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Product Development Drivers: An Explorative Study in Finland and China

Jukka Majava
University of Oulu, Finland

Kris M. Y. Law
Hong Kong Polytechnic University, Hong Kong

Harri Haapasalo
University of Oulu, Finland

Y. C. Chau
City University of Hong Kong, Hong Kong

Osmo Kauppila
University of Oulu, Finland

New Product Development (NPD) is vital for companies that operate in international markets. Yet, NPD has become increasingly challenging to manage; products are becoming ever more complex and various customers and multiple stakeholders' needs must be satisfied. Additionally, NPD is often conducted in multiple locations around the world. Product development drivers can be defined as reasons for a company to initiate a product development project. These drivers affect decision-making, project outcome, and product strategy implementation. This study explores how product development drivers are perceived at the managerial level in technology companies based in Finland and China. The results indicate that managers' views on these drivers differ in short-, medium-, and long-term development projects. Marketing and customers related drivers are considered the most important in the short term; financial goals related drivers in the medium term, and strategy and business environment related drivers in the long term. Furthermore, differences are found between Finnish and Chinese managers' views. Finnish practitioners tend to be more focused on financial goals related drivers, whereas Chinese managers consider various factors important.

Keywords: new product development (NPD), driver, innovation, technology, Finland, China

Introduction

Innovation and product development are vital for firms to achieve their objectives, as new products can enhance revenue, profitability, market position, and company's value (Chesbrough, 2003; Cooper, 2011). Authors, such as

Schumpeter (1939) and Pavitt (1990), have made significant contributions to the innovation and product development discussion over the decades. Product development and factors that affect its performance have been researched from various viewpoints (e.g. Hilletofth & Eriksson, 2011).

Currently, products often consist of physical and immaterial elements that are developed in global networks. Various types of new products exist, ranging between radically new products and small modifications of present products (Kotler & Keller, 2009). In addition, product development includes many types of activities, for example, research and development (R&D), platform, revolutionary, and derivative projects (Schilling & Hill, 1998). Product development is cross-functional in nature and therefore it involves most company functions. There are various stakeholders whose needs must be considered by utilising integrated development methods, for instance, concurrent engineering and Design for Excellence (DfX).

The driving factors for product development impact decision-making and the project outcome in organisations, and these factors must therefore be clarified. Cooper (2011) argues that there are four key drivers for new product development (NPD): changes in customer needs, technology advances, shorter product life cycles, and increasing globalisation. On the other hand, the overexpansion of product portfolio can also become an issue (Tolonen, Shahmarichatghieh, Harkonen, & Haapasalo, 2015). Previous literature that relates to the drivers for product development has included topics, such as strategy typology, originally presented by Ansoff (1957), the technology-push vs. market-pull debate (e.g., Rothwell, 1992), and product development and innovation drivers in certain industries (Bossink, 2004; Hassanien & Dale, 2012; Kinkel & Som, 2010). However, studies focusing solely on product development drivers are rare in the literature.

Majava, Haapasalo, Belt, and Mottonen (2013) found significant differences in individual product development drivers among project types, and the study also indicated differences in the drivers among companies. In this paper, we build upon the previous work and explore the differences in views on product development drivers among practitioners based in different countries and cultural settings, a topic that has not been sufficiently addressed in the literature. The objectives of this exploratory paper are to elaborate on why product development is carried out in companies, as well as to explore how the views on drivers differ between Finnish and Chinese managers. While both Finland and China are export-oriented countries, the differences include size, culture, and economic development phase making the countries interesting points of comparisons. Accordingly, the research questions in this paper are set as follows:

1. What are the main drivers for product development according to practitioners in Finland- and China-based technology firms?

2. Can differences in these drivers be found between the Finnish and Chinese managers?

This paper provides a literature review on product development drivers, and presents the main drivers that are used as the basis for an empirical survey. The aim has been to conduct a broad review of relevant titles to identify different type of product development drivers and synthesise a list of these drivers based on the past literature. The empirical study explores how managers in Finland- and China-based technology companies value the drivers in different project types. After the data analysis, conclusions are made.

Literature Review

Product development transforms market opportunities into production, sale, and delivery of completely or partially new products (Krishnan & Ulrich, 2001; Ulrich & Eppinger, 2012). New product categories include, for example, new-to-the-world products, new product lines, additions to existing product lines, revisions and improvements of existing products, cost reductions, repositionings, market pull, technology push, process-intensive products, platform products, and customised products (Booz Allen Hamilton, 1982; Cooper, 2004; Ulrich & Eppinger, 2012). Most new products are not completely new, but simply replications that differ only a little from existing products (Ettlie, 2006; Trott, 2002).

