

# Antecedent and outcomes of innovation-based growth strategies for exporting SMEs

Innovation-based growth strategies

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## Abstract

**Purpose** – The purpose of this paper is to investigate the antecedent and outcomes of different types of innovation as complementary growth strategies, which may enable exporting small- to medium-sized enterprises (SMEs) to achieve success in export markets.

**Design/methodology/approach** – This study is based upon a quantitative survey on Norwegian exporting SMEs. A total of 380 questionnaires were received representing 16.8 per cent response rate. A structural equation modelling analysis is carried out on the sample.

**Findings** – The study finds positive and significant associations between the firm's growth ambition and the pursuance of product and business model innovations. Moreover, the firm's export degree and scope has a significant and positive association with its product innovation strategy, but the association with its business model innovation is significantly negative.

**Research limitations/implications** – The study's findings indicate that future studies should incorporate different types of innovation strategies since their associations with export performance differ substantially. Treating innovation as a general construct appears to be too simplistic.

**Practical implications** – The study's results indicate that focus on product innovation enhances the export performance of SMEs, but that focus on business model innovation has a negative impact. The latter may be too costly and distract focus from the firm's core competences, whereas product innovation can be assumed to provide further competitive strength.

**Originality/value** – By taking a holistic approach towards innovation, this study addresses a gap in the literature on innovation and exporting in SMEs in order to investigate the association between different types of innovation-based growth strategies and the firms' export prosperity.

**Keywords** Export, Internationalization, Small- and medium-sized enterprises, Growth ambition, Growth strategy, Innovation types

**Paper type** Research paper

## 1. Introduction

Internationalisation is considered as a growth strategy through which companies may take advantage of foreign market opportunities, and create value (Kyläheiko *et al.*, 2011). Trade liberalisation and ongoing technological changes have increased firms' accessibility to international markets, however faced them with tougher competition when taking part in cross-border commerce (Cavusgil *et al.*, 2015). As a result, firms need to follow complementary strategies to overcome the barriers when competing in foreign markets.



Building upon the theory of the growth of the firm (Penrose, 1959), we investigate innovation as a complementary growth strategy which may enable internationalised firms to achieve success in foreign markets (Kyläheiko *et al.*, 2011; Hessels, 2007). Traditionally, these strategies were regarded as alternative growth options (Onetti *et al.*, 2012). However, since both are based upon the firm's existing resources and capabilities, the firm may decide to concurrently pursue them as entrepreneurial attempts based on ambitions to take advantage of resources as well as new opportunities (Kyläheiko *et al.*, 2011; Knight, 2000). We limit our analysis to small- and medium-sized enterprises (SMEs) since such firms are extremely important for economic development, especially in small open economies. Exporting, as the most commonly used type of entry mode in these firms (Leonidou *et al.*, 2010), is used as the proxy for internationalisation.

In today's globalised economy, SMEs play a substantial role for economic growth and research on SME internationalisation needs to be highly emphasised (Ruzzier *et al.*, 2006). Most of the studies investigating innovation within the context of SMEs' exportation have limited their analyses to product (goods) innovation (e.g. D'Angelo *et al.*, 2013; Alegre *et al.*, 2012; Cassiman and Golovko, 2011; Freel, 2000), whilst some have also included process innovation in their studies (e.g. Monreal-Pérez *et al.*, 2012; D'Angelo, 2012; Golovko and Valentini, 2011; Cassiman *et al.*, 2010). However, there is a research gap in the field since "information on different types of innovation and their effects on SME performance is limited" (Love and Roper, 2015, p. 42), and we aim to address this gap in our study. We contribute to the literature by investigating the influence of different types of innovation on performance of the firms in export markets. In this regard, Kyläheiko *et al.* (2011) suggest that when studying innovation as a growth strategy, it should be investigated beyond concentrating merely on one type of innovation such as product; also other types of innovation should be taken into account.

To address the gap highlighted by Love and Roper (2015) and following the advice of Kyläheiko *et al.* (2011) we differentiate between different types of innovation, more specifically we make a distinction between product (goods), service, process, and business model innovation. Inclusion of different types of innovation with relation to SMEs' export activities can provide a more comprehensive picture of the firms' operations abroad since they may have different importance for the firm's export prosperity. Among these types of innovation, business model innovation is particularly of great importance since literature studying firms' innovation and internationalisation lacks proper investigation on the association between business model innovation and the firms' foreign market achievements (Rask, 2014; Onetti *et al.*, 2012). Looking at both innovation and exportation as strategies to achieve growth, we also include growth ambitions as an antecedent of innovation focus. O'Cass and Weerawardena (2009) call for exploring the antecedents of innovation in exporting strategy of SMEs. The present study explores whether higher levels of growth ambitions are associated with innovation strategies, and new market expansion consequently.

The paper continues as follows: the next section explains the theoretical foundation of the study, and develops hypotheses. Next, we describe our sample, key variables, and chosen data analysis methods. After that, we present the results of our analyses and discuss their implications for the field. Finally, we conclude the paper by summarizing the findings as well as indicating managerial implications, limitations, and areas for future research.

