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Perception of Innovativeness in Companies and Business Environment Institutions

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The aim of this paper is to present key features of innovative enterprise in opinion of entrepreneurs and Business Environment Institutions. The survey conducted among entities from selected EU region reveals how innovativeness is described by entrepreneurs and institutions which supporting them. It appears that the key feature of an innovator is ability to quickly adapt to market changes by modifying offered products and processes. The significant problem, identified by the survey, is insufficient cooperation between entrepreneurs and universities/research centres. According to this, it is indispensable to create adequate mechanisms, which on the one hand would activate academic world to commercialize their research and on the other hand improve the research information flow.

Key words: innovativeness, enterprise, Business Environment Institutions, R&D

Introduction

A review of the scholarly literature exposes that innovation may be defined in many various ways, including its narrow technological aspect and its wider capture considering organizational and process changes in companies. The first definition of innovation was introduced by Joseph Schumpeter and it focuses mainly on tangible aspects of innovations, directly connected with production (Schumpeter 1934). Imperfections of Schumpeterian definition were later revealed by Peter Drucker (Drucker 2007), Andrew Hargadon and Robert I. Sutton (Hargadon and Sutton 2000). Their propositions of innovation definition are more focused on intangible perspective, including hard work and knowledge exchange. The dissonance also appears in academics opinions about re-using available solutions. According to Schumpeter, new implication of old ideas cannot be called innovation (Schumpeter, 1934). On the contrary, Hargadon

and Sutton describe implementing old solution into new context as a one of its main sources (Hargadon and Sutton 2000).

This variety of definitions and multidimensional analysing innovations and innovative projects create unfavourable conditions for pursuing coherent policy on innovation development, because particular institutions responsible for this process at country and regional level may differ in its interpretation. As a result, potential beneficiaries meet various requirements, which causes that the aid is addressed to heterogeneous group of recipients, which reduces its efficiency. However, more significant problem is an adequate interpretation of this term by entrepreneurs. The lack of one, coherent approach causes that entrepreneurs have problem with proper judgement if their planned projects are innovative or not. As a result, they do not know if they have any chance to receive financial or advisory help from supporting activity of Business Environment Institutions. The lack of this support may hinder the realisation of planned development projects. This situation was a premise to carry out a research on identifying the key factors of innovative enterprise. The research was conduct among Business Environment Institutions and entrepreneurs, which allows diagnosing significant differences in interpretation of analysing terms in both populations.

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A term 'innovation' is derived from Latin 'innovatio' which means 'renovation' or 'innovare' which means 'to renew,' 'to revive,' 'to regenerate.' Generally, there is a tendency to use this term to describe new thing, activity or method that has never been used in practice before. The first scholar who has implemented 'innovation' term on the field of economics was J. A. Schumpeter. In 1911, he formulated the innovation definition, which is still quoted by economic theoreticians and practitioners. According to Schumpeter, as an innovation could be considered (Schumpeter 1934, 66):

- The introduction of a new good, or of a new quality of existing goods.
- The introduction of a new method of production (scientifically new or already existed but significantly upgraded).
- The opening of a new market.
- The application of new selling or buying methods.
- The conquest of a new source of supply of raw materials or half-manufactured goods.

• The introduction of the new organization of production process.

The most distinctive characteristic in presented definition is the use of 'new' adjective. According to Schumpeter, only the first application of specific solution is an innovation, further dispersal of the idea should be called imitation. It is worth to notice that in his definition Schumpeter focused particularly on technological aspects of innovation, underestimating its organisational dimension. Finally, Austrian academic concentrated exclusively on technological innovation, which he defined as: 'new combination of means of production, that is, as a change in the factors of production (inputs) to produce product (outputs)' (Schumpeter 1939, 87).

By contrast, P. F. Drucker defined innovation as a specific instrument of entrepreneurship, which is an activity that endows resources with new ability to create wealth (Drucker 2007). This definition emphasizes the necessity of active identifying changes in business environment and analysing capacity of their use in order to create new ideas. Considering innovation from this perspective reveals that innovation may appear not only in technological process, which is characteristic of Schumpeterian reflections.

According to Drucker, innovations permeate all spheres of company activities and may be related to product changes, changes in marketing policy (promotion, channels of distribution, extra services, etc.), changes in methods of management, organisational changes. As the main drivers of innovation may serve (Drucker 1998):

• Entrepreneurs' own unexpected successes and failures, including implementation of new products or unexpected external incident (i. e. natural disaster).
• Incongruity between reality and presumed, predicted state, because it introduces necessity of searching new, uncommon solutions.
• Necessity of improving production process' weaknesses.
• Surprising changes in market structure.

Drucker presents innovations as activities derived from changes in company and its environment that implement brand new ability to create wealth. In contrary to Schumpeter definition, innovation in Drucker's considering is rather social-economic than technological phenomenon. According to him, innovation requires hard work and regularity connected with analysing available opportunities and searching for their effective exploitation.