Product development projects can also be categorised in several ways, such as pure R&D, breakthrough, platform, derivative projects (Schilling & Hill, 1998; Ulrich & Eppinger, 2012), incremental improvements, and fundamentally new products (Ulrich & Eppinger, 2012). Established companies often focus on incremental innovations, which enable them to enter new markets with product revisions (Kotler & Keller, 2009).

There are many reasons for firms to initiate product development. From a financial perspective, new products can have a positive impact on revenues, profits, share prices, and market shares (Cooper, 2011; Kahn, 2001; Lantos, Brady, & Mccaskey, 2009). Cooper (2011) claims that new products are the key to corporate prosperity: they drive revenues, market shares, net results, and share prices. Improved profitability and market share are one of the targets of providing the offering (Kahn, 2001). NPD is important to the organisation success due to its key role in enabling growth, and NPD can also positively impact profit margins and share price (Lantos et al., 2009). In certain industries, 100 % of revenues come from products introduced less than three years ago (Cooper, 2011).

One of the key drivers for product development is strategy (Acur, Kandemir, & Boer, 2012; Ansoff, 1957; Kahn, 2001; Trott, 2002). Product strategy can be seen as the basis of development initiatives (Ansoff, 1957). A

new product strategy is connected to and derived from other strategies such as corporate, technology, and marketing strategy, which provide the role, context, push, and scope for the new product strategy (Trott, 2002). For example, a competitive strategy can drive product planning on a long-term or short-term basis. A new product strategy, in turn, is implemented via product development programmes (Kahn, 2001).

External environment is strongly related to strategy (Trott, 2002). The external environment includes many product development drivers, such as competition (Hassanien & Dale, 2012; Kahn, 2001) and shorter product life cycles (Cooper, 2011). Competition is increasingly intense, and new product introductions have accelerated in recent years (Cooper, 2011). Competition also drives up consumer expectations (Trott, 2002). In addition to competition, changes in the marketplace make NPD important (Lantos et al., 2009). New trends, including sustainability and globalisation, affect product development (Cooper, 2011; Hassanien & Dale, 2012; Nidumolu, Prahalad, & Rangaswami, 2009). For example, globalisation enables a firm to enter new markets, and provides opportunities for locally-tailored global products (Cooper, 2011). The external environment also includes constraints and opportunities related to, for example, technology, legislation, and new regulations (Kahn, 2001; Trott, 2002).

In addition, various factors related to marketing and customers stimulate NPD, including the aim to enhance company image and awareness (Kahn, 2001; Lantos et al., 2009), leverage brand equity, and offer an appropriate product mix (Lantos et al., 2009). Customer orientation is part of market orientation (Narver & Slater, 1990), and changing customer needs are a key NPD driver (Cooper, 2011). Customer attitudes and needs are constantly changing, and consumers expect to get new offerings (Cooper, 2011; Kahn, 2001). Customers and their feedback provide a source for new opportunities and improvements (Hassanien & Dale, 2012; Trott, 2002).

Technology-push and market-pull are typically seen as alternative drivers for product development (Hart, Hultink, Tzokas, & Commandeur, 2003; Kahn, 2001; Rothwell, 1992). Market and customer desires are utilised in market-pull development, while technology is the driving force for technology-push products (Ulrich & Eppinger, 2012). Market-pull development is comparable to a strategy-directed approach, whereas technology-push development closely parallels an idea-directed approach. Typically, organisations are biased toward one of these (Kahn, 2001). Technology developments form an important NPD driver, as they enable the creation of new products and solutions (Cooper, 2011; Bossink, 2004; Kahn, 2001), and result in shorter product life cycles, as well (Lantos et al., 2009). New opportunities can also be found from existing products, technology, and unexploited patents (Trott, 2002).

In addition to external inputs, companies also need their own foresight when it comes to product development (Hamel & Phalahad, 1994). The idea sources include senior and top management, and even individuals (Kahn, 2001; Trott, 2002). On the other hand, development of really new products often involves exploring and learning (Song & Montoya-Weiss, 1998). New pioneering products can be utilised for developing new competences in technical, operations, and marketing areas (Trott, 2002). Underused and new resources, such as excess capacity or an acquisition, may also provide product development opportunities (Hassanien & Dale, 2012; Kahn, 2001).

Drivers for different products and projects differ considerably. Key drivers for radical projects include technology convergence, environment and contextual factors, as well as individuals with a strong vision, whereas incremental products benefit more from customer input (Veryzer, 1998). Existing production capability is often utilised in the development of process-intensive products, whereas a customer-specific order is typically the driver for customised products (Ulrich & Eppinger, 2012). Suppliers, distribution channel members, and partners are also sources for new opportunities or drivers for product modification (Kinkel & Som, 2010; Trott, 2002).

