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Firms' capability portfolios throughout international expansion: A latent class approach☆

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ABSTRACT

Resource-based view suggests that heterogeneity in resource and capability endowments provides firms with a necessary advantage to compete on foreign markets. Separate discussions focus on different perspectives on capabilities, leaving room for a more comprehensive approach. This study is aiming at combining previous results and proposes that international expansion requires a bundle of key capabilities, a capability portfolio, in which capabilities' relative importance varies as internationalization proceeds. This study is also one of the first attempts to use a questionnaire in which only yes/no answer is possible. The authors develop a method to handle binary data and use finite mixture structural equation modeling (FMSEM) to reveal three differently behaving latent classes, the preparing international, the novice international, and the experienced international. Findings indicate that the time of initial entry is an important watershed in terms of how firms allocate their financial resources between key capabilities, a manifestation of higher-order capabilities.

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1. Introduction

The hurdle of being a foreigner when expanding in international markets is one of the cornerstones in the international business. Extant literature on the resource-based view (RBV) offers a framework to explain how heterogeneous firm-internal resources and capabilities might generate a value-creating competitive strategy (Barney, 1991, 2014; Wernerfelt, 1984). If a firm's resources and capabilities are valuable, rare, inimitable, and the firm's organizational processes are able to exploit their potential (VRIO), they may provide firm with an advantage (Barney & Hesterly, 2012). Competitive advantage may compensate the liability of foreignness that especially small firms face when entering foreign markets (Hymer, 1976; Zaheer, 1995).

Many scholars in international business (internationalization process models, RBV, dynamic capabilities, international new ventures) quite simply assume that firms possess those strategically valuable resources and capabilities they need in international activities. However, in the first place, resources and capabilities in the home markets are often not suitable in operations in foreign markets (Kumar, 2009). Secondly, firms hardly can transfer highly specific resources and capabilities from one firm function to another (Lecerf, 2012). Thirdly, young and small firms with tight resource and capability constraints have to consider how to balance between domestic and foreign operations, growth and international expansion (Baker & Nelson, 2005). Separate discussions acknowledge the above-mentioned resource constraints and the key role of capabilities in international expansion, and therefore, this study is aiming at answering for calls to bring these scattered findings together (see Barney, 2014; Hewerdine, Rumyantseva, & Welch, 2014).

The authors suggest that small firms have a collection of key capabilities – a capability portfolio – that allows small firms to internationalize. These capabilities originate from firm's activities and depend on firm's financial resources. The purpose of this study is to reveal, under a limited resource endowment, how capabilities' relative importance in this capability portfolio varies along with internationalization. As researchers call for new forms of gathering data besides the use of traditional methods, such as Likert scales (Woodside, 2014), the authors build a method to handle binary data from a questionnaire that consists of claims with only a *Yes* or *No* answer available. The authors use a data-driven but statistically acceptable technique called finite mixture structural equation modeling (FMSEM) to analyze the data. FMSEM is able to uncover unobservable behavioral segments and estimate segment-specific path coefficients in a research model of each segment in the data simultaneously (Bart, Shankar, Sultan, & Urban, 2005), thereby revealing the existence of multiple realities (Woodside, 2014) and unobservable heterogeneity among respondents (Bart et al., 2005). Finally, this study contributes to an understanding of how small size firms exploit and allocate limited resources and capabilities between their key activities when growing and expanding on international markets, especially at the time of initial international entry.

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2. Theoretical background

2.1. Resource based view and international expansion

Resource-based view (RBV) suggests that firms' competitive advantage results from firm-internal resources (Barney, 1991; Wernerfelt, 1984). RBV builds the potential to create sustainable advantage on two fundamental assumptions: First, firms possess different bundles of strategically relevant resources that are not identical or heterogeneous within an industry, and thus, some firms are better at performing some activities than others (Barney, 1991). Second, the above-mentioned scarce resources are firm-specific. RBV considers resources as stocks of available productive factors that firm owns and controls, that is such financial, tangible and intangible assets that firm can draw on to execute its strategies. Capabilities are the firm's capacity to deploy resources and an ability to take advantage of and improve the productivity of its resources (Barney & Hesterly, 2012). Capabilities are firm-specific, they develop over time and have different dimensions and hierarchies. Ordinary capabilities are more like routines and best practices, whereas higher-order (dynamic) capabilities create, extend, or modify firm's resource and capability bases (Teece, 2014).

Under continuously changing market conditions, sustainable competitive advantage is even harder to achieve, and thus, firms might rather accept transient short-lived opportunities (McGrath, 2013) with series of temporary competitive advantages (Eisenhardt & Martin, 2000). When firms base their strategies on temporary advantages, they need to be able to continuously renew their resource bases. Hence, under a limited resource endowment, the role of firm's capabilities, and how firms use these capabilities to make the most of resources, becomes important (Day, 2014). Capabilities are firm-specific, and thus, building of capabilities takes time and is costly. Capability development sets additional limits for growth and international expansion, for small firms their available resource endowment is an internal antecedent of providing a competitive advantage (Eriksson, 2014).