Hargadon and Sutton present different perspective of innovation. They considered innovation as an effect of knowledge exchange

from various functional company areas and its environment. A new, extraordinary integration of knowledge leads to creation of new products, services, processes. Therefore, implementation of old idea on new context still may be called innovation.

According to Hargadon and Sutton, enterprises may create their innovations by realising knowledge brokering strategy. It is made up of four practices (Hargadon and Sutton 2000, 157–166):

- Capturing ideas and conceptions.
- Keeping ideas alive, using active stuff cooperation.
- Searching for new uses of old solutions.
- Testing new ideas.

Hargadon's and Sutton's conception differ from those postulated by Schumpeter. They consider innovation as an effect of novel use of ideas, which are not necessarily new, whereas Austrian academic called this phenomenon as an imitation.

Contemporary, the most common definition of innovation is a definition introduced by oecd in document 'The Measurement of Scientific and Technological Activities, Proposed Guidelines for Collecting and Interpreting Technological Innovation Data' which contains methods of collecting and analysing data on economic innovation (also called *Oslo Manual*). According to Oslo definition, 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 (*Oslo Manual* 2005). *Oslo Manual* divides innovation into two kinds: technological innovations (connected with production and processes) and non-technological innovations (connected with organisation and marketing methods) (Bigliardi and Dormio 2009, 223–242). In comparison with Schumpeter's theses, Oslo definition does not include all innovation categories like opening of a new market or the conquest of a new source of supply of raw materials. The reason for that is that *Oslo Manual* deals with innovations, which take place only at the level of the firm. It considers innovation as a product, service, process or method new or significantly upgraded at least from specific company perspective. An enterprise does not have to develop an innovation itself; it may use available solutions, which was postulated by Hargadon and Sutton (2000).

To summarize, the variety of innovation definitions in scholarly literature, hampers its unequivocal interpretation by entrepreneurs. Therefore, they may find it difficult to judge if new solutions in

their companies are innovative or not. Schumpeter's definition that emphasizes technological aspects of innovation was in contrary to Drucker who describes innovation as a social-economic phenomenon, ensuing not only from implementing technological novelties but also from change in the way of thinking and hard working. Sutton's and Hargadon's reflections are also in contrast with Schumpeter definition, because they consider innovation as a new implementation of old ideas, which Schumpeter describes as an imitation.

As reconciliation between presented ideas may serve innovation definition from *Oslo Manual*. According to OECD document, innovation is a service, product, process, method (Drucker), new or significantly upgraded (Schumpeter) at the level of the firm, not necessarily invented by firm itself (Sutton, Hargadon).

Difficulties in interpretation of 'innovation' term induce to analyse this problem carefully. According to this, providing research on traits of an innovative enterprise seems to be the best idea to find universal, general definition of innovation. In order to do that authors of this article have conducted surveys which aim was to identify the characteristics that should have an innovative company.

Methodology

The surveys were conducted in 2011 as a part of a research project funded by Ministry of Science and Higher Education (No. NN 113 303038), entitled 'Financial instruments of support the development of innovative companies in Lubelskie Province.' The statistical data exposes that there were nearly 76 500 active enterprises in 2011 in Lubelskie Province (Central Statistical Office 2013, 68). Presented study has included 395 companies, which means that research sample stated about 0.5% of all population.

Surveys reveal that 192 entities have implemented various types of new solutions for their product, service, the manufacturing process, the organization of the company or the marketing instruments. Thus, the share of innovative companies in the research sample significantly exceeded the average in the country and the research's region.

In terms of business, form dominated sole traders – nearly 61%, limited liability companies had a significant share – almost 15% and last one group – partnerships had over 9% share. Other forms occurred occasionally. Analysis of the enterprises in terms of the extent of their impact showed that dominated part was local and regional companies, which accounted from 30.8% to 34.5% of the study sample. Significantly fewer businesses had nationwide (23.5%) and

international (11.2%) scope. However, it should be noted that this structure is characteristic for the whole country and the test region (Central Statistical Office 2013).

In the above-mentioned project, alongside, was carried out detailed study among business environment institutions. Individual in-depth interviews (IDI) were performed within a period June-September 2012, among 20 institutions. In the research were involved entities responsible for support during the generation of the idea and the implementation of innovations, such as transfer of technology centres, science and technology parks, a cluster of industry, the local government investor service centre or consulting firms. Among the studied institutions, there were also a number of entities supporting the process of raising capital such as banks, leasing companies, loan and guarantee funds, venture capital funds, business angels and institutions responsible for the distribution of the various aid programs financed by the European Union, both at the national and regional level.

One of the aims of the research was to identify the characteristics that an innovative entity should have and what features seems to be the most wanted among supporting institutions. Another question stated in this research was how did companies consider innovations and which theoretical perspective is the closest to this approach.