Methodology

Survey Design

The survey design followed Majava et al. (2013). Various product development drivers identified in the literature review were synthesised and categorised in the following six categories: financial goals, marketing and customers, strategy and business environment, technology, internal push and resources, and supply chain. Table 1 describes the survey questionnaire design, driver categories, and individual drivers included in the study.

In the survey questionnaire, the respondents were asked to assess the driver importance in three different scenarios: (A) in short-term, small change, development; (B) in medium-term, typical full-scale development; and (C) in long-term, radical development. The drivers were evaluated by the survey participants utilising the following scale: 0 (not important), 1 (somewhat important), 2 (important), and 3 (very important).

Data Collection

The data collection among NPD-intensive companies was conducted in Finland and China. The informants were selected in close cooperation with the company representatives to ensure their knowledge of the studied issues. The Finnish data includes six firms operating in international markets in technology, IT, and electronics industries. The data includes a total of 41 valid responses from 65 managers at six different companies.

Table 1 Survey Questionnaire Design, Product Development Driver Categories, and Descriptions

How important are the following reasons for doing product development (PD)?
(1) In short-term (small change) development.
(2) In medium-term (typical full-scale) development.
(3) In long-term (radical) development.

Category	Driver	Description (why PD is conducted)
Financial goals	Revenue targets	To meet the revenue targets
	Profitability	To meet the profit targets
Marketing and customers	Brand and image	To enhance or leverage company brand and image
	Offering the right product mix	To create or maintain the right product portfolio to satisfy customers
	Customer request	Based on customer requirement, need, input, or idea
Strategy and business environment	Strategy	Due to company strategy
	Competition	To meet or exceed competition
	Ext. environment	Due to new trends, regulations or other changes
Technology	New technology	To exploit new technology
	Existing product or technology	Due to existing products or technology, such as unexploited patents
Internal push and resources	Underused resources	Due to available production capacity or development resources
	New resources	Because new resources are available, for example, through an acquisition
	Company's own foresight	Based on vision from management or individual champions
	Organisational learning	To acquire new competences that are needed in the future
Supply chain	Production process	To meet production process requirements
	Suppliers	Due to a supplier's new technology, idea, or change in the offering
	Partners	Due to a partner's new technology, idea, or change in the offering
	Distributors	Due to a distributor's need or change in the offering

The data collection in China (Pearl River Delta region) included IT electronics companies operating in international markets. By contacting them via phone and emails, 80 managers from 6 firms were reached. After the preliminary screening, survey questionnaires were sent to the 60 respondents selected and 49 valid samples were returned. Table 2 presents the number of responses in terms of respondent functions and positions.

Reliability and Validity

Due to the exploratory nature of the study, structural equation modelling (SEM) was not used. The reliability was tested based on the average inter-

Table 2 Respondents' Functions and Positions

Function	(1)	(2)	Position	(1)	(2)
Research and development	13	20	Vice president	5	2
Product management	12	15	Director	16	10
Marketing and sales	5	4	Senior manager/head	10	15
Operations and logistics	4	10	Programme/project manager	8	20
Other function	7	0	Other position	2	2
Total	41	49	Total	41	49

Notes Column headings are as follows: (1) Finland, (2) China.

Table 3 Mean Scores for Product Development Driver Categories

Term	Driver category	(1)	(2)	(3)
Short-term	Financial Goals	2.39	1.83	2.08
	Marketing and Customers	2.04	2.38	2.23
	Strategy and Business Environment	1.71	2.15	1.95
	Technology	1.35	2.09	1.76
	Internal Push and Resources	1.04	1.90	1.51
	Supply Chain	1.32	2.03	1.71
Medium-term	Financial Goals	2.68	2.29	2.47
	Marketing and Customers	2.33	2.38	2.36
	Strategy and Business Environment	2.24	2.35	2.30
	Technology	1.74	2.24	2.01
	Internal Push and Resources	1.44	2.17	1.84
	Supply Chain	1.26	2.14	1.74
Long-term	Financial Goals	2.59	2.43	2.50
	Marketing and Customers	2.24	2.48	2.37
	Strategy and Business Environment	2.51	2.64	2.58
	Technology	1.89	2.48	2.21
	Internal Push and Resources	1.66	2.34	2.03
	Supply Chain	1.27	2.13	1.74

Notes Column headings are as follows: (1) Finland (N = 41), (2) China (N = 49), (3) Overall (N = 90).