2.1.1. International orientation

International expansion comes with risk and involves costs and uncertainties. For this reason, internationalization is often more challenging for smaller firms with fewer financial, tangible and intangible resources and capabilities (Knight & Kim, 2009). The smaller the resource endowment is, the less flexible firms are, as regards allocating these resources between domestic and foreign operations (Teece, Pisano, & Shuen, 1997). Especially smaller firms with limited resources need to rely more on their intangible resources and capabilities when expanding on foreign markets (Knight & Cavusgil, 2004). To make such commitments in international markets, firms need not only a competitive advantage but also a strong international attitude (Ripolles Meliá, Blesa Pérez, & Roig Dobón, 2010). The authors label this attitude an international orientation (IO) and follow Knight and Kim (2009) when defining IO as a capability which consists of increased commitment, learning, and cultural dimensions. IO features a bundle of specific management-level capabilities to initiate and perform international business activities in foreign markets in an effective way (Knight & Kim, 2009). Not surprisingly, earlier studies show that firms with stronger international orientation tend to initialize their international operations earlier than their counterparts without such a capability (Knight & Cavusgil, 2004).

The role of marketing and sales is to generate income and also to provide research and development with customers' needs (Griffin & Hauser, 1996). Day (2014) differentiates market sensing (marketing) capabilities and customer-linking (sales) capabilities, the former representing the intelligence to sense changes in the market and the ability to anticipate the responses, the latter referring to buyer–supplier relationships providing the firm with sales revenues. This said, the authors consider marketing and sales as two distinctive key activities calling for different capabilities (see e.g. Ramaswami, Srivastava, & Bhargava, 2009).

2.1.2. Marketing capabilities

Many market-based resources (e.g. brands, relationships, and market sensing) are intangible and complementary (the presence of one marketing resource strengthens the presence of another) in their nature. Hence, competitors cannot identify and reproduce them easily. For this reason, market-based resources and capabilities also provide a strong potential for sustainable competitive advantage (Kozlenkova, Samaha, & Palmatier, 2014). Marketing capabilities (MC) enable firms to absorb market knowledge and interpret competitor information, and allow firms to convert market information into successful strategies (Barrales-Molina, Martínez-López, & Gázquez-Abad, 2014).

2.1.3. Sales capabilities

Buyer–seller relationships are complex undertakings, take time to evolve, and are difficult to imitate. The ongoing development of such relationships calls for sales capabilities (SC). These capabilities include strong interactions and relationships with customers, which in turn provide firms with deep customer insight (Ramaswami et al., 2009). Salespeople's professional experience, knowledge, and high level of selling skills are instrumental in enhancing SCs, and consequently, competitors cannot adopt these capabilities (Menguc & Barker, 2005). Success in generating revenues requires, not only superior SCs, but also support from MCs to convert expenditures into sales and customer satisfaction (Narasimhan, Rajiv, & Dutta, 2006).

2.1.4. Research and development (R&D) capabilities

R&D requires highly important specific capabilities that are providing a strong basis for firms to develop competitive products and to respond to changes in their markets (Eisenhardt & Martin, 2000; Teece & Pisano, 1994). The main tasks of this function, conversion of discoveries into commercially successfully innovations and updating of existing products, call for specific R&D capabilities. Strong innovative and technological base requires substantial R&D resources and capabilities but, in turn has a favorable influence on sales. If product-based competitive advantages are more temporary in their nature firms need to come up with new innovations more frequently, thus requiring even more R&D capabilities (Dutta, Narasimhan, & Rajiv, 1999).

Relative importance of R&D and marketing varies throughout international expansion. The source of competitive advantage shifts from R&D to marketing at the time of initial entry (Griffin & Hauser, 1996). Initial international expansion refers to those operations in international markets that firms carry out when they start their internationalization for the first time (see e.g. Buckley & Casson, 1998). R&D is responsible for designing and engineering competitive products, while further marketing activities are enhancing sales revenues and performance (Gnizy & Shoham, 2014). Obviously firms that are on the verge of internationalization, entrants that have just initiated their international expansion, and those firms that have already gained more experience in the international arena have different need of firm-level resources and capabilities.

2.1.5. Financial resources

International expansion calls for resources and capabilities that are not available equally to all firms (Hewerdine et al., 2014), and unfortunately, resources and capabilities on home markets rarely suit the operations on foreign markets (Kumar, 2009). Moreover, simultaneous international expansion, marketing, sales and product development require such capabilities which firms cannot transform from R&D to internationalization, or vice versa (Lecerf 2012). Resources are costly and the development of suitable R&D, marketing and sales capabilities is time-consuming. Firms that are young in age and small in size – or still in the phase of developing their first products – have typically less

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financial resources (FR) and fewer options to access those resources needed in starting international operations (Hewerdine et al., 2014).

Available resources, capabilities and related competitive advantages, at least in the short term, depend on firms' balance sheets (Freeman, Edwards, & Schroeder, 2006) and past choices (Teece et al., 1997). When firms with limited financial resources initiate their international expansion, they need to optimize those resources and capabilities at hand (Baker & Nelson, 2005). In conclusion, those firms that are about to enter international markets and those that have already initiated their international expansion come with a different endowment of firm-level resources and capabilities.

2.2. Conceptual model and hypotheses

This study builds on four critical capabilities that are the key drivers in the process of growth and international expansion: international orientation (IO), marketing capabilities (MC), sales capabilities (SC), and R&D capabilities (R&D). The authors call a bundle of these capabilities as a *capability portfolio* and suggest that the evolution of these capabilities is path-dependent and limited by firm-level financial resources (FR). This study builds on an assumption that resource-rich firms in terms of financial capital have more possibilities to employ management-level capabilities to initiate and conduct international business activities in foreign markets, and are better off to gain and develop needed marketing, sales, and R&D capabilities:

H1. FR has a positive influence on IO.