## 2. Theoretical background and development of hypotheses

Some early studies investigating small firms' internationalisation, especially in terms of export, argued that the firms' involvement in international markets can be considered as an innovation for them (see e.g. Andersen, 1993; Reid, 1981; Cavusgil, 1980; Lee and Brasch, 1978). The root of such consideration can be traced back to the work of

Simmonds and Smith (1968) indicating that the firm's entrance into export markets is an innovation for the firm to the same extent as, for instance, implementation of new production processes. Therefore, they argue that many of the findings regarding other types of innovation will be applicable to the firm's exportation process. Innovation-related models (I-models) of internationalisation[1] thus view exportation as an innovation which provides a better understanding on how exporting is initiated and developed (Leonidou and Katsikeas, 1996; Reid, 1981).

The I-models of internationalisation are based upon a behavioural approach, in which the firms' managers and owners, as individual decision-makers, are very influential in determining the export path of the firm (Lautanen, 2000; Andersen, 1993; Cavusgil, 1984). Furthermore, growth is embedded in these models (Cavusgil, 1980), as they put much emphasis on the firm's expansion and growth by means of export activity (see e.g. Simmonds and Smith, 1968). In these studies, the firm's involvement in the foreign trade is often operationalised by its export degree (Ruzzier *et al.*, 2006; Gankema *et al.*, 2000).

However, firms' growth is not only limited to expansion into foreign markets. In this regard, Kyläheiko *et al.* (2011) point out that the path to the firm's growth is often a mixed strategy formed by market and product choices. The firm could follow a growth strategy based upon its present or potential new markets as well as existing or new products. However, companies with sufficient resource availability have higher chances to simultaneously chase after both options. As a result, pursuing innovation-based strategies together with internationalisation may enable companies to remain competitive and prosper in their cross-border trade (Golovko and Valentini, 2011; European Commission, 2001). This issue will be examined in the ensuing.

### 2.1 The importance of the firm's growth ambition

In addition to the literature on the I-models of internationalisation, the research on the firm's growth also emphasise on the importance of the role of the firm's managers and owners in pursuance of its growth strategy. Penrose (1959) in her theory of the firm's growth, emphasises the role of entrepreneur and management for the firm's growth, particularly discussing that management is the source of uniqueness which drives growth. Therefore, we explore how the growth ambition of owners and managers are related to its innovation-based growth strategies. This is in continuation of Nair *et al.* (2008) referring to Penrose's (1959) observation that the entrepreneurial desire is a reflection of opportunities in the environment and her argument that "[...] expectations and not objective facts are the immediate determinants of a firm's behaviour" (p. 41).

Companies are unique entities with different tangible and intangible resources (Peteraf, 1993; Barney, 1991), and as mentioned by D'Angelo *et al.* (2013), innovation in connection with foreign market activities is strongly connected to intangible resources. Furthermore, in our research design we follow the approach of the theory of planned behaviour (Ajzen, 1991) in which strategic behaviour is seen as a collective function of managerial intentions and perceived behaviour control, further predicting that intentions drive strategic decision making.

Kyläheiko *et al.* (2011) argue that entrepreneurial incentives are the integral drivers of company' growth which in turn, is closely related to innovation activities that influence the company's attempt to take advantage of unexploited opportunities. This can be achieved by developing different types of innovation from products to business models, whether entirely new or just more marginal improvements. Therefore, innovation strategies can be regarded as Schumpeterian entrepreneurial activities driven by the firm's resources (Buckley, 2009a, b). They may be pursued by entrepreneurs and management teams if they see opportunities for growth or better performance (McAdam *et al.*, 2007; Laforet and Tann, 2006).

As discussed by Barney (1987), some companies endeavour to make an excellent innovation profile, while others do not. A high degree of innovative orientation or focus improves the firm's capability to identify and create opportunities through its behaviour and activities (Shane, 2003). In exporting SMEs, strong focus on innovation enables the firms to perform better in their foreign markets by providing them with more willingness and greater capacity to adapt routines and procedures to the demands of international markets (Meliá *et al.*, 2010). As a result, we develop the hypothesis that the firm's growth ambition has a positive association with its innovation focus:

*H1.* The firm's growth ambition has a positive association with its innovation focus.

However, "information on different types of innovation and their effects on SME performance is limited" (Love and Roper, 2015, p. 42), and except a few (i.e. Weerawardena *et al.*, 2015; Imbriani *et al.*, 2014; O'Cass and Weerawardena, 2009; Vila and Kuster, 2007), most of the studies investigating innovation within the context of exporting SMEs have predominantly limited their analyses to product (goods) innovation (e.g. D'Angelo *et al.*, 2013; Alegre *et al.*, 2012; Cassiman and Golovko, 2011; Freel, 2000), whilst some have also included process innovation in their studies (e.g. Monreal-Pérez *et al.*, 2012; D'Angelo, 2012; Golovko and Valentini, 2011; Cassiman *et al.*, 2010).

To address the research gap and contribute to the field, it is necessary to include different types of innovation when developing the theoretical foundations of the research. More importantly, inclusion of different types of innovation with relation to SMEs export activities can provide a more comprehensive picture of the firms' operations abroad since they may have different importance for the firm's export prosperity. The necessity of defining innovation broadly, incorporating different types of innovation has been expressed by scholars within innovation and internationalisation studies (e.g. Porter, 1990; Damanpour *et al.*, 1989). More recently, Love and Roper (2015) and Kyläheiko *et al.* (2011) suggest that when studying innovation as a growth strategy in companies, it should be investigated beyond concentrating merely on one type innovation such as product; other types of innovation should be also taken into account.