Results

The entrepreneurs included in the study, has been asked to indicate one definition, which in their opinion describes innovation best. Nearly half of respondents think that innovation is an activity connected with implementing new technological an organizational solutions or introducing new products or services. Novelty and technology are elements characteristic for Schumpeter theories. On this basis, it can be concluded that 100-year old definition is still the most adequate for entrepreneurs from examined region.

About 25% of the surveyed considered innovation as a work connected with preparing and launching production and preparing to sell new or upgraded products and services or launching new methods of distribution. This definition refers to Drucker's, who emphasizes work aspect in creating innovations.

Only 16% of respondents considered innovation, similarly to Hargadon and Sutton, as a process consisted of transferring available opportunities into new ideas and implementing them to new practical context. Hardly 10% of entrepreneurs indicated that innovation is interposing new knowledge in production process.

Similar results were achieved by comparing answers of those entrepreneurs who admitted that they had introduced innovation in their entities. Nearly 58% of innovators indicated definition, which corresponds with Schumpeterian tradition, 21% were much more willing to choose definition which emphasizes work aspect in introducing innovations. Only 15% pointed at implementation of available solutions on new practical areas, 6% chose the most general definition – interposing new knowledge in production process. To sum up, entrepreneurs from Lubelskie province, no matter if they were introducing innovation or not, have small awareness about intangible aspects of innovation. Indication on definition, which is the most similar to Schumpeter reflections, means that innovation is considered mostly as a technological, tangible, new value. A few of entrepreneurs from region notice intangible, social innovation aspect, connected with working on their creation. Even less of them consider innovation as transforming available opportunities into new solutions.

A lack of interest about knowledge transfer in innovation creating process seems to be the most disturbing problem in examined region. At the level of entity, it is absolutely free and unlimited. According to this, entrepreneurs should appreciate this forgotten aspect of innovation, which was emphasized by Hargadon and Sutton (2000).

As it was previously presented, companies defined the innovation in very technical or even technological way. Therefore, it is reasonable to deepen the analysis by identifying the attributes that an innovative company should have.

The analysis of data presented in table 1 shows that due to companies from Lubelskie province, the most important feature of the innovator is the ability to adapt to market demands. More than 60% of the surveyed companies indicated such key factors as the continuous improvement of its products or services, and quick adaptation to changes. In addition, it can be seen that the first from the described features is more often indicated by the companies, which has carried out an innovative project. On this basis, it can be concluded that innovation is largely the result of changes made by the demand side (in this case of enterprises) and not the result of projects carried out by research institutions and then commercialized in the market. This situation should be evaluated positively as it is a proof of understanding that the main initiator of the implementation of innovative projects has to be the company itself. This is because they are the most knowledgeable about the changes in the area of technology,

TABLE 1 Features of Innovative Companies in the Opinion of Surveyed Business Entities from the Lubelskie Province (%)

Innovator feature	(1)	(2)	(3)
Continuously improves its products/services	72.4	62.6	67.3
Quickly adapts to market changes	66.7	67.5	67.1
Continuously trains their employees	50.5	36.9	43.5
It is computerized in all business areas	30.7	23.2	26.8
Introduces modern forms of human resource management (e. g. flexible forms of employment)	31.3	21.2	26.1
It has its own R&D Unit	23.4	25.6	24.6
Participates in trade fairs, exhibitions	25.5	22.7	24.1
It has a flexible organizational structure	27.1	19.2	23.0
Works closely with universities and research centres	20.3	18.2	19.2
Funding research and development	16.1	18.7	17.5
Work in modern industries (such as biotechnology, information technology, telecommunications, aerospace, cybernetics and robotics, etc.)	17.7	14.3	15.9
Has a competitive range of products/services	17.7	14.3	15.9
Rigidly sets goals and tries to achieve them	15.1	14.8	14.9
Employees are treated more as a freelancers than labour force	11.5	11.3	11.4
Take action in the area of corporate social responsibility	11.5	11.3	11.4
Employs scientists	6.8	10.8	8.9
It is managed by scientists	3.1	2.5	2.8

NOTES Column headings are as follows: (1) innovative firms, (2) non-innovative firms, (3) all respondent firms.

product/service, or manufacturing process that will guarantee their long-term development.

The confirmation of this thesis is relatively high assessment of features associated with the search for innovative solutions or in the market through participation in fairs and exhibitions, or through independent researches in their R&D structures. Especially in the case of the second feature the achieved result (24.6%) seems to be surprisingly high, as possession such unit is very expensive and not very common among Polish companies. In comparison, less because only 19.2% of the surveyed companies indicated the need for cooperation with universities and research centres, and less than 9% of them – the employment of scientists. It is a proof of large difficulties in cooperation between enterprises and universities in Poland. It seems that in this area the biggest changes are necessary to enhance the commercialization of scientific research and to encourage companies to search for new technological solutions to national Universities.