item correlation (i.e. Cronbach's alpha). Cronbach's alpha was used to assess the scale reliability of each construct in our model. The reliability of each construct was checked by using a multi-trait matrix presented in Tables 5, 6, and 7. The diagonal entries of the matrix are the reliability coefficients of individual constructs, whereas the off-diagonal entries are the correlation coefficients of pairs of constructs. In our model, the alpha of every factor was more than 0.70, which is a very good statistical result. The high value of suggests a high level of internal consistency of the data. The internal reliability of an individual construct is higher than the inter-construct

Table 4 Factor analysis

Category	Driver	Factor loadings
Financial goals	Revenue targets	0.915
	Profitability	0.915
Marketing and customers	Brand and image	0.801
	Offering the right product mix	0.662
	Customer request	0.847
Strategy and business environment	Strategy	0.696
	Competition	0.744
	External environment	0.648
Technology	New technology	0.825
	Existing product or technology	0.825
Internal push and resources	Underused resources	0.715
	New resources	0.844
	Company's own foresight	0.791
	Organisational learning	0.839
Supply chain	Production process	0.817
	Suppliers	0.837
	Partners	0.842
	Distributors	0.730

reliability (Churchill, 1979), which shows strong empirical support for discriminant validity. To ensure the internal consistency of the items, validity tests (i.e. factor analysis, Table 4) were done to ensure the items are contributing to the measurement. Reviewing the items of each construct was also performed prior to data collection to ensure items are not redundant.

Results

Product Development Drivers in Finland and China

Table 3 presents the mean scores of different driver categories given by all survey respondents in Finland and China. The importance of each driver category was calculated based on the scores of individual drivers. The scores are for three different scenarios: (1) short-term, small-change development; (2) medium-term, typical full-scale development; and (3) long-term, radical development. As can be seen in Figures 1, 2, and 3, the mean scores of some individual drivers including strategy, profitability, brand and image, competition, external environment, and offering the right product mix were quite similar between Finland and China, whereas greater differences can be observed in the mean scores of other drivers. Overall, the results indicate that marketing and customers is the most important product development driver category in the short-term, followed by financial goals, strategy and business environment, technology, supply chain, and internal push

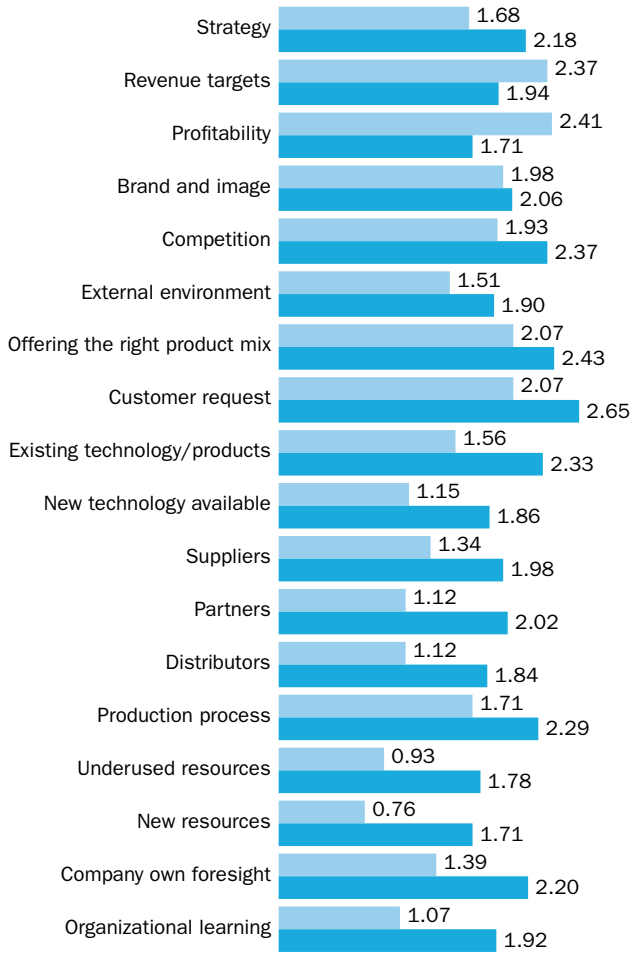

Figure 1 Product Development Drivers and Their Importance in Short-Term Development (light – Finland mean, dark – China mean)

and resources. On the other hand, in the medium-term financial goals was seen as the most important driver category, followed by marketing and customers, strategy and business environment, technology, internal push and resources, and supply chain. Finally, the overall results indicate that strategy and business environment is the most important product development driver category in the long-term, followed by financial goals, marketing and customers, technology, internal push and resources and supply chain.