The term "innovation" is intrinsically unclear and lacks a single definition or measure (Adams *et al.*, 2006). Consequently, there is no clear consensus in the literature regarding how to operationalise innovation and its different types, and therefore different definitions of "innovation" are employed empirical studies (Buddelmeyer *et al.*, 2009). In this study, we employ the definition of innovation provided by the *Oslo Manual* in 2005, as it embraces different types of innovation from both incremental and radical points of view. Therefore, utilisation of this definition provides the opportunity to take a holistic approach to study innovation in SMEs (Chetty and Stangl, 2010). According to the *Oslo Manual* (OECD, 2005, p. 46) "[...] an innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations". Because our sample is cross-sectoral and represents both manufacturing and service sectors we examine the following types of innovation: product (goods), service, process, and business model (marketing) innovations. O'Cass and Weerawardena (2009) also recommend considering these types of innovations when exploring innovation in exporting SMEs.

Among these types of innovation, business models are very important to investigate. Business models in essence originate from management's observation on the approach through which customers want to receive and pay for the firm's offerings (Teece, 2010). Business model innovation is a way to commercial new products and technologies (Chesbrough, 2010). It represents the administrative and managerial system of the company (O'Cass and Weerawardena, 2009). It can be a highly valuable type of innovation enabling

the firm to further reach customers in both existing and new markets (Gambardella and McGahan, 2010; Comes and Berniker, 2008).

However, to be innovative in terms of business models could be very difficult for a firm. Business model innovation is a resource-demanding process which requires effective collaboration among different units of the organisation (Chesbrough, 2007). There are also several barriers and challenges ahead when the firm goes through improving or changing its business model, such as potential conflicts with conventional arrangements of the firm's assets, internal fear in the firm due to unexpected and negative outcomes, etc. (Chesbrough, 2010). Therefore, companies may have great focus on business model innovations in order to take advantage of opportunities by new types of offering, yet find it difficult to really understand how to exploit the benefits via new business models (McGrath, 2010).

The theoretical foundation of the concept of business model is not well established in economics and business research (Teece, 2010). Literature studying firms' innovation and internationalisation lacks proper investigation on the association between business model innovation and the firms' foreign market achievements as well (Rask, 2014; Onetti *et al.*, 2012). As a result, we investigate business model innovation along with the other types of innovation to provide a better overview on the firms' innovation strategies. Resource-based theorists (e.g. Barney, 1991; Wernerfelt, 1984) also argue that distinguishing features of different types of innovation may provide firms with longer term competitive advantages. We therefore split *H1* into four sub-hypotheses:

- H1a.* The firm's growth ambition has a positive association with its product innovation focus.
- H1b.* The firm's growth ambition has a positive association with its service innovation focus.
- H1c.* The firm's growth ambition has a positive association with its process innovation focus.
- H1d.* The firm's growth ambition has a positive association with its business model innovation focus.

## 2.2 *The importance of the innovation-based growth strategy*

Several papers have investigated the impact of pursuing the innovation strategy along with internationalisation on different success factors such as realized growth and profitability (Kyläheiko *et al.*, 2011; Wolff and Pett, 2006), innovation performance (Zahra *et al.*, 2009; Pittiglio *et al.*, 2009; Kafouros *et al.*, 2008), export incidence (Cassiman and Golovko, 2011; Braymen *et al.*, 2011; Cassiman *et al.*, 2010), and export destination (Andersson and Lööf, 2012). Our interest is to examine how the innovation strategies are associated with SMEs' exportation process and their ability to benefit from international market opportunities. In particular, we investigate the subject using the outcomes of the firms' export activities as indicators of their competitiveness and success in foreign markets. For this purpose, we investigate the firms' export degree/intensity (percentage of international sales), and export scope (number of foreign countries) since these elements represent the level of the firm's export activity (Zahra and George, 2002).

Innovation is a substantial source of competitive advantage in foreign markets, and a consequential determinant of export prosperity (Love and Roper, 2015; Wynarczyk, 2013; D'Angelo, 2012; Roper and Love, 2002; Nassimbeni, 2001; Basile, 2001; Sterlacchini, 1999; Wakelin, 1998). Consequently, it is one of the fundamental resources improving the likelihood of access to foreign markets (see e.g. Cassiman and Golovko, 2011; López Rodríguez and García Rodríguez, 2005; Knight and Cavusgil, 2004). In fact, it has

been shown that strategic attention for innovation is positively related to the firm's export activities and success in foreign markets, since firms that put strategic focus on innovation are more prepared and able to be responsive in the export markets (Hessels, 2007).

Generally, it is argued that firms with high level of productivity are able to participate in export markets. This mechanism is called "self-selection-effect" (Bernard and Jensen, 1999). The argument is that the level of competition in export markets is higher and more intensive than in domestic markets, and more productive firms therefore have greater possibilities to export. In terms of innovation, it is also noted that high levels of innovation may enable firms to achieve more appropriate access to export markets by increasing their productivity (Monreal-Pérez *et al.*, 2012). However, different types of innovation may influence export prosperity in different ways. Product and service innovations may provide the firm with a competitive advantage through upgraded and differentiated customer value. Process innovation may enable the firm to reduce its costs and thus reap competitive advantages in the export markets (Yeoh, 2014; Hughes *et al.*, 2010; López Rodríguez and García Rodríguez, 2005). Finally new business models may enable the firm to further reach its customers in both existing and new markets (Gambardella and McGahan, 2010; Comes and Berniker, 2008), which may create innovative ways of generating revenue in export markets (Imbriani *et al.*, 2014).