H2. FR has a positive influence on MC.

H3. FR has a positive influence on SC.

H4. FR has a positive influence on R&D.

The conceptual model (Fig. 1) illustrates the hypotheses. Instead of measuring the conventional degree of internationalization or performance the authors consider a firm's readiness to expand on international markets as an indication of its performance. The extant research explicitly presents neither the capability portfolios nor the strength of the influences between FR and each of the capabilities before and after the initial international expansion. The authors aim at uncovering how capability portfolios vary throughout firms' international expansion using methods that allow researchers to reveal the unknown number of unobservable latent classes and a model for each class.

3. Methodology and results

3.1. Research design and data

A group of practitioners and researchers from a Finnish business school utilizes a novel framework to assist firms to grow and expand on international markets. Unlike traditional approaches and models, this framework converts a growth path from a small to a multinational firm as a questionnaire and focuses on changes in resource and capability requirements. Respondents do not only answer questions related to the past but also reveal their readiness to expand and grow in the future. The firm's management board members individually judge a set of 480 simple claims that any firm growing on international markets will probably face. The firm's key activities (sales, marketing, R&D), strategy, and firm's resources and capabilities need to be in balance, improvement of one item barely enhances the overall performance, and thus, the allocation of scarce resources becomes very important.

The framework presents each of the claims as an unequivocal statement, for example *Company has foreign customers*, in which only *Yes* or *No* answer is possible, pushing firm's board members to take an individual stand on each statement and leaving no room for ignorance. Presumably, in a well-functioning management board individual members will come up with similar answers. In this manner, this study is also answering Woodside (2013), who is calling for new data collection methods to challenge fixed-point five- and seven-point scales.

Each of the above-mentioned claims ranks different point of growth on international markets, referring to the firm's current status and readiness to internationalize. A small and young start-up firm typically settles to a different position compared to a multinational firm. The firm's available path depends on the past decisions and current resource and capability endowment. In this perspective, the framework shares some similarities stage models, Uppsala internationalization model (Johanson & Vahlne, 1977) and dynamic capabilities (Teece et al., 1997).

Data in this study is a section covering internationalizing SMEs in 2013 and 2014 and consists of 114 respondents from 34 firms. All respondents are management board members. Furthermore, all of these firms aim at expanding their businesses on international markets with consequent international commitments. The age of the firms varies

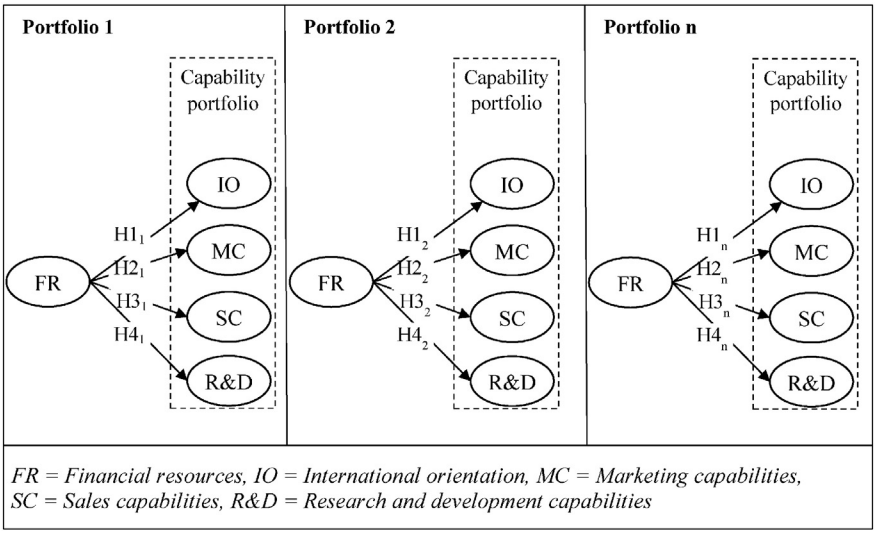

Fig. 1. The conceptual framework.

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from 1 to 97 years, and the size of the firms varies from one person start up to 96 employees.

3.2. Research model and measures

The research model (Fig. 2) builds on financial resources and key capabilities from the previous conceptual framework. FR is an independent factor which influences firms' IO, MC, SC, and R&D capabilities. The model has two additional factors from a different abstraction level, initial international expansion (IE) and extended international expansion (EE), for mathematical reasons and to reveal firms' international expansion. The model further illustrates relationships between each capability (IO, SC, MC, R&D) and IE, relationships between each capability and EE, and a relationship between IE and EE. As a result, the model examines the existence of capability portfolio and the type of expansion efforts simultaneously. Findings should indicate no relationships between concepts from different abstraction levels, but the (non-)existence of expansion factors (IE, EE) will reveal the possible levels of international commitment that firms are (not) currently executing.

FR is a factor which captures actions that firms have to take in order to attract, acquire and secure funding. FR is multidimensional in its nature and covers firms' understanding of the magnitude of expansion costs, level of gained financing, and the ex ante measures firms need to take to tempt private investors, for example the employment of formal and informal appropriability mechanisms (Hurmelinna-Laukkanen, 2012). FR consists of four measures (FR1–FR4) with a total of 18 items.