Interestingly, the mean scores were noticed to differ among Finland- and China-based managers. These differences are further illustrated in Figures 4, 5, and 6. Figure 4 highlights financial goals as the most important short-term product development driver category among Finland-based managers,

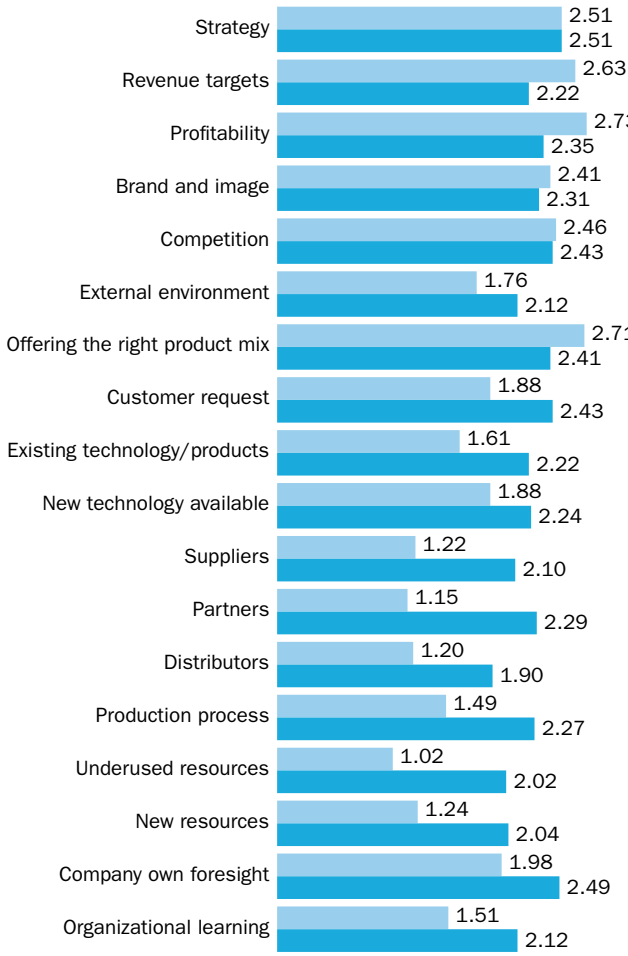

Figure 2 Product Development Drivers and Their Importance in Medium-Term Development (light – Finland mean, dark – China mean)

whereas marketing- and customers-related drivers are the most important for Chinese managers. The respondents based in China also saw strategy and business environment, technology, internal push and resources, and supply chain-related drivers as more important in the short-term development compared to the Finnish respondents.

Figure 5 highlights financial goals as the most important medium-term product development driver category among Finland-based managers. Marketing and customers and strategy and business environment-related factors were seen as the most important drivers among China-based respondents. These two driver categories were also considered almost equally important in Finland. Finally, the Chinese respondents considered technol-

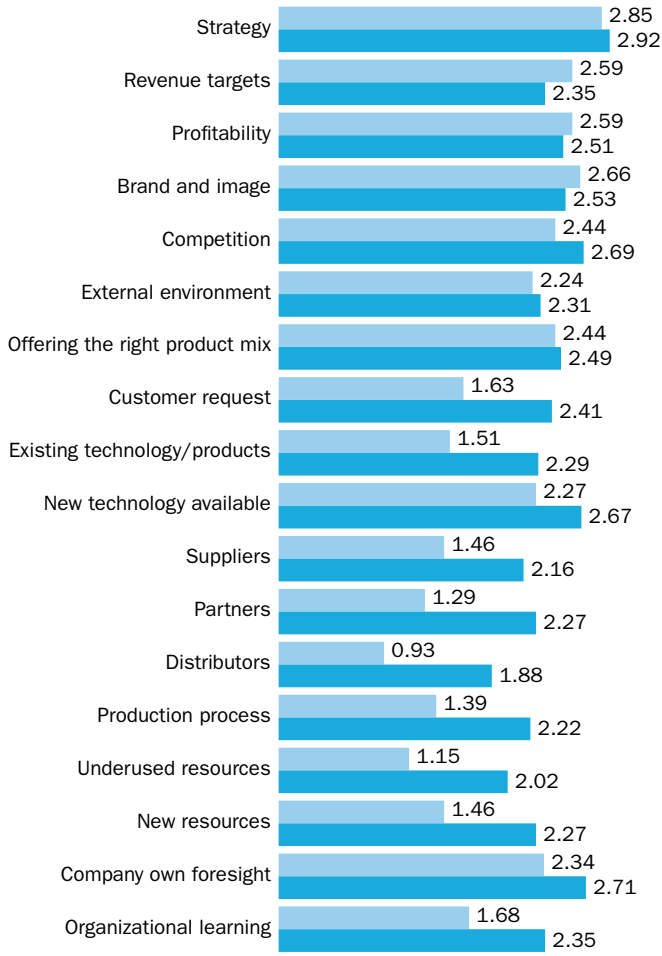

Figure 3 Product Development Drivers and Their Importance in Long-Term Development (light – Finland mean, dark – China mean)

ogy, internal push and resources, and supply chain-related drivers to be far more important in the medium-term development compared to the Finnish respondents.