An interesting observation from the study may be noticing a significant role of the company's own resources in creation the innovative solutions. It is indicated by the high evolution of two factors, associated with the development of human resources – the training of employees (43.5%), and the implementation of modern forms of human capital management (26.1%). In addition, these two indicators were more often pointed by a group of innovative companies in comparison with non-innovative firms. Thus, entrepreneurs recognize the need for self-improvement and to incur expenditure on the process in order to obtain any competitive advantages resulting from the implementation of innovations. Similar high rate obtained other factor – technical resources aimed at computerization of all functional areas of the company

However, it is surprising, that surveyed companies recognized a small role in the creation of innovation in the industry trade in which the entity functions. This means that in the opinion of the searched companies an innovator can run its business in all sectors of the economy. It should be also highlighted that in the population of innovative firms the role of this feature is much higher, which is a proof to perceive greater ease of implementing innovative projects in certain sectors. It is because the greater pressure of the market at both the customers and the competition side.

One of the key links of supporting innovation in companies should be business environment institutions. Due to European Union Council, their role should focus on increasing access to financial instruments, creating a friendly regulations and procedures, supporting institutions that can create and implement innovation, especially in the area of research and development and in the creation of links between science and business (European Commission 2009, 74). Therefore, research concerning the characteristics of innovative companies was also carried out among 20 institutions that support business innovation in the studied region.

The researches confirmed the high assessment of the characteristics associated with dynamic adaptation to changes in the market and the continuous improvement of products and services. These features were indicated by more than 75% surveyed institutions. It means that the entrepreneurs and their tendency to modernize the company are crucial in the development of innovation. However, it is necessary to develop appropriate incentive mechanisms that will increase business activity in this area. One example can be financial instruments both non-refundable and return. The capital is one of the major obstacles in the implementation of innovative projects. It

TABLE 2 Features of Innovative Companies in the Opinion of Surveyed Businesses Environment Institutions

Innovator feature	(1)	(2)
Continuously improves its products/services	67.3	89.5
Quickly adapts to market changes	67.1	78.9
Works closely with universities and research centres	19.2	52.6
Funding research and development	17.5	47.4
Has a competitive range of products/services	15.9	42.1
It has its own R&D Unit	24.6	36.8
Continuously trains their employees	43.5	31.6
Work in modern industries (such as biotechnology, information technology, telecommunications, aerospace, cybernetics and robotics, etc.)	15.9	31.6
It has a flexible organizational structure	23.0	21.1
Introduces modern forms of human resource management (e. g. flexible forms of employment)	26.1	10.5
Participates in trade fairs, exhibitions	24.1	10.5
It is computerized in all business areas	26.8	5.3
Rigidly sets goals and tries to achieve them	14.9	5.3
Employees are treated more as a freelancers than labour force	11.4	5.3
Take action in the area of corporate social responsibility	11.4	0.0
Employs scientists	8.9	0.0
It is managed by scientists	2.8	0.0

NOTES Column headings are as follows: (1) companies, (2) business environment institutions.

seems that the potential exists also in the area of creating ideas and innovation. As shown research presented in table 2, business environment institutions describing innovator features paid much more attention to the cooperation between business and the scientists. It is confirmed by the very high proportion of indications for such features as closely cooperates with universities and research centres (52.6%) and funds research and development (47.4%). On the contrary, to the business they pay more attention to the development of innovation in the region through the supply side.

Therefore, the research conducted at universities should be more commercial, in order to be easily implemented by the regional entities. A proper system of relations would be helpful in achieving it, on the one hand would it force R&D units to develop new technologies, and the other hand would force the business to seek innovative solutions in the domestic market. Key in this area may be centres of technology transfer and technological and scientific parks, which allow for greater involvement of scientists in innovative projects. On

the contrast, much lower by business environment institutions were rated characteristics associated with shaping the firm's financial resources. This applies both to the development staff through training or effective management systems and technical resources in the field of computerization of individual functional processes.

Business environment institutions assessing innovator features found much higher factors associated with the industry in which the company operates and its product. Therefore, the experience in working with innovators can put business environment institutions the thesis that the selected sectors or markets create a much greater chance of developing innovative solutions. This is an important clue to the development of a support system in the regions. Support instruments should be concentrated in certain areas that should become core for region's development. It is also worth noting that the specificity of the region and its existing infrastructure will have a significant impact on what kind of industries will be developed.

Discussion

As shown the study most traders equate innovation with technical or product aspects. There is the very low awareness about the intangible aspects, resulting in an undervalued the modification process. From point of view of the effectiveness of the projects and their commercial nature it seems to be justified, because it shows that businesses want to meet market expectations and implement new technologies, or opt for the introduction innovative solutions for the product or service. This increases their chances of securing new markets or new customers and allows for distancing the competition. As a result, innovative projects mainly affect the revenue side of the surveyed enterprises, as opposed to the innovation process, which is primarily aimed at reducing the costs of the company. Confirmation of this is the evaluation of the key features of an innovator, who in the opinion of both the business and the business environment institutions should be able to adapt to the needs of the market

One of the key problems diagnosed in the study is that the surveyed companies do not notice the potential in dynamiting innovative processes in collaboration with research institutions and universities. This area seems to be the key to improve the situation in the future and activate the larger group of entities to implement innovative projects that create competitive advantages in the long term. However, this requires significant changes on the universities and research institutes, in order to redirect the research areas that can quickly find the commercial effect. For this purpose, greater activ-

ity must demonstrate business environment institutions, mainly the transfer of technology centres and science and technology parks. This should improve the flow of information about the expected research areas from business to the scientific enterprise and in the other side about any possession innovative technical or process solutions that may be applied directly to companies.