We hypothesise that innovative companies have higher tendency to enter international markets in order to augment their sales volume, and exploit more broadly the costs spent on their innovations (Rogers, 2004). Hence, focus on innovation activity is assumed to be directly associated with firms' export degree/intensity (Cassiman and Golovko, 2011; Cassiman *et al.*, 2010). In addition, through innovation companies are able to enter a larger number of new geographical markets (see e.g. Hitt *et al.*, 1997). As a result, we formulate the following hypotheses:

*H2.* The firm's innovation focus has a positive association with its export degree.

*H2a.* The firm's product innovation focus has a positive association with its export degree.

*H2b.* The firm's service innovation focus has a positive association with its export degree.

*H2c.* The firm's process innovation focus has a positive association with its export degree.

*H2d.* The firm's business model innovation focus has a positive association with its export degree.

*H3.* The firm's innovation focus has a positive association with its export scope.

*H3a.* The firm's product innovation focus has a positive association with its export scope.

*H3b.* The firm's service innovation focus has a positive association with its export scope.

*H3c.* The firm's process innovation focus has a positive association with its export scope.

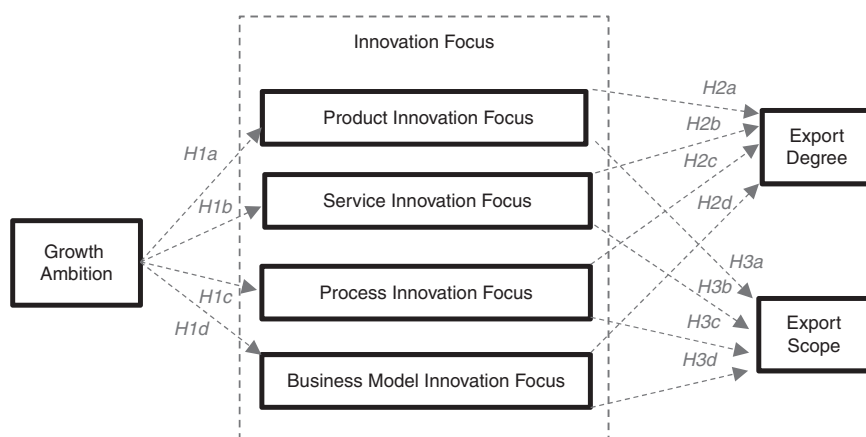
*H3d.* The firm's business model innovation focus has a positive association with its export scope.

The research model developed in our study is shown in Figure 1.

### 3. Methodology and result

#### 3.1 Sample and database

The population of the study is Norwegian exporting SMEs from different industries in the manufacturing and service sectors. The sampling frame with key information about the firms, such as their contact information, location, size, and executives, was acquired through the Kompass Norway database (available at: [www.kompass.com/](http://www.kompass.com/)). The identification



**Figure 1.** Developed research model (all hypotheses positive relationships)

criteria for the study were limited to the Norwegian exporting firms, which have 4-250 employees. The search criteria provided us with 2,262 firms.

A questionnaire was sent to the companies investigating different issues in terms of their growth, innovation and internationalisation activities and outcomes. A pilot study involving ten companies was performed to fine tune the questionnaire.

A letter, including the questionnaire in paper form, and an e-mail, including the internet link to the questionnaire, were sent in spring 2014. Respondents could choose to answer on paper (envelope with pre-paid return mail was enclosed) – or they could answer an electronic version of the questionnaire. Reminders were sent to the firms by e-mail and in some cases by phone calls. The data collection was supplemented with publicly available data about the firms' financial data as well as industry codes. In September 2014 the data collection was finished.

A total of 380 questionnaires were received representing 16.8 per cent response rate. A few of the companies had less than four employees at the time of data collection[2]. The main characteristics of the participating firms and their operating industries are described in Tables I and II, respectively (Eurostat, 2016).

### 3.2 Key variables

The measures used in the questionnaire were taken from different articles and surveys published in relevant fields. Then they were translated and modified to Norwegian. After that, they were translated back to English in order to check the accuracy of the translated content. The measures utilised in the study, except the export degree and scope that were actual numbers, were seven-point-Likert scales.

	Year of establishment	Number of employees	Export degree <sup>a</sup>	Export scope <sup>b</sup>
<i>n</i>				
Valid	376	377	285	279
Missing	4	3	95	101
Mean	1961	36.97	42.38	12.50
Median	1981	19.00	33.00	6.00
SD	142.95	48.50	35.14	16.93

**Notes:** <sup>a</sup>Export degree: the percentage of the firm's sale abroad; <sup>b</sup>export scope: the number of countries the firm exports its products/services to

**Table I.** Sample year of establishment, size, export degree, and export scope

Industry/industrial sector	Frequency	Per cent
Agriculture, forestry and fishing	1	0.3
Mining and quarrying	7	1.8
Manufacturing	202	53.2
Electricity, gas, steam and air conditioning supply	1	0.3
Water supply; sewerage; waste management and remediation activities	3	0.8
Construction	5	1.3
Wholesale and retail trade; repair of motor vehicles and motorcycles	72	18.9
Transporting and storage	11	2.9
Accommodation and food service activities	1	0.3
Information and communication	24	6.3
Real estate activities	2	0.5
Professional, scientific and technical activities	37	9.7
Administrative and support service activities	1	0.3
Education	3	0.8
Human health and social work activities	7	1.8
Other services activities	2	0.5
Valid	379	99.7
Missing	1	0.3
Total	380	100
High-tech manufacturing (HTM) <sup>a</sup>	102	26.8
Low-tech manufacturing (LTM)	100	26.3
Knowledge-intensive services (KIS) <sup>a</sup>	72	18.9
Less knowledge-intensive services (LKIS)	88	23.2
Valid	362	95.3
Missing	18	4.7
Total	380	100.0