Figure 6 highlights the importance of strategy and business environment-related drivers in long-term product development, both in Finland and China. Financial goals were seen as almost equally important among Finnish and Chinese respondents, whereas marketing- and customers-related drivers were considered somewhat more important in China than in Finland. Finally, the respondents based in China perceived technology, internal push and resources, and supply chain-related drivers as far more important in the long-term development compared to the respondents based in Finland.

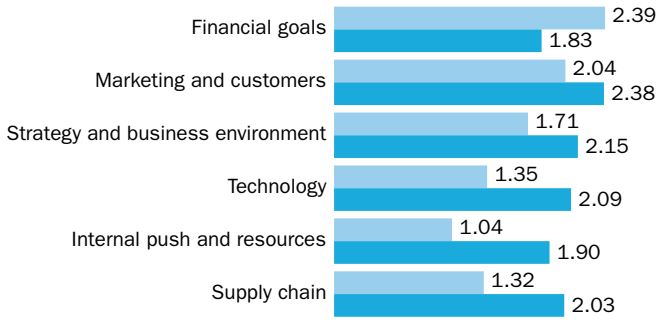

Figure 4 Driver Categories and Their Importance in Short-Term Development (light – Finland, dark – China)

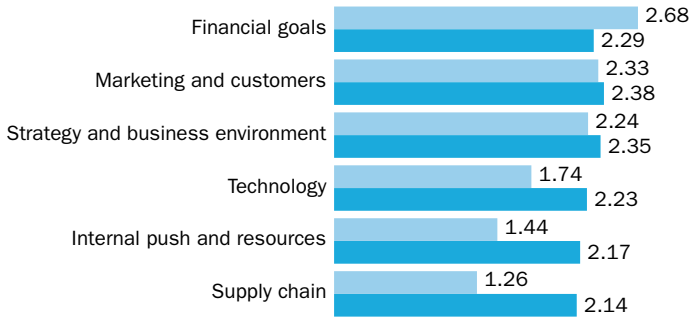

Figure 5 Driver Categories and Their Importance in Medium-Term Development (light – Finland, dark – China)

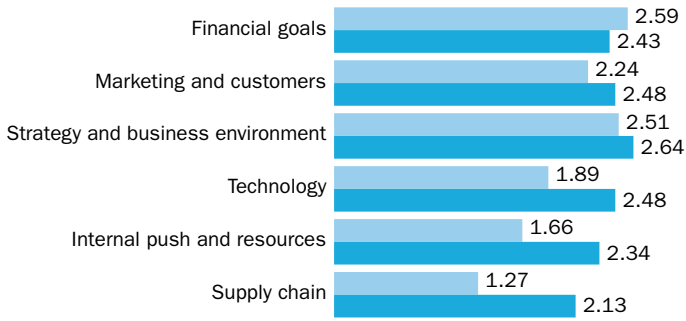

Figure 6 Driver Categories and Their Importance in Long-Term Development (light – Finland, dark – China)

Correlations among the Driving Factors

In addition to mean score analysis, the correlations among the product development driver categories were calculated. The correlations are presented in Tables 5, 6, and 7.

Table 5 Inter-Correlations of Variables (Short-Term)

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) Financial Goals	0.93					
(2) Marketing and Customers	–0.00	0.69				
(3) Strategy and BE	0.01	0.48**	0.73			
(4) Technology	–0.05	0.35**	0.39**	0.84		
(5) Internal Push and Resources	–0.13	0.49**	0.48**	0.57**	0.88	
(6) Supply Chain	–0.06	0.36**	0.35**	0.53**	0.68**	0.89

Notes ** *p*-value significant at <0.01.

Table 6 Inter-Correlations of Variables (Medium-Term)

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) Financial Goals	0.92					
(2) Marketing and Customers	0.16	0.72				
(3) Strategy and BE	0.33**	0.38**	0.72			
(4) Technology	0.04	0.40**	0.28**	0.84		
(5) Internal Push and Resources	–0.04	0.37**	0.46**	0.61**	0.89	
(6) Supply Chain	0.02	0.37**	0.43**	0.54**	0.78**	0.90

Notes ** *p*-value significant at <0.01.