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Supply Chain Strategy: Empirical Case Study in Europe and Asia

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The purpose of this case study research is to present a literature review of supply chain strategy approaches, develop supply chain strategy framework and to validate a framework in empirical case study. Literature review and case study research are the research methods for this research. This study presents the supply chain strategy framework which merges together business environment, corporate strategy, supply chain demand and supply chain strategy. Research argues that all the different concepts that are currently used as supply chain strategy can be condensed into a presented supply chain strategy framework. Developed supply chain strategy framework is a practical tool for business managers. Future research could be multiple case studies in the global environment to develop further the supply chain strategy framework.

Key words: supply chain strategy, corporate strategy, supply chain management

Introduction

Supply chain management (scm) has been studied a great deal in the industrial economics field of research. Researchers of scm as well as the public have been interested in the published studies related to improving cost efficiency, optimizing the whole supply chain (sc), production control, stock management, agility, lean scm and sc integration.

scm is a management concept of the 2000´s and it includes segments from the management concepts of the previous decades. Many definitions for scm have been presented but scm has been and is still regarded as a synonym for logistics, supply and sc control. Today the broader definition determined by the Global Supply Chain Forum is generally accepted as the norm (Lambert, Cooper and Pagh 1998; Cooper, Lambert and Pagh 1997): 'Supply Chain

Management (scm) is the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders.'

Supply Chain Council defined that there are four basic processes in the sc: plan, source, delivery and return. Plan refers to processes that balance aggregate demand and delivery requirements. Sources are processes that transform product to a finished state to meet planned or actual demand. Delivery is a process in which the finished goods are delivered to a customer. Return is defined as processes associated with returning or receiving returned products (Iskanius 2006).

Many scholars state that supply chain strategy must reflect the corporate strategy (Schnetzler, Sennheiser and Schönsleben 2007; Harrison and New 2002; Christopher, Peck and Towill 2006; Chopra and Meindel 2007; Waters 2009). According to a survey conducted by Harrison et al. (2002), two-thirds of all respondents thought that their supply chain strategy was significant or highly significant in terms of corporate strategy. According to Rose, Singh Mann and Rose (2012) however, there still exists a major gap between corporate strategies and supply chain strategies (Rose, Singh Mann and Rose 2012).

According to the literature review, the research gap is a relationship between corporate strategy and supply chain strategy. The goal of this research is based on the research gap and could be presented as to deepen knowledge in supply chain strategy approaches and to develop a supply chain strategy framework. The research problem is presented as a question: What are the supply chain strategy approaches?

Research Methodology

A literature review and a case study research were employed as the research methodologies in the study to develop a supply chain strategy framework. The literature on supply chain strategies was collected primary from journals in the areas of strategic management, supply chain management, operations research and operations management. The target was to focus on the latest journals from last decade and that is why dissertations, textbooks, unpublished working papers, and conference papers were excluded. The literature search included journals published by numerous publishers and research was done using Scopus, which is one of the largest abstract, and citation databases of research literature. Several hun-

dreds of journal articles were found and that is why the research has to focus on the most relevant, cited and newest journals.

Eisenhardt (1989) defines case study research as a research strategy that aims at understanding the internal dynamic of an individual case (Eisenhardt 1989). Case study research is aiming at understanding comprehensive and relevant phenomena of real life. In that case, the endeavour is to study the phenomena in their genuine context. Interface between the phenomenon and context is not often clear, which complicates the work of a researcher (Yin 2009).

Case study research is regarded as a good research method when the research problem can be described with the help of questions how and why. The method is very useful when a researcher cannot control the target. Furthermore, it is useful when the focus is on concurrent events in a real time manner especially when the border between the event and context is not clear. There are three types of case study research: explorative (seeking to find out more about a phenomenon) research, descriptive research and explanatory research. The purpose of explorative research is to obtain information regarding a phenomenon, find new ideas and possible research problems. In explorative research, already existing information is collected and sorted. The aim of descriptive research is to provide as accurate an image of an individual, group, situation or phenomenon as possible. In the research, the focus is not in clarifying connections between phenomena or factors interpreting behaviour, but only in describing a situation. The aim of explanatory research is to explain causal relations between phenomena and testing related hypotheses (Yin 2009).

In this study case study, research method is used to develop and validate supply chain strategy framework in the empirical case study.