IO refers to specific management-level capabilities to initiate and perform international business activities in foreign markets. IO consists of four measures (IO1–IO4) with a total of 22 items. MC refers to the foreign market knowledge that firms possess. MC consists of five measures (MC1–MC5) with a total of 42 items. SC captures firms' capabilities to establish successful distribution channels and buyer–seller relationships in host countries. SC consists of five measures (SC1–SC5) with a total of 60 items. R&D capabilities cover the whole product development process from recognizing customers' needs to product development and warranties. In the questionnaire, R&D has five measures (R&D1–R&D5) with a total of 60 items.

Initial international expansion (IE) measures whether firms have initiated foreign operations. IE consists of three measures (IE1–IE3) with a total of nine items. Extended international expansion (EE) describes firms' international expansion after initial launch in foreign markets. These operations can be expansion to new countries or increasing commitment in existing foreign countries. EE has four measures (EE1–EE4) with a total of 35 items. Appendix A includes factors, measures, and examples of items.

3.3. Analyses and results

The authors code binary questions relating to each measure as follows. Each *Yes* answer in an item produces value one (1) and each *No* answer produces value zero (0). A cumulative value of each bunch of individual items forms a value for each measure. This diverges, for example, from Likert-scale measures where each item forms a measure. A varying number of measures (1–5 as listed above) forms each factor. The authors analyze the data using finite mixture structural equation modeling (FMSEM) with Mplus software package and make estimations using a covariance matrix with the robust maximum likelihood (MLR) method.

Analysis begins with structural equation modeling (SEM), as unobserved heterogeneity of the data might be an explanation for statistically insignificant fit indices of SEM. The first model tests the influence of FR on capabilities (IO, MC, SC, and R&D) only, excluding IE and EE, and related various relationships that were included in the research model for mathematical reasons. The SEM model provides statistically insignificant fit indices (Chi-Square 1523.559, degrees of freedom 231 and p-value 0.0000, RMSEA 0.100, CFI 0.826, TLI 0.798, SRMR 0.077). The second model tests the research model including IE and EE and their various relationships, with similar conclusions (Chi-Square 747.715, degrees of freedom 364 and p-value 0.0000, RMSEA 0.096, CFI 0.816, TLI 0.794, SRMR 0.074).

Analysis continues with FMSEM. The use of mixture modeling techniques is still quite rare in business research. Finite mixture modeling (McLachlan & Peel, 2004) refers to modeling with categorical latent variables that represent subpopulations in cases where researchers do not know the population membership but infer it from the data (Muthén & Muthén, 1998-2007; Van Horn et al., 2009). FMSEM uncovers the number of unobservable heterogeneous segments, latent classes, and estimates segment-specific path coefficients in a research model of each segment in the data simultaneously (Bart et al., 2005; McLachlan & Peel, 2004; Muthén & Muthén, 1998-2007).

In the analysis, the authors let the slope of the linear regressions of the variables to vary across the latent classes. In other words, they allow each relationship between the factors in the model of each latent class to vary. This study estimates two (then three and four) normal distributions that together constitute one normal distribution from the data and tests these two (three and four) normal distributions against the research model, until the solution-fit information criteria reveal that the previous solution is better than the current one.

FMSEM provides fit indices for each solution instead of fit indices that describe the reliability of a specific model, as in SEM analyses. Fit indices suggest that the three latent class solution is the best (Table 1). These classes contain 27, 33 and 54 respondents. In general, Log-likelihood (LogLH) is lower in solutions with more latent classes, which means that the model works as supposed to. Bayesian information criterion (BIC) is the most reliable fit index with a small sample

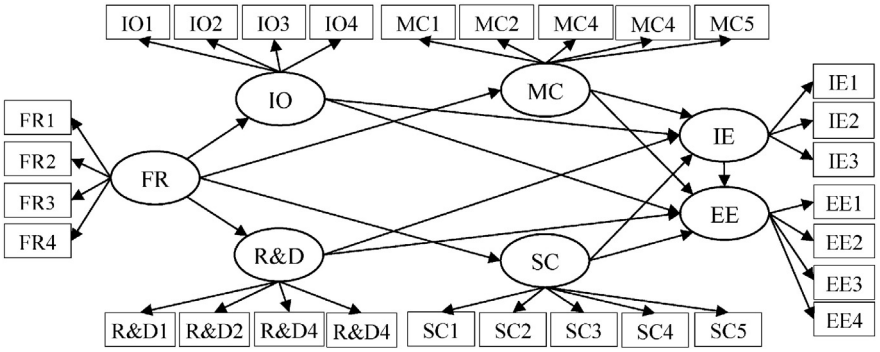

Fig. 2. Research model.

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Table 1
Fit indices of the solution with different numbers of latent classes.

Classes	n	Entropy	LogLH	AIC	BIC	ABIC	VLMRLRT	LMRALRT	PBLR
1	114	n/a	5606	11,412	11,686	11,370	n/a	n/a	n/a
2	46/68	0.831	5567	11,377	11,708	11,325	0.508	0.513	0.056
3	27/33/54	0.953	5513	11,309	11,698	11,249	0.606	0.611	0.000
4	21/37/33/23	0.904	5486	11,297	11,744	11,228	0.240	0.240	0.429

size (less than 500) (Tolvanen, 2007). The criterion provides a lowest value for the solution with three latent classes. Entropy provides the highest value with the solution of the three latent classes indicating the best solution. The parametric bootstrapped likelihood ratio (PBLR) is always reliable when it can be produced. PBLR offers a statistically significant p-value (0.000) with the three latent class solution only. Other values are suitable for large sample sizes (Tolvanen, 2007). In the three latent class solution the probability of the respondents to belong in their suggested groups is very high (Table 2).