Table 7 Inter-Correlations of Variables (Long-Term)

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) Financial Goals	0.94					
(2) Marketing and Customers	0.29**	0.79				
(3) Strategy and BE	0.26*	0.49**	0.75			
(4) Technology	0.00	0.36**	0.49**	0.84		
(5) Internal Push and Resources	0.09	0.49**	0.47**	0.63**	0.85	
(6) Supply Chain	0.23*	0.46**	0.41**	0.56**	0.77**	0.92

Notes * *p*-value significant at <0.05. ** *p*-value significant at <0.01.

Significant and strong correlations among the technology, internal push and resources, and supply chain can be found in the short term (Table 5). On the other hand, financial goals shows extremely insignificant and weak correlations with other factors, although it is the most dominant driver among Finnish managers and one of the strongest drivers among all surveyed respondents.

In Table 6, the correlations among factors in the medium term, supply chain is significantly and strongly correlated with internal push and resources (r = 0.78**), while technology and internal push resources are of high correlation (r = 0.61**). The result echoes the short-term results. Interestingly, financial goals is found to correlate with strategy and business environment.

Table 7 shows significant and strong correlations among the technology, internal push and resources, and supply chain in terms of long-term development. No correlation is found between financial goals and technology and financial goals and internal push and resources, whereas correlations exist among other factors.

Discussion

Various drivers initiate product development efforts in firms. In this study, these drivers were analysed in the following categories: financial goals, marketing and customers, strategy and business environment, technology, internal push and resources, and supply chain. The main drivers of product development among Finnish and Chinese managers were found to differ in relation to short-, medium- and long-term development.

Drivers for Short-, Medium, and Long-Term Development

Regardless of specific regional differences, managers generally perceive a higher level of importance in relation to marketing and customers for short- ($\mu = 2.23$) and medium-term ($\mu = 2.36$) situations, while the financial goals and strategy and business environment aspects are perceived as more important for medium- and long-term situations. This may imply that managers are more concerned with their business strategy and financial performance in the long run, whereas product development in the short term is mainly driven by the market demands and customers. This can be well explained, as customers in the market generally demand very fast response times. For the medium- to long-term situation, companies would pose their visions of targeting financial goals and business sustainability. In addition, customers' long-term needs and requirements are difficult to identify and, therefore, these do not typically drive the long-term development.

Significant correlations among the technology, internal push and resources, and supply chain were found in the short-, medium-, and long-term development (Tables 5–7). This implies that these driving factors are viewed as highly related, although they are not seen as the dominating factors driving product development. For example, improving the reliability of supply chain can be important (Puurunen, Majava, & Kess, 2014). On the other hand, the weakest correlation with other factors was found for financial goals. It was found to have a correlation with strategy and business environment in medium-term development, which implies that the managers included in the survey incorporate financial goals with medium-term strategic issues. In the long-term development, financial goals was found to have correlation with strategy and business environment, marketing and customers, and supply chain.

Differences between Finland- and China-Based Managers

Notable differences can be identified between Finland- and China-based managers. For short-term development, Finnish managers perceive financial goals (μ = 2.39) as the most important driving factor, while Chinese practitioners perceive this to be marketing and customers (μ = 2.38). However, when comparing the factors on the low side, respondents from China generally perceived they are of higher importance levels. The least important factor perceived by Chinese managers was financial goals (μ = 1.83), while for Finns it was internal push and resources (μ = 1.04).

For medium-term development, Finnish managers perceive financial goals (μ = 2.68) and marketing and customers (μ = 2.33) to be the most important drivers, while Chinese managers identify marketing and customers (μ = 2.38) and strategy and business environment (μ = 2.35).

For long-term development, Finnish practitioners perceive financial goals (μ = 2.59) and strategy and business environment (μ = 2.51) as the most important drivers, whereas Chinese managers see strategy and business environment (μ = 2.64), marketing and customers (μ = 2.48), and technology (μ = 2.48) as the most important driving factors.

Finnish and Chinese managers show obvious discrepancies in viewing the driving factors, especially for the short-term development. Financial goals was considered the most important short-term product development driver category among Finland-based respondents, whereas marketing and customers-related factors were the most important drivers according to China-based respondents. In addition, technology, internal push and resources, and supply chain were seen as more important among Chinese than Finnish managers in all development scenarios. Furthermore, some individual drivers were viewed rather inconsistently among Finnish and Chinese practitioners. For example, Chinese managers saw suppliers, partners, and distributors much more important than Finnish managers. The results may indicate that Finnish and Chinese managers have different management mentalities: Finnish managers generally perceive a few specific factors driving product development, while Chinese managers take more factors into consideration. Finnish practitioners tend to be more focused on financial goals compared to Chinese, especially in short- and medium-term development.

