.072	0.175	0.119	-0.102	0.075	-0.017	-0.020	-0.069	0.826
MU3	0.091	0.014	0.072	0.171	0.164	-0.052	0.117	-0.022	-0.072	0.010	0.808
MU4	0.137	0.033	0.068	0.165	0.151	-0.139	0.094	0.023	-0.103	-0.010	0.903

Appendix III-2 (Outer Cross Loadings After Removing Items in The First Stage Analysis)

	Aq	As	Tr	Ex	IC	IP	CO	RS	PK	ICO	MU
AC1	0.866	0.366	0.320	0.317	0.246	0.214	0.344	0.167	0.248	0.292	0.049
AC2	0.911	0.413	0.382	0.371	0.333	0.239	0.397	0.204	0.225	0.363	0.081
AC3	0.841	0.325	0.367	0.340	0.329	0.282	0.317	0.177	0.194	0.317	0.170
AC4	0.352	0.843	0.462	0.313	0.394	0.182	0.388	0.284	0.132	0.542	-0.027
AC5	0.406	0.870	0.461	0.382	0.446	0.256	0.498	0.359	0.246	0.532	0.042
AC6	0.198	0.656	0.413	0.189	0.378	0.197	0.320	0.306	0.207	0.456	-0.021
AC7	0.338	0.730	0.369	0.284	0.387	0.209	0.400	0.245	0.183	0.471	0.075
AC8	0.336	0.434	0.844	0.262	0.485	0.383	0.375	0.363	0.295	0.421	-0.005
AC9	0.355	0.443	0.903	0.297	0.497	0.346	0.394	0.419	0.305	0.419	0.093
AC10	0.321	0.498	0.888	0.334	0.482	0.305	0.350	0.367	0.332	0.406	0.055
AC11	0.401	0.516	0.828	0.401	0.580	0.305	0.410	0.456	0.240	0.499	0.133
AC12	0.318	0.290	0.316	0.827	0.398	0.260	0.237	0.225	0.219	0.313	0.106
AC14	0.340	0.349	0.313	0.849	0.481	0.167	0.274	0.301	0.198	0.302	0.195
IC2	0.276	0.405	0.466	0.447	0.750	0.313	0.338	0.365	0.328	0.442	0.097
IC3	0.228	0.346	0.432	0.384	0.737	0.219	0.398	0.400	0.440	0.369	0.085
IC4	0.305	0.459	0.454	0.426	0.752	0.293	0.380	0.349	0.249	0.508	0.078
IC5	0.266	0.349	0.400	0.344	0.719	0.206	0.422	0.373	0.315	0.394	0.141
IC6	0.210	0.340	0.437	0.343	0.752	0.257	0.449	0.376	0.306	0.359	0.181
IP1	0.143	0.188	0.336	0.167	0.250	0.736	0.190	0.386	0.318	0.218	-0.051
IP2	0.178	0.145	0.277	0.167	0.253	0.723	0.281	0.362	0.253	0.245	-0.030
IP3	0.187	0.140	0.270	0.134	0.252	0.717	0.240	0.306	0.253	0.228	-0.060
IP4	0.186	0.190	0.260	0.114	0.212	0.805	0.174	0.238	0.223	0.287	-0.205
IP5	0.243	0.235	0.307	0.248	0.279	0.772	0.217	0.219	0.221	0.355	-0.115
IP6	0.293	0.278	0.333	0.329	0.357	0.774	0.293	0.278	0.234	0.391	-0.045
IP7	0.247	0.247	0.273	0.164	0.251	0.816	0.251	0.302	0.230	0.293	-0.179

(Cont.)