**Note:** <sup>a</sup>According to technological and knowledge intensity and based on NACE Rev. 2 at 2-digit level for compiling aggregates related to the described categories (Eurostat, 2016)

**Table II.**  
Sample operating  
industries and  
industrial sectors

The questionnaire was addressed to the SMEs' chief executive officers (CEOs) or top managers, since firms' CEOs are assumed to provide reliable information about the firm (Zahra and Covin, 1993).

Following the managerial approach of our study as well as the approach of the theory of planned behaviour (Ajzen, 1991), we developed our measures for the firm's growth ambition by combining two variables asking about the firm's managers' and owners' growth desire. This type of measure has been used in many studies investigating firms' internationalisation (e.g. Andersen and Suat Kheam, 1998; Strandkov, 1994), particularly within the context of exporting SMEs (see Leonidou *et al.*, 2007). SMEs are mostly described by having owner-management traits (Bagchi-Sen, 2001). In exporting SMEs, the desire to achieve extra growth is one of the certain stimuli that systematically plays a fundamental role in these firms' internationalisation process. This desire encourages the firms to benefit from their resources to expand their export activities. Furthermore, in SMEs, owner/management desire is a conclusive force in developing innovation and export business, since in these companies decisions are mostly made by a single or a few owner/manager(s) (Demirbas *et al.*, 2011; Leonidou *et al.*, 2007; Laforet and Tann, 2006).

In order to achieve a comprehensive construct for the innovation focus, we measured innovation in terms of both type and degree. We inquired into the firm's focus on improvement, and on new development of each type of innovation (i.e. product, service, production process, and business model), and then we combined them together. Taking both aspects of an innovation typology, generally known as incremental and radical, into consideration enabled us to capture the characteristics and degree of the firm's innovation



focus in a broad sense (Garcia and Calantone, 2002), and in developing the measures, we were inspired by Little (2012) and Weerawardena (2003a, b).

Finally, the measures on the firm's export degree and scope were, respectively, obtained by investigating the percentage of the firm's sale abroad and the number of countries it exports its products/services to (Leonidou *et al.*, 2007). For the exact wording of the items, see Table AI.

### 3.3 Results

Following Anderson and Gerbing (1988) we use a two-step approach, first validating the measures and then building the structural equations model in order to test the hypotheses.

We have used the accepted practices in order to test the measures. Constructs using multiple items were exported from AMOS Version 23 values to the Stats Tools package in Excel. In Table III, composite reliability (CR), Cronbach's  $\alpha$  (from SPSS), average variance extracted (AVE), maximum shared variance (MSV), maximum reliability (MaxR), and average shared variance (ASV) are included. Further, the factor correlation matrix and the square root of AVE in the diagonal as well as means and standard deviations are part of the table.

We evaluate reliability by use of the CR score as well as Cronbach's  $\alpha$ . Results show CR values and Cronbach's  $\alpha$  higher than 0.7 as recommended by Hair *et al.* (1998) with exception for product innovation (0.689/0.637), while the AVE score is higher than 0.5 also for product innovation even as it is regarded as a conservative measure as described by Malhotra (2010). Based on these values, we use the combined measure also for the product innovation measure.

Discriminant validity is evaluated based on MSV and ASV compared to AVE and these values show no discriminant value issues.

A confirmatory factor analysis including number of export countries (export scope) and export share (export degree) was carried out, allowing for error terms co-variances between same level factors based on modification indices values. Model fit values show CFI = 0.926, CMIN/df = 2.872, and RMSEA = 0.093 indicating an overall satisfactory model fit.

Table IV shows the results from the structural model, with standardised regressions coefficients for the hypotheses and critical ratios, model fit values, as well as conclusions with regard to the different hypotheses.

As indicated in Table IV, four hypotheses are supported while eight hypotheses are rejected. It should be noted that the association of business model innovation with both export degree and export scope are significant, but in the opposite direction of the expectation formulated in *H2d* and *H3d* and these hypotheses are rejected. Figure 2 illustratively shows the results.

Factor	Mean	SD	CR	Cro. $\alpha$	AVE	MSV	Max		1	2	3	4	5
							R	ASV					
Growth ambition (1)	5.66	1.47	0.935	0.932	0.879	0.104	0.978	0.034	<i>(0.937)</i>				
Product innovation (2)	5.25	1.25	0.689	0.637	0.542	0.222	0.980	0.133	0.287*	<i>(0.736)</i>			
Service innovation (3)	4.41	1.60	0.910	0.813	0.848	0.169	1.425	0.087	0.088	0.340*	<i>(0.921)</i>		
Process innovation (4)	4.58	1.54	0.834	0.812	0.721	0.171	0.986	0.088	0.018	0.414*	0.210*	<i>(0.849)</i>	
Business model innovation (5)	4.31	1.38	0.767	0.770	0.622	0.222	0.987	0.129	0.322*	0.471*	0.411*	0.339*	<i>(0.789)</i>