Fig. 3 illustrates the model of each latent class. In order to emphasize differences between the latent classes, the model presents statistically significant factors and statistically significant relationships between factors. Appendix B includes standardized estimates.

The first latent class contains 27 respondents (23.7%). FR, MC and R&D are statistically significant constructs, as p-value for each of their measures is below 0.05 (Appendix B). None of the other constructs provides statistically significant results. As IO and SC do not provide statistically significant results, the software is unable to estimate values for the relationships between them and FR (N/A), which provides support for neither $H1_1$ nor $H2_1$ (Table 3). The relationship between MC and FR is statistically insignificant (p-value 0.182), not supporting $H3_1$. The relationship between FR and R&D is statistically significant and positive (standardized estimate 0.84, p-value 0.000), supporting $H4_1$. Due to a strong emphasis on R&D, firms in this latent class may have a strong ambition to expand their business in a foreign country, but as both IE and EE are statistically insignificant constructs, these firms do not currently have international operations. This latent class represents *the preparing international.*

The second latent class contains 33 respondents (28.9%). All constructs (FR, IO, MC, SC, R&D, IE, EE) are statistically significant (p-values <0.05). To be exact, measure IO1 in construct IO provides p-value of 0.051. As p-values are two-tailed and the theory suggests only positive measures, the p-value divides by two, which means that also this relationship and thus the construct are statistically significant. The influences of FR on IO, MC, SC and R&D are statistically significant as they provide p-values of 0.000 and standardized estimates of 0.91, 0.89, 1.05 and 0.82, respectively, which supports $H1_2$, $H2_2$, $H3_2$, and $H4_2$. The relationships between IE and EE, between IE and the other variables (FR, IO, MC, SC, R&D), and between EE and the other variables are statistically insignificant (p-values >0.10). As EE is a statistically significant construct, these companies have operations of extended international expansion. However, IE is also a statistically significant construct, which indicates that these companies are still in their infancy in international expansion. This latent class represents *the novice international*.

The third latent class contains 54 respondents (47.4%). Six of the constructs (FR, IO, MC, SC, R&D, EE) are statistically significant (p-values <0.05), while the software is unable to estimate values for IE (N/A). All relationships between FR and capabilities IO, MC, SC, and R&D are statistically significant: p-values are 0.000 and standardized estimates 0.92, 0.62, 1.09 and 0.62, respectively, supporting $H1_3$, $H2_3$, $H3_3$, and $H4_3$. The standardized estimates of the relationships from FR to MC and from FR to R&D are considerably lower than in the previous latent class. EE is a statistically significant construct, but the software is unable to estimate IE, which indicates that companies execute extended international operations only. The software is unable to estimate the relationship between EE and IE (N/A), and no statistically significant relationships between EE and the other variables exist (p-values >0.05). As this latent class executes extended international expansion operations only, the class represents *the experienced international.*

Table 2
Average latent class probabilities for most likely latent class membership by latent classes.

Most likely class membership	Latent class		
	1	2	3
1	0.970	0.000	0.030
2	0.000	0.993	0.007
3	0.009	0.013	0.978

4. Discussion

The results in this study show that even a small data sample may contain latent classes that employ a different bundle of capabilities, which clearly indicate that firms' capability portfolios vary throughout international expansion. Analyses uncover three latent classes – *the preparing international* (23.7%), *the novice international* (28.9%), and *the experienced international* (47.4%). *Preparing internationals* operate in the domestic markets but have an aspiration to internationalize. *Novice internationals* have initiated their international expansion, and *experienced internationals* are already operating either in multiple countries or have otherwise increased their commitment in the foreign markets. The only identical element in each latent class is the relationship between financial resources and research and development capabilities (R&D). Although the relationship is significant in all latent classes, its role diminishes as the firms' international commitment increases. Marketing capabilities and sales capabilities appear not until the initial expansion takes place and this finding supports Kumar's (2009) notion that international business requires a distinctive bundle of resources and capabilities; their domestic counterparts rarely suit foreign markets.

For *the preparing international*, the only positive significant relationship exists between financial resources and R&D capabilities. Marketing capabilities is a statistically significant construct, but without any significant relationships. Such results indicate that those firms that are preparing to expand their business in a foreign country focus in the first place on developing their products and marketing them on domestic markets. These findings are similar with Freeman et al. (2006) and Chen and Hsu (2010), who show that small firms with limited financial resources might not be able to invest simultaneously in R&D and marketing, and they need to make trade-offs between R&D-based and marketing-based strategies. Furthermore, since international orientation is not present, findings indicate that these firms are still developing their first products and are lacking sufficient resources and capabilities to start international operations. These findings are similar with Baker and Nelson (2005), Hewerdine et al. (2014) and Kozlenkova et al. (2014); firms optimize their operations with those resources they have at hand.