Theory

CORPORATE STRATEGY

Nag, Hambrick and Chen (2007) define strategy as 'the major intended and emergent initiatives taken by general managers on behalf of owners, involving utilization of resources, to enhance the performance of firms in their external environments' (Nag, Hambrick and Chen 2007). Ramos-Rodríguez and Ruíz-Navarro (2004) identified the works that have had the greatest impact on strategic management research, which can be seen in table 1. They recognized that there are three different scientific disciplines from which the different fields of strategic management research have grown: eco-

TABLE 1   Theoretical Roots of Strategic Management

Academic views on Corporate Strategy		
Economic-based	Sociology-based	Psychology-based
Evolutionary economics	Contingency theory	Power
Transaction cost theory	Resource dependence	Pattern
Industrial economics	Organisational ecology	
Resource-based view	Ecosystem	
Agency theory		

NOTES   Adapted from Ramos-Rodriguez and Ruíz-Navarro 2004.

nomics, sociology and psychology. Economics has been the founding theory for such strategic management fields as evolutionary economics, transaction cost theory, industrial economics, resource-based view of the firm and agency theory. Sociology with its different theories is the foundation for such fields as contingency theory, resource-dependence theory, organisational ecology and ecosystem. The most popular psychological views of strategic management include power and pattern views to strategy creation (Ramos-Rodrígue and Ruíz-Navarro 2004).

Economics Based Strategic Management Fields

Evolutionary economics theories try to explain 1) the movement of something over time or why something is what it is at the moment in time in terms of how it got there, and 2) how some random elements generate or renew some variation in the variables in question, and what mechanisms systematically winnow extant variation (Valentino and Christ 1990).

Transaction cost theory is as old as evolutionary economics. It studies the relationship between a firm and its environment through a contractual or exchange-based approach (Kujala et al. 2006). According to Hoskisson et al. (2000), if the transaction costs of markets are high, hierarchical governance modes will enhance efficiency, although they can have their own bureaucratic costs (Hoskisson et al. 2000).

Ramos-Rodríguez and Ruíz-Navarro (2004) identify that the prime contributions of industrial economics to strategic management literature are the structure-conduct-performance paradigm and the study of strategic groups (Ramos-Rodrígue and Ruíz-Navarro 2004; Porter 1980) illustrates three potentially successful generic strategic approaches to attaining competitive advantage and thereby outperforming other firms in an industry: differentiation, cost-leadership and focus (Porter 1980).

According to the resource-based view, the resources of a firm can be the source of a competitive advantage as long as resources are valuable, rare, inimitable and non-substitutable. Resource-based view is a complement to the traditional emphasis of industrial economics on industry structure and strategic positioning within that structure as a source of competitive advantage (Eisenhardt and Martin 2000; Newbert 2007; Hoskisson et al. 1999).

Agency theory was born in the 1960s and it deals with relationships that arise when one self-interested individual (the principal) delegates some decision-making authority to another individual (the agent) according to a mutually agreed contract (Eisenhardt 1989; Schulze et al. 2001; Pavlou, Huigang and Yajiong 2007).

Sociology Based Strategic Management Fields

Contingency theory suggests that there is no optimal strategy for all organizations and posits that the most desirable choice of strategy variables alters according to certain factors, termed contingency factors. The traditional view of contingency theory is based on organizational theory and postulates that a change in environment requires a change in firm structure (Zajac, Kraatz and Bresser 2000; Zott and Amit 2008).

The resource dependence theory proposes that organizational success and ultimately survival occur by maximizing power through the acquisition of scarce and valuable resources in a stable and low-cost manner (Carter and Rogers 2008; Rai and Bush 2002).

Organisational ecology theory applies evolutionary and ecological perspectives, such as populations and communities of populations, in the domain of strategy and organisation theory (Lovas and Ghoshal 2000; Baum and Shipilov 2006).

An ecosystem consists of all those companies that depend on each other in terms of their success. Most importantly, a company's performance is increasingly dependent on the performance of something where the firm does not have direct control. Therefore, ecosystem-based approach encourages close-co-operation with those firms that are clearly part of the ecosystem (Iansiti and Levien 2004).

Psychology-Based Strategic Management Fields

The most influential views of psychology-based strategic management have been the power view, which studies strategy formulation as a political process, and the concept of pattern, which sees that strategy is often consistency in behaviour in the past,

not a pre-described plan (Ramos-Rodrígue and Ruíz-Navarro 2004; Mintzberg, Ahlstrand and Lampel 2009). When formulating strategy, managers are constrained and enabled through their internal and external allies and opponents. This kind of social struggle between different groups with different strengths shapes the actual strategic management process (Lawrence et al. 2005; Clark 2004).

The idea that strategy is more a realized pattern in the past than a set direction for the future is based on criticism towards the foundation of deliberate strategic planning – possibility of forecasting future, and empirical evidence that strategies emerge from weakly coordinated decisions of multiple organizational members (Grant 2003; Noda and Bower 1996) summarize that according to scholars who study strategic planning as a pattern, strategy is emergent from lower levels of organizations, whether through trial-and-error learning, incrementally with logical guidance from the top, or such that small changes are punctuated by a sudden big change in a relatively short period (Noda and Bower 1996).