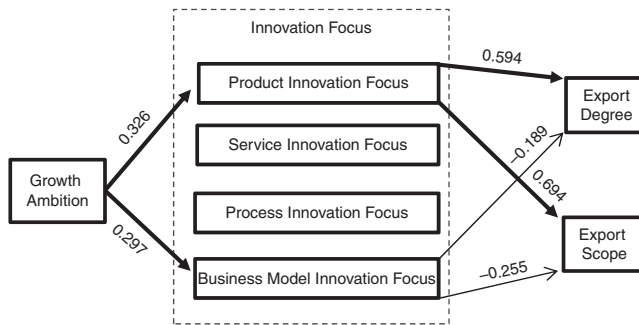
Note: \* $p < 0.001$

**Table III.** Means, standard deviations, reliability analyses, average and maximum shared variances, and factor correlation matrix

**Table IV.** Hypotheses' standardized regressions coefficients, model fit values, and results

Hypotheses	Model parameters	Standardized estimate	Critical ratio	
<i>Estimates, critical ratio, and goodness of fit statistics</i>				
H1a	Growth ambition → product innovation	0.326	2.595**	Supported
H1b	Growth ambition → service innovation	0.037	0.476	Rejected
H1c	Growth ambition → process innovation	-0.018	-0.237	Rejected
H1d	Growth ambition → business model innovation	0.297	3.769***	Supported
H2a	Product innovation → export degree	0.594	3.406***	Supported
H2b	Service innovation → export degree	-0.031	-0.358	Rejected
H2c	Process innovation → export degree	0.002	0.022	Rejected
H2d	Business model innovation → export degree	-0.189	-2.014*	Rejected <sup>a</sup>
H3a	Product innovation → export scope	0.694	3.201***	Supported
H3b	Service innovation → export scope	-0.088	-1.044	Rejected
H3c	Process innovation → export scope	-0.003	-0.049	Rejected
H3d	Business model innovation → export scope	-0.255	-2.757**	Rejected <sup>a</sup>

**Notes:** Goodness of fit statistics: CMIN/df = 2.872; RMSEA = 0.093; NFI = 0.893; CFI = 0.926. <sup>a</sup>Statistical significant relation but opposite direction of the hypothesis. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$



**Notes:** Thick solid lines (→): statistically significantly positive; thin solid lines (→): statistically significantly negative (H2d and H3d)

**Figure 2.** Research model outcomes

#### 4. Discussion

The theoretical research model developed in our study builds on the theory of the firm's growth (Penrose, 1959). It is also inspired by the literature on innovation-related models of internationalisation, which together with the firm's growth theory, emphasise the influential role of firms' managers and owners for the firms' (exportation) growth strategy (Lautanen, 2000; Andersen, 1993; Cavusgil, 1984). For this purpose, we investigated the association between the firms' (managers and owners) growth ambitions and pursuance of innovation-based growth strategies to succeed in export markets. As the result of our analysis indicates, the firms under assessment do follow innovation-based growth strategies as in continuation of their growth ambitions, however, not equally for all types of innovation. In the following, we discuss the results of our study in details.

##### 4.1 Growth ambitions drive focus on product and business model innovation

Our hypotheses concerning the importance of growth ambitions for the firm's focus on innovation activities were supported with regard to product and business model innovation. A focus on product innovation provides the firms with the opportunity to differentiate their

offers from competitors and consequently enter new markets and meet customers' needs. Growth ambitions thus encourage them to focus on this type of innovation. This finding is in line with previous research since in small enterprises product innovation could be considered as the most important result of the company's innovative process (De Jong and Vermeulen, 2006). Some scholars have also empirically argued that SMEs are inclined to focus their endeavour more on product innovation than process innovation in order to pursue their growth (Wolff and Pett, 2006). It would, however, be still valuable to see how these firms manage to pursue product innovation strategies. In this regard, Kumar *et al.* (2012) in their study on innovation patterns of SMEs indicate that SMEs pursue an "open innovation model" in order to be able to innovate successfully. The result of OECD's (2010, p. 5) study also provides interesting outcomes in terms of the way small companies pursue innovation: "Small firms do not innovate by themselves but in collaboration with suppliers, customers, competitors, universities, research organizations and others. Their networks help them overcome some of the obstacles to innovation linked to their small size". We believe this area can be further examined in the future research in the field.

Apparently, the firms also consider concentration on business model innovation as a growth option. Chesbrough (2007, 2010) regards business model innovation as a strategy beyond technological innovation, which may act complementary to better commercialise the firm's newly developed products. As discussed in the theory chapter, this type of innovation represents the administrative and managerial system of the company (O'Cass and Weerawardena, 2009), which might be related to the firm's management of internal and external relationships in the effort to meet customer needs. It may also be innovation oriented towards pursuing innovative marketing strategies which could enable the firm to gain superior foreign market performance (Knight, 2000).

#### *4.2 Growth ambitions do not lead to increased focus on process or service innovation*

Our hypotheses concerning the importance of growth ambitions for service and process innovation focus were not supported. That the SMEs in our sample have more focus on product (goods) innovation than service innovation could be partly explained by the fact that the majority of the analysed firms (more than 53 per cent) operate in manufacturing sectors. Furthermore, 55 per cent of the SMEs operating in service sectors belong to less knowledge-intensive service sectors (where there is not much need for being innovative) meaning in total only 18.9 per cent of the participating SMEs belong to knowledge-intensive service sector. Among manufacturers the split is almost equal between high-tech and low-tech manufacturing sectors. Many manufacturing firms indicate that they also offer service elements to foreign customers, but apparently they are more preoccupied with the development of new or improved products rather than services. Especially on foreign markets with longer distances it makes sense that focus is more on physical products rather than intangible services.