	Aq	As	Tr	Ex	IC	IP	CO	RS	PK	ICO	MU
NC1	0.389	0.423	0.354	0.241	0.478	0.218	0.749	0.388	0.256	0.386	0.082
NC2	0.351	0.412	0.322	0.216	0.473	0.235	0.734	0.359	0.279	0.380	0.096
NC3	0.266	0.372	0.364	0.237	0.418	0.209	0.781	0.435	0.414	0.349	0.087
NC4	0.278	0.369	0.318	0.217	0.369	0.215	0.780	0.353	0.336	0.340	0.033
NC5	0.344	0.377	0.313	0.283	0.308	0.262	0.701	0.403	0.210	0.369	0.107
NC6	0.223	0.401	0.325	0.194	0.366	0.259	0.772	0.472	0.343	0.394	0.078
NC7	0.217	0.361	0.377	0.303	0.42	0.308	0.485	0.845	0.423	0.448	-0.073
NC8	0.159	0.293	0.424	0.241	0.406	0.348	0.476	0.863	0.532	0.410	-0.009
NC9	0.165	0.263	0.370	0.267	0.425	0.336	0.419	0.839	0.387	0.404	0.023
NC10	0.164	0.376	0.391	0.249	0.439	0.315	0.417	0.820	0.361	0.383	0.074
NC11	0.192	0.205	0.282	0.176	0.350	0.25	0.316	0.447	0.837	0.242	-0.049
NC12	0.195	0.220	0.312	0.225	0.372	0.282	0.331	0.458	0.832	0.263	-0.041
NC13	0.205	0.222	0.222	0.210	0.363	0.262	0.387	0.419	0.827	0.348	-0.096
NC14	0.223	0.105	0.261	0.173	0.301	0.221	0.249	0.255	0.647	0.212	-0.063
NC15	0.288	0.416	0.276	0.212	0.336	0.252	0.408	0.176	0.227	0.527	0.051
NC16	0.252	0.466	0.358	0.281	0.348	0.319	0.338	0.380	0.268	0.806	-0.097
NC17	0.355	0.535	0.414	0.320	0.473	0.348	0.380	0.426	0.239	0.839	-0.032
NC18	0.307	0.527	0.487	0.295	0.547	0.283	0.430	0.423	0.306	0.796	0.045
NC19	0.204	0.468	0.336	0.261	0.384	0.232	0.310	0.388	0.242	0.752	-0.076
MU2	0.048	0.004	0.072	0.155	0.109	-0.102	0.075	-0.017	-0.019	-0.070	0.830
MU3	0.090	0.015	0.071	0.150	0.165	-0.052	0.117	-0.021	-0.072	0.009	0.812
MU4	0.137	0.033	0.068	0.158	0.140	-0.139	0.094	0.024	-0.102	-0.012	0.901

Appendix III-3 (The Outer Loadings of the Reflective Indicators for the Reduced Model)

	Loadings	T-Statistics	P Values		Loadings	T-Statistics	P Values
Aq <- ACAP	0.694	19.761	0.000	IP1 <- IP	0.727	17.927	0.000
As <- ACAP	0.806	34.041	0.000	IP2 <- IP	0.715	17.940	0.000
Tr <- ACAP	0.809	35.503	0.000	IP3 <- IP	0.710	17.646	0.000
Ex <- ACAP	0.691	17.270	0.000	IP4 <- IP	0.809	33.202	0.000
IC2 <- IC	0.753	24.776	0.000	IP5 <- IP	0.780	26.769	0.000
IC3 <- IC	0.734	23.466	0.000	IP6 <- IP	0.781	28.076	0.000
IC4 <- IC	0.757	26.357	0.000	IP7 <- IP	0.818	34.708	0.000
IC5 <- IC	0.718	18.873	0.000	Size	Single item		
IC6 <- IC	0.749	24.621	0.000	Age	Single item		
MU2 <- MU	0.831	5.748	0.000	Int_Exp	Single item		
MU3 <- MU	0.812	4.574	0.000				
MU4 <- MU	0.900	6.580	0.000				

Appendix IV (HTMT Criterion for The Reduced Outer Model)

Appendix IV-1 (HTMT Criterion for Reduced Outer Model Before Removing IC's Items)

	ACAP	IC	IP	Int_Exp	MU	Size
ACAP						
IC	0.851					
IP	0.482	0.411				
Int_Exp	0.103	0.093	0.18			
MU	0.166	0.202	0.147	0.133		
Size	0.122	0.039	0.174	0.222	0.15

Appendix IV-2 (HTMT Criterion for Reduced Outer Model After Removing IC's Items)

	ACAP	IC	IP	Int_Exp	MU	Size
ACAP						
IC	0.801					
IP	0.482	0.369				
Int_Exp	0.103	0.1	0.18			
MU	0.166	0.244	0.147	0.133		
Size	0.122	0.021	0.174	0.222	0.15

Appendix V (Collinearity Statistics for The Reduced Model)

Outer VIF values			Inner VIF values						
			ACAP	IC	IP	Int_Exp	MU	NC	Size
Aq	1.366								
As	1.575	ACAP		1.000	2.122			1.521	
Tr	1.550	IC			1.837			1.521	
Ex	1.302	IP							
IC3	1.357	Int_Exp			1.066				
IC5	1.293	MU			1.090				
IC6	1.411	NC			2.339				
CO	1.591	Size			1.084				
PK	1.407								
RS	1.755								
ICO	1.461								
IP1	2.085								
IP2	3.966								
IP3	3.792								
IP4	2.547								
IP5	3.018								
IP6	2.807								
IP7	2.282								
MU2	1.733								
MU3	2.080								
MU4	1.784								
Int_EXP	1.000								
Size	1.000								