SUPPLY CHAIN STRATEGY

Supply chain is probably most extensively defined as 'a set of three or more entities (organizations or individuals) directly involved in the upstream and downstream flows of products, services, finances, and/or information from a source to a customer' (Mentzer 2001). Supply Chain Council, a global non-profit organization, has developed its own process reference model for scm, so-called Supply Chain Operations Reference model (scor), The scor model consists of Supply chain business processes defined as 'plan, source, make, deliver and return,' the different metrics related to these aspects, and best practices outlined from the industry (Supply Chain Council 2010).

As a result and similarly to scm, there is not a jointly agreed definition of what is a supply chain strategy (Rose, Singh Mann and Rose 2012). Schnetzler, Sennheiser and Schönsleben (2007) define supply chain strategy as 'a set of prioritized scm objectives, i.e., strategic priorities and a way to operationalize them, i.e., to determine appropriate measures, in order to build up and capitalize on so-called logistics success potentials that can potentially result in successful business performance' (Schnetzler, Sennheiser and Schönsleben 2007). Rose, Singh Mann and Rose (2012) add that supply chain strategy can also be emergent rather than deliberate and defines the concept as a 'deliberate and/or emergent conceptual framework by which a company involves its supply chain and supply chain

members in its efforts to reach its own corporate strategic objective' (Rose, Singh Mann and Rose 2012).

Many scholars state that supply chain strategy must reflect the corporate strategy (Schnetzler, Sennheiser and Schönsleben 2007; Harrison and New 2002; Christopher, Peck and Towill 2006; Chopra and Meindel 2007; Waters 2009). According to the survey conducted by Harrison and New (2002), two-thirds of all respondents thought that their supply chain strategy was significant or highly significant in terms of corporate strategy. According to Rose, Singh Mann and Rose (2012) however, there still exists a major gap between corporate strategies and supply chain strategies (Rose, Singh Mann and Rose 2012).

Being loosely established, supply chain strategies can be studied from multiple different perspectives. Rose, Singh Mann and Rose (2012) isolates five different research fields: scm, marketing, operations management, organizational theory and contractual perspective (Rose, Singh Mann and Rose 2012). scm perspective of supply chain strategy discusses the different strategies in relation to the five different parts of the scor model: plan, source, make, deliver and return. Marketing perspective highlights designing supply chain according to the requirements of the customer. Operations management weigh whether to make supply chain efficient (lean) or responsive (agile). Organizational theory concentrates on integration of the supply chain. Finally, contractual perspective emphasizes the importance of different kind of contractual agreements that can exist between the different actors in the supply chain.

Different supply chain strategies usually contain some driver based on which they think that the proper design should be determined. For example, Rose, Singh Mann and Rose (2012) illustrate three kinds of factors: product characteristics (supply and demand predictability, product life cycle), context and integrative practices, and contractual issues. Schnetzler, Sennheiser and Schönsleben (2007) adds corporate culture as one factor that determines the proper supply chain design (Schnetzler, Sennheiser and Schönsleben 2007; Rose, Singh Mann and Rose 2012).

SUPPLY CHAIN STRATEGY AS FUNCTIONAL STRATEGY

Strategy is visible at multiple layers in a firm, which can be seen in figure 1. At the highest level, strategy is described as a mission that gives the overall purpose and aims of an organisation. Corporate strategy then describes how the mission is achieved. Supply chain strategy is functional strategy. As mentioned already, according to
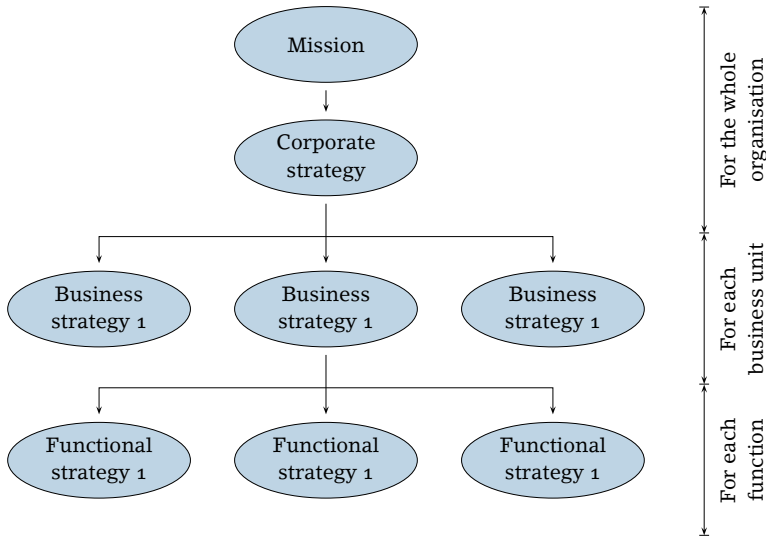
FIGURE 1   Types of Strategic Decisions (adapted from Waters 2009)

numerous scholars, it is vital that the functional strategy is in line with the business strategy (Waters 2009).