In terms of process innovation, we do not see any significant association either. There may be different explanation for this finding. First, the participating firms are quite small (average size around 37 employees) and such firms may compete more on product quality and close customer relationships than on cost efficient production. Therefore, production process innovation may not be in focus. Another reason may be that production process innovation may often require higher investments that adopting new products. Again small size would predict less emphasis on innovations with high investments.

#### *4.3 Only product innovation is positively associated with export degree and scope*

In the second part of our model, we analysed the association of the growth strategies with the firm's export degree and scope. We found that only product innovation focus has a significantly positive association with firms' export degree and scope. Product (goods)

innovation is the most frequently type of innovation investigated in the literature studying innovation in exporting SMEs, and in line with our findings, most of the studies, except Freel (2000), have found positive and significant relationships between firms' product innovation and in particular their export degree (see e.g. D'Angelo *et al.*, 2013; Sass, 2012; D'Angelo, 2012; Olmos, 2011; Bagchi-Sen, 2001). Literature within the field of technology and innovation management also provides same type of results for the impact of product innovation on export degree (Pla-Barber and Alegre, 2007; Atuahene-Gima, 1995), and market scope (Hitt *et al.*, 1997). As alluded to before, the reason is probably that the product itself is the by far most important basis for a firm's competitiveness on international markets.

Neither service nor process innovation focuses have significant associations with the firm's export degree or scope. In terms of service innovation, the results of the literatures in the field are more ambiguous. A considerably lower number of studies investigate service innovation in exporting SMEs and those who do, often combine it with goods/merchandise innovation where they define their independent variable generally as product/service innovation (see e.g. Weerawardena *et al.*, 2015; Raymond *et al.*, 2014; Halilem *et al.*, 2014; Ganotakis and Love, 2011; Hessels, 2007). Results in these studies are mixed. For example, Raymond *et al.* (2014) and Weerawardena *et al.* (2015) have found positive and significant impact of the innovation on the determinant of SMEs' export performance, while the results of the empirical analyses of Halilem *et al.* (2014) and Ganotakis and Love (2011) do not claim so.

Similar to service innovation, process innovation is not associated with the firm's export degree and scope. As discussed earlier, the firms in our sample are mainly small companies, and as our results depict, they do not benefit from this type of innovation in terms of their export degree and scope. Our result in this matter is in line with Halilem *et al.* (2014), D'Angelo (2012), and Olmos (2011), who did not find significant relationship between process innovation and the firm's export prosperity, but other studies actually found the opposite (e.g. Sass, 2012; Bell *et al.*, 2004). Nevertheless, as discussed by Hessels (2007, p. 251), "a focus on internal processes and cost reduction may also imply that enterprises are not concentrating so much on seeking foreign market expansion, which may explain why no significant effect was found on the propensity of enterprises to export".

#### *4.4 Business model innovation has a negative association with both export degree and export scope*

In terms of business model innovation focus, we observe negative association with export degree and scope. Pursuing the business model innovation strategy could be too resource demanding for these firms since they are predominately small enterprises, which have already allocated some of their resources to their internationalisation activities. When engaging in export activities, the business model innovation strategy is based on domestic production, yet concentrates on an adaptive strategic approach to internationalised markets through direct foreign sales as well as the firm's agents and subsidiaries in the export markets. Therefore, designing and implementing a business model innovation strategy in an international setting requires the firm's resource allocation to a high extent, since the firm has to deal with both domestic production issues and international concerns such as differences among its export markets and geographical locations (Rask, 2014).

In addition, concentrating on business model innovation strategy by some of these firms may also be interpreted as an indication that the firms are struggling in their export markets, and they strive for their international success by means of business model innovation. However, as the result of our analysis depicts, the firms have not been able to succeed in their export markets through pursuance of this type of innovation. As Chesbrough (2010, p. 354) explains: "while companies may have extensive investments and

processes for exploring new ideas and technologies, they often have little if any ability to innovate the business models through which these inputs will pass". Therefore, it has been important for us to investigate the pursuance of this type of innovation along with the other ones in order to capture a comprehensive picture of the firms' innovation-based strategies.

As mentioned before, there has been little empirical research carried out on the association between business model innovation and internationalisation (Rask, 2014; Onetti *et al.*, 2012). Adopting a new business model will often be very costly since a lot of tacit knowledge is involved when changing, not only inside the firm, but also in the way it manages its external relationships with customers, suppliers, and other stakeholders. This result is in line with Imbriani *et al.* (2014) who observed a negative effect of marketing innovation on (Italian) SMEs' export participation when they target upper-quality markets. Other studies did not observe any relation either; Sass (2012) found that competitiveness of firms (measured by export degree and destination) in her sample (Hungarian SMEs) was not connected to marketing innovation. Vila and Kuster (2007) also found marketing innovation as unrelated to the SMEs' export performance.