In the class of *the novice international*, financial resources have a positive significant relationship with all four key capabilities (IO, MC, SC, R&D) in the capability portfolio. Both initial international expansion and extended international expansion are present; thus, the findings support Freeman et al. (2006) and confirm that the level of financial

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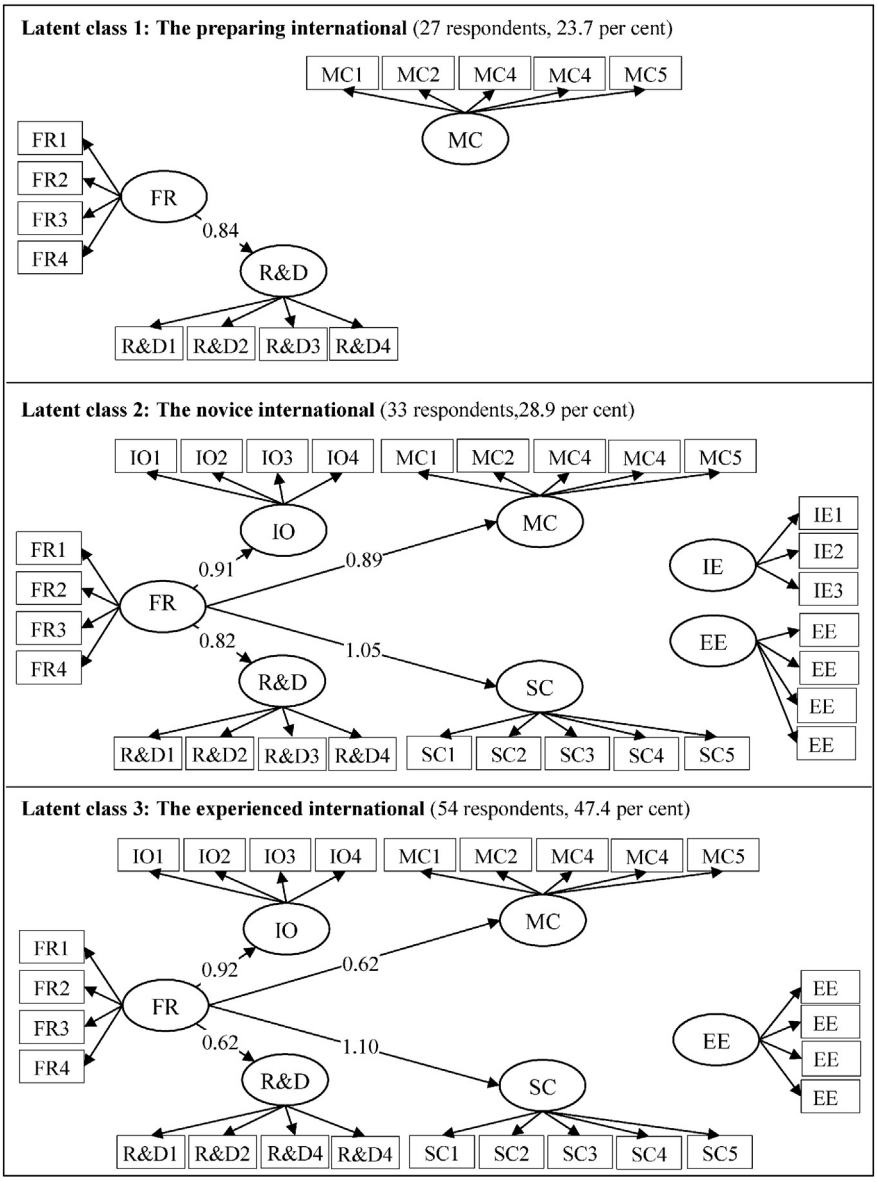

Fig. 3. Capability portfolio and international expansion of each latent class.

resources is an antecedent for firms to develop international capabilities. As stated above, financial resources is a multidimensional factor which includes measures that not only cover the magnitude of existing finance but incorporates also activities making firms eligible to be financed, for example the employment of appropriability mechanisms (Hurmelinna-Laukkanen, 2012).

Differences between *preparing internationals*' and *novice internationals*' capability portfolios are highly remarkable. Firms seem to allocate all of their available resources to the development of new products and services to the point of initial internationalization, and at the time of this breaking point, they suddenly shift their available resources and capabilities to international operations, marketing and sales. This reallocation, integration and reconfiguring of resources and capabilities appear as a manifestation of higher-order capabilities (Teece, 2014). Therefore, the findings suggest that *preparing internationals* with tight resources limitations needs to rely on their intangible resources and capabilities when expanding on foreign markets, as Knight and Cavusgil (2004) propose. How this shift takes place and what the micro-foundations are that drive such a change, would deserve further research.

In the class of *the experienced international*, changes compared to the previous *novice international* class are minor; only the initial international expansion is no longer present. Disappearance of initial expansion indicates that international business becomes for these firms as a routine. In a similar vein, with Fain and Wagner (2014), the results denote that further international expansion calls for increasing resource commitment.

The results show that, for firms in this sample, financial resources are available for R&D throughout the international expansion. Marketing

Table 3
Hypotheses and results.

	Support for hypotheses		
Hypothesis	1. The preparing international	2. The novice international	3. The experienced international
H1	$H1_1$: N/A; No	$H1_2$: Yes	$H1_3$: Yes
H2	$H2_1$: N/A; No	$H2_2$: Yes	$H2_3$: Yes
H3	$H3_1$: No	$H3_2$: Yes	$H3_3$: Yes
H4	$H4_1$: Yes	$H4_2$: Yes	$H4_3$: Yes

and sales activities do not benefit from similar financial resources until firms have taken initial measures to expand on international markets. These results parallel Griffin and Hauser (1996), stating that from foreign market entry onwards the source of competitive advantage shifts from R&D to marketing activities. Furthermore, temporary competitive advantages require substantial innovative capabilities, which can partly explain bias in continuous investments in R&D (Eisenhardt & Martin, 2000).