Implications

Several product development drivers have been described in the literature (e.g. Cooper, 2011; Hassanien & Dale, 2012; Trott, 2012), and these drivers have been argued to differ between project types (e.g. Veryzer, 1998). This study analyses the product development drivers in the following categories: financial goals, marketing and customers, strategy and

business environment, technology, internal push and resources, and supply chain. Dividing product development into technology-push and market-pull categories (Hart et al., 2003; Rothwell, 1992) is commonly used in contemporary literature, but the results of this study support the findings by Hassanien and Dale (2012) and Majava et al. (2013) by indicating also many other important drivers.

This study contributes to the existing body of knowledge by indicating that the main drivers of product development among Finnish and Chinese managers differ in relation to short-, medium- and long-term development (Table 3). In spite of regional differences, managers generally perceive a higher level of importance in relation to marketing and customers for short- and medium-term situations, whereas financial goals and strategy and business environment are perceived as more important for medium- and long-term situations. The importance of strategy as a driving factor for product development has been stressed in the literature (e.g. Trott, 2012), but in this study marketing and customers and financial goals were seen as more important than strategy in short- and medium-term development.

This study indicates that views on product development drivers can vary greatly among project types and managers based in different countries. While the differences can be due to many reasons, aligning product development drivers properly could positively impact decision-making and project results. Thus, product development intensive organisations, especially those with international operations, should systematically clarify their project drivers and take cultural differences into account, especially when location-decisions for product development sites are made.

The results indicate differences in views on product development drivers between Finnish and Chinese managers. Finnish managers tend to be more focused on financial goals compared to Chinese managers, especially in short- and medium-term development. In addition, technology, internal push and resources, and supply chain were seen as considerably more important by Chinese than Finnish managers in all development scenarios. Companies should acknowledge that the drivers are situation-specific and that differences exist between different cultures. Product development organisations should invest in finding out their key drivers and ensure that the views are internally aligned. Clarifying product development drivers could be used as a tool for strategy implementation, and for building the right motivation and commitment in different type of projects. The drivers should also affect project objective setting and success criteria.

Conclusions

Product development is vital for many businesses today. In addition, products are becoming ever more complex, and various customers and multi-

ple stakeholders' needs must be met. The management of product development in international development networks is increasingly challenging. Thus, the original drivers for product development projects are important to clarify, as they influence decision-making and the development results.

This paper presented an exploratory study on how practicing managers perceive product development drivers in NPD-intensive organisations in two export-oriented yet significantly different countries: Finland and China. The study analysed drivers in different types of development, and described the differences between Finland- and China-based managers. The overall results indicate that marketing and customers is the most important product development driver category in the short-term; financial goals in the medium-term; and strategy and business environment in long-term development. Moreover, the study indicates important differences between Finnish and Chinese managers.

Finally, the exploratory nature of this study should be stressed. The key limitations include low number of studied firms and respondents, which makes statistically reliable comparisons difficult. The authors propose to validate the results by conducting further studies with larger sample sizes.

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Jukka Majava is an adjunct professor and university lecturer in the Industrial Engineering and Management research unit at the University of Oulu. His industrial experience includes technology and ecosystem marketing, partner and project management, and business and supply chain development at Nokia Corporation. Dr Majava's research interests include innovation and product management, business networks, and operations and service management. *jukka.majava@oulu.fi*

Kris Law obtained her first degree in the field of manufacturing engineering and her MPhil in machine technology. Her PhD focusses on the field of organisational learning and development and she is currently a teaching fellow at the Hong Kong Polytechnic University. Dr Law has been invited as visiting scholar internationally and is also involved in many industry-related projects in the field of organisational learning and innovation management. *kris.law@polyu.edu.hk*

Harri Haapasalo is Professor in Industrial Engineering and Management at the University of Oulu. He has a PhD in Technology Management and a master's degree in Economics and Business Administration, both from the University of Oulu, Finland. His research interests include planning, product development, and technology commercialisation. *harri.haapasalo@oulu.fi*

Y. C. Chau received his MBA from the University of South Australia and his PhD from the City University of Hong Kong. He is Adjunct Professor at City University of Hong Kong. His main research interest focuses on the development of an organisational learning strategy and model and its effective implementation. *ycchau@sae.com.hk*

Osmo Kauppila is a university lecturer in Industrial Engineering and Management research unit at the University of Oulu. His research interests include a wide range of topics related to quality management, in particular the use of applied statistical methods, evaluation processes and integrated management systems. *osmo.kauppila@oulu.fi*