## 5. Conclusion and managerial implications

This study addresses a gap in the body of literature on innovation and export in SMEs regarding the lack of information on different types of innovation and their influence on the firms' performance (Love and Roper, 2015). It contributes to the field by investigating the association between different types of innovation-based growth strategies and the firms' performance in their export markets. Looking at both innovation and exportation as growth strategies, the firms' growth ambition is also studied as an antecedent of innovation focus.

It is well known that growth ambitions vary between firms. Our results show that high growth ambition has two distinct implications for the innovation activities of firms: more focus on product innovation as well as more focus on business model innovation. The results suggest that the first part (product innovation) contributes positively to the export degree and scope, while increased focus on business model innovation is negatively associated with export performance. As a consequence, we have identified a path where firms want to grow but in fact focus on the innovation efforts reduces their export prosperity. It is possible that business model innovation may include change processes in the entire firm and include difficulties with definition, choices, and resources with regard to implementation. Then, business model innovation may be a high risk effort distracting the focus on, for example, motivation of distributors or sales initiatives. Small adjustments of the offering to the markets through business model innovation may not be enough to succeed, while radical redefinition of the way the company is designed includes high risks and puts pressure on limited resources.

For managers, the key implication of this study is that focus on product innovation seems to be a valid path to increased export prosperity. Managers should ensure that enough resources are directed at product innovation. The firm's products represent the basic offer to the market and competitive products are more important than all other innovation-related aspects.

## 6. Limitation and future research

The key methodological problem when investigating the relationship between innovation and export in companies is the simultaneous effects of them on each other (Filipescu *et al.*, 2013). On one hand, innovation can influence the firm's export prosperity either indirectly through increasing the firm's productivity (Golovko and Valentini, 2011; Cassiman and Golovko, 2011; Cassiman *et al.*, 2010), or directly by providing the firm with upgraded and differentiated customer values (D'Angelo, 2012; Alegre *et al.*, 2012; Golovko and Valentini, 2011) and price advantage due to cost reduction (Yeoh, 2014; Hughes *et al.*, 2010;

López Rodríguez and García Rodríguez, 2005). On the other hand, the firm's export activity can influence its innovation performance through learning-by-exporting advantage (Esteve-Pérez and Rodríguez, 2013; Golovko and Valentini, 2011), and increasing the scale effect as well as the competition level (Halilem *et al.*, 2014; Govindaraju *et al.*, 2013). In this regard, Nassimbeni (2001) argues that this type of bi-directional relationship (i.e. cause and effect) can exist not only when investigating the relation between innovation and export, but also among the company's export activity and other factors. Therefore, he indicates that this type of analysis is not in fact a causal model, but rather is a type of study which identifies the factors that best characterize the firms' export prosperity. We believe this is also the case in our study. Nevertheless, it is still interesting to examine the association between export activity and different types of innovation in future research.

The other topic than can be further studied in future research is to investigate the association between open innovation strategy and SME export prosperity. Recent research on innovation patterns of SMEs indicates that these firms pursue an "open innovation model" in order to be able to innovate successfully (see Kumar *et al.*, 2012). However, except few (e.g. Wynarczyk, 2013), there is little research carried out on this topic. As the result of our analysis reveals, SMEs are able to achieve success in their export market through pursuance of product innovation strategy, but not process. Therefore, it is valuable to see how these firms manage to pursue the former strategy, and studying open innovation strategy in this regard may provide interesting outcomes.

Other aspects that need to be focussed in further studies are related to business model innovation. The relationship between growth ambitions, business model innovation and different export-related performance elements need to be studied, as well as other firm and environmental factors that may contribute to understanding of the complex issue of business model development.

## Notes

1. These models are formed by several successive stages that, although different in numbers, can be generally divided into three main phases: pre-export, initial export, and advanced export (Leonidou and Katsikeas, 1996). Since the focus of our study is to investigate the antecedent and outcomes of different types of innovation as complementary growth strategies for the exporting firms, we do not concentrate on the development stages of the firms' exportation process. Rather, being inspired by the other elements of the theory (i.e. the emphasis on the influential role of the firms' managers and owners in behaving towards the firms' exportation growth strategy), we investigate the association between the firms' (managers and owners) growth ambitions and pursuance of the innovation-based growth strategies, as complementary strategies to succeed in export markets.
2. There were only a few firms with less than four employees "at the time of data collection", and they were considered in the study.

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		Reference <sup>a</sup>
Firm's growth ambition	<i>To what extent do you agree with the followings?</i> Growth is a strong desire for the company's management Growth is a strong desire for the company's owners	Andersen and Suat Kheam (1998), Strandskov (1994)
Innovation focus	<i>How much focus does the company have on the development activities listed below?</i> Product innovation focus Improvement of existing product Development of new product Service innovation focus Improvement of existing service Development of new service Process innovation focus Improvement of existing production process Development of new production process Business model innovation focus Improvement of existing business (the way the company benefits) Development of new business model	Little (2012), Weerawardena (2003a, b)
Export degree	Percentage of the firm's sale in export markets (in 2013)	Leonidou <i>et al.</i> (2007)
Export scope	Approximately how many countries were the company's products/ services sold in 2013 (excluding Norway)?	

**Table A1.**  
The list and wording of the variables used in the study

**Notes:** <sup>a</sup>The measures used in the questionnaire were taken from the aforementioned articles and surveys in the field. In some cases, when developing our measures, we were inspired by the references rather than using them directly since we needed to translate and modify them to Norwegian. Except the export degree and export scope that were actual numbers, the rest were seven-point-Likert-scales

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