International marketing capabilities and sales capabilities arise from individuals, mostly sales and marketing people. The late appearance of marketing capabilities and sales capabilities indicates that they are complex undertakings, and development of these multifaceted capabilities takes time (see e.g. Ramaswami et al., 2009). Highly significant and positive relationship between financial resources and sales and marketing capabilities within *novice internationals* and *experienced internationals* indicates that sales and marketing professionals' personal skills and knowledge evolve gradually. However, results of this study are controversial regarding the common fact that marketing capabilities are of critical value at the beginning of the innovation process. *Preparing internationals* do not show a significant relationship between financial resources and marketing or sales capabilities. These findings suggest that small size firms allocate their limited resources to those activities that support their international expansion the best. Since firms have no strategically relevant marketing capabilities in their endowment, they need to concentrate on building advantages on their capabilities in the R&D and innovation.

5. Conclusions and suggestions

Previous studies show that small firms are lacking resources and capabilities, firms face difficulties in transferring resources and strategically valuable capabilities form one firm function to another, and domestic resources and capabilities are often not usable in foreign operations. This study makes an attempt to bring these separate discussions together, and suggests that internationalization requires financial resources and a specific portfolio of capabilities to initiate and further perform international business activities in foreign markets. Especially smaller firms need continuously to adapt and modify their capability portfolios along with internationalization.

The findings clearly indicate that no universal capability portfolio would fit to all phases of internationalization. Analyses reveal that the data contain three distinctive capability portfolios in which the relative importance of key capabilities varies. The existence of multiple realities is probably more a rule than an exception in the behavioral/management sciences, especially when studying dynamic conditions. This study does not focus on how capabilities develop, but rather on how firms in different situations allocate their scarce resources. More studies on micro-foundations would be helpful to understand how this capability development takes place on a firm level. The versatile nature of financial resources obviously reasserts the relationships with the capabilities, and thus, further research should focus on to unbundle the financial elements in order to explain which measures have the greatest influence in different phases of international expansion.

This study is also one of the first attempts to collect data by using a questionnaire in which only *Yes* or *No* answer is possible. This data gathering method is trustworthy since – instead of perceptions –questions are claims, each claim presenting a factual status of a firm activity. Binary choice leaves no room for personal opinions or ignorance, and further, management board members from one firm should have unanimous answers. Complete congruence is hardly the reality, the next extremely interesting avenue for further research would be analyzing whether and how management board members' conflicting views have an effect on international expansion. To conclude, the authors agree with Woodside (2014) that, for example, traditional SEM analysis will probably be an inadequate tool in several studies in the near future. However, with good and suitable data and employing mixture modeling approaches along with traditional research methods would offer powerful tools to further understand multiple realities, latent classes relating to multiple realities, and thus heterogeneous data.

Appendix A. Factors, the focus of measures and examples of items.

Factor	Measure	Focus	Items	Example of items
FR	FR1	Reflects management's knowledge of the costs effects between different international operation modes	1	*Company knows the cost effects of different operation modes used to enter new countries*
	FR2	How the management invests in human resources needed in international expansion	5	*Company invests in developing the resources, capabilities and strengths required by international business*
	FR3	Related to the required cash flow and external finance needed in executing international operations	10	*Company has acquired the financing required for the early stages of growth and internationalization*
	FR4	Related to the securing of company confidential data	2	*Company work agreements protect the company's confidential information and prohibit direct competition*
IO	IO1	Preparedness to expand business abroad	8	*Company has a plan on how to market the products/services to foreign customers*
	IO2	Geographic target setting	2	*Key personnel have chosen the geographic areas the company wants to operate in*
	IO3	Commitment	5	*Key personnel are committed to growing and internationalizing the company*
	IO4	Capturing if the shareholders, board and the top management are supporting management's internationalization efforts.	7	*The owners and the board of the company support the management in developing international business*
MC	MC1	Management's understanding of the market trends	14	*Company has continuous up-to-date knowledge of the size and growth pace of its target markets*
	MC2	Relates to market segmentation	9	*Company has estimated the profitability level of its targeted foreign market customer segments*
	MC3	Capture the management's knowledge of the current competitive situation	10	*Company knows the competitive advantages of its foreign competitors*
	MC4	How distributor network is utilized	3	*Company knows its alternative foreign suppliers/ distribution channels*
	MC5	How well the management understands the structures of the markets	6	*Company knows the foreign customers' organization and activities*
SC	SC1	Networks and partnerships	8	*Company has a few strategically important partners with whom the company's international business can be grown/expanded*
	SC2	Customer acquisition	9	*Company regularly participates in the most important international exhibitions in its field of business*

(continued on next page)

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Appendix A (*continued*)

Factor	Measure	Focus	Items	Example of items
	SC3	Capturing management's skills when expanding sales in foreign countries	15	*Key personnel know the differences between foreign and domestic deliveries*
	SC4	Distribution and organizing of foreign sales	11	*Company has criteria for choosing/ rejecting foreign distributors*
	SC5	Management's skills to organize sales in multicultural environment	17	*Company has at its disposal a lawyer who can make the needed agreements in target countries*
R&D	R&D1	How customers' needs are recognized and implemented into the products and services	3	*Key personnel have a clear understanding how much the customers are willing to pay for the company's products/services*
	R&D2	Product placement on foreign markets	6	*Company knows how to localize its product/service to meet the customer requirements in its target markets*
	R&D3	Capturing intangible aspects of the development	17	*Company has been granted a protection of design or a patent in some foreign country*
	R&D4	Closely related to the incremental product development costs when servicing foreign customers	20	*Company has recognized the development needs for its product/service required by the international business*
	R&D5	Product management and on international optimization	14	*Company can move its production to a lower cost country*
IE	IE1	Indicating if the firm has internationalized	1	*Company has foreign customers*
	IE2	Relationships with existing foreign customers and/or distributors	5	*Company has repeated sales to its current foreign customers*
	IE3	Foreign strategy-related	3	*Development of the company's international business is regularly evaluated*
EE	EE1	Indicating if the firm has continued its expansion in international markets	7	*Company has several or parallel foreign distribution channels*
	EE2	How the foreign sales has been organized	10	*Company's international sales channels do not overlap and have defined responsibilities*
	EE3	International division of responsibilities between foreign units	10	*Company can use transfer pricing to optimize the expenses and profits between its own foreign subsidiaries*
	EE4	Capture elements with an impact on profitability	8	*Company systematically follows the liquidity of its international customers and partners*

Appendix B. STDYX standardized estimates (two-tailed)

	Latent class 1: The preparing international		Latent class 2: The novice international		Latent class 3: The experienced international	
	Estimate	P-Value	Estimate	P-Value	Estimate	P-Value
IE BY IE1	N/A	N/A	0.17	0.009	N/A	N/A
IE BY IE2	N/A	N/A	0.58	0.000	N/A	N/A
IE BY IE3	N/A	N/A	0.58	0.000	N/A	N/A
EE BY EE1	N/A	N/A	0.67	0.000	0.43	0.000
EE BY EE2	N/A	N/A	0.71	0.000	0.46	0.000
EE BY EE3	N/A	N/A	0.75	0.000	0.51	0.000
EE BY EE4	N/A	N/A	0.62	0.000	0.38	0.000

Appendix B (*continued*)

	Latent class 1: The preparing international		Latent class 2: The novice international		Latent class 3: The experienced international	
	Estimate	P-Value	Estimate	P-Value	Estimate	P-Value
FR BY FR1	0.28	0.000	0.28	0.000	0.28	0.000
FR BY FR2	0.37	0.000	0.37	0.000	0.37	0.000
FR BY FR3	0.49	0.000	0.48	0.000	0.48	0.000
FR BY FR4	0.18	0.001	0.18	0.001	0.18	0.001
IO BY IO1	0.05	0.256	0.11	0.051	0.11	0.008
IO BY IO2	0.09	0.221	0.20	0.018	0.21	0.001
IO BY IO3	0.09	0.237	0.21	0.022	0.22	0.001
IO BY IO4	0.13	0.234	0.28	0.011	0.30	0.001
MC BY MC1	0.53	0.000	0.80	0.000	0.61	0.000
MC BY MC2	0.54	0.000	0.81	0.000	0.62	0.000
MC BY MC3	0.52	0.000	0.80	0.000	0.60	0.000
MC BY MC4	0.39	0.000	0.67	0.000	0.46	0.000
MC BY MC5	0.50	0.000	0.78	0.000	0.58	0.000
SC BY SC1	N/A	N/A	0.48	0.000	0.36	0.000
SC BY SC2	N/A	N/A	0.53	0.000	0.41	0.000
SC BY SC3	N/A	N/A	0.44	0.000	0.33	0.000
SC BY SC4	N/A	N/A	0.44	0.000	0.33	0.001
SC BY SC5	N/A	N/A	0.43	0.000	0.32	0.001
R&D BY R&D1	0.35	0.002	0.33	0.000	0.25	0.000
R&D BY R&D2	0.72	0.000	0.69	0.000	0.57	0.000
R&D BY R&D3	0.64	0.000	0.61	0.000	0.49	0.000
R&D BY R&D4	0.48	0.000	0.45	0.000	0.35	0.000
EE ON IE	N/A	N/A	1.50	0.217	N/A	N/A
EE ON IO	N/A	N/A	9.09	0.539	5.78	0.406
EE ON MC	N/A	N/A	4.49	0.372	0.25	0.769
EE ON SC	N/A	N/A	−18.20	0.453	−5.61	0.459
EE ON R&D	N/A	N/A	6.12	0.306	0.97	0.360
IE ON IO	N/A	N/A	−2.93	0.551	N/A	N/A
IE ON MC	N/A	N/A	−2.09	0.250	N/A	N/A
IE ON SC	N/A	N/A	8.37	0.275	N/A	N/A
IE ON R&D	N/A	N/A	−3.29	0.119	N/A	N/A
IO ON FR	0.30	0.710	0.91	0.000	0.92	0.000
MC ON FR	0.25	0.182	0.89	0.000	0.62	0.007
SC ON FR	N/A	N/A	1.05	0.000	1.09	0.000
R&D ON FR	0.84	0.000	0.82	0.000	0.62	0.001

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