Literature review presents various holistic frameworks regarding the relation of supply chain strategy to corporate strategy and the different subfields of the supply chain strategy. One example is the holistic framework of Chopra and Meindel (2007) that can be seen in the figure 2. They state that the purpose of supply chain strategy is to strike a balance between responsiveness and efficiency (according to the premises of operations management) that fits with the corporate strategy. To reach this goal, a company must structure the right combination of the three logistical (facilities, inventory and transportation) and three cross-functional drivers (information, sourcing and pricing). It is worth mentioning that Chopra and Meindl (2007) see corporate strategy as a competitive strategy relating to the works of Porter (1980, 1985), and that is why their framework is largely divided between efficiency (cost-leadership) and responsiveness (differentiation) (Chopra and Meindel 2007; Porter 1980; Porter 1985).

Lean and Agile

The most widely established supply chain strategies in scm literature are lean and agile approaches. These concepts arise from operations management theory and study when supply chain design should be efficient (lean) or responsive (agile). The big advantage of lean and agile approaches is that they are rather comprehen-
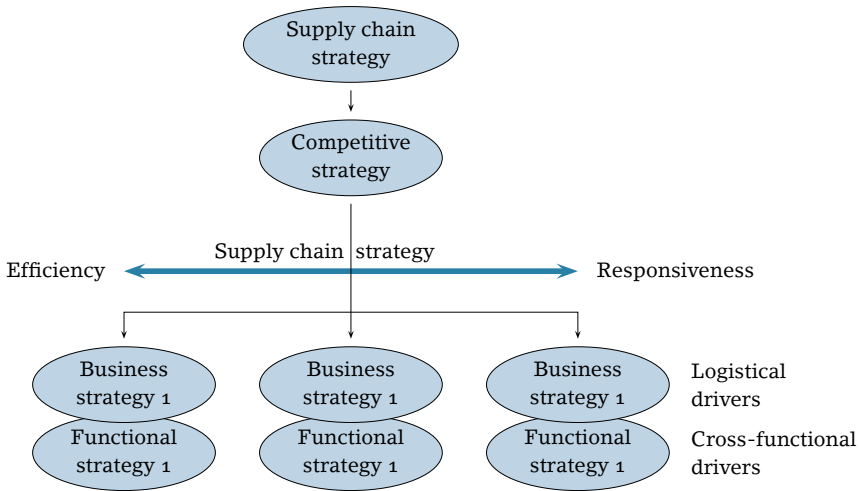
FIGURE 2   Supply Chain Decision-Making Framework (adapted from Chopra and Meindl 2007)

sive supply chain strategies and thereby they can be extended to very many supply chain objectives. The names for the different approaches are not fully established and for example Morash (2001) uses terms operational excellence (lean) and customer closeness (agile) (Morash 2001).

Lean supply chain identifies seven different types of waste (Ohno 1988): 1) defects in production, 2) overproduction, 3) inventories), 4) unnecessary processing, 5) unnecessary movement of people, 6) unnecessary transport of goods and 7) waiting by employees. Therefore, a lean supply chain aims to operate smoothly with few disturbances. It is not even designed to adapt easily to market shocks. A lean supply chain builds a separate production line for each product and avoids product exchanges. As a result, the capacity utilisation rates are usually high. Long lead-time is not that big a problem for a lean supply chain as long as it is shown to be a cost-efficient solution (Waters 2009; Vonderembse et al. 2006).

An agile supply chain focuses on responding to unpredictable market changes and capitalizing on them through fast delivery and lead-time flexibility. It utilizes information systems and technologies as well as electronic data interchange capabilities to move information faster and to make better decisions. As opposed to a lean supply chain, an agile supply chain wants to be demand- rather than forecast-driven. Therefore, an agile supply chain operates anything

TABLE 2 How Demand/Supply Characteristics Determine Supply Chain Strategy

		Demand characteristics	
		Predictable	Unpredictable
Supply characteristics	Long lead time	*Lean* Plan and execute	*Leagile* Postponement
	Short lead time	*Lean* Continuous replenishment	*Agile* Quick response

NOTES Adapted from Christopher, Peck and Towil 2006.

but smoothly. It may periodically have a lot of capacity unused, but once it has been given an order, it will use full capacity to deliver the order as fast as possible. An agile supply chain strives for as short a lead-time as possible. An agile supply chain invests heavily in reduction of setup times and disfavours inventory (Christopher, Peck and Towill 2006; Vonderembse et al. 2006).

The generally held view among scholars is that lean concepts work well where demand is relatively stable, and hence predictable, and where variety is low. On the other hand, agile concepts are about the ability to match production with turbulence in demand (Vonderembse et al. 2006; Fisher 1997; Wang, Huang and Dismukes 2004). Christopher, Peck and Towil (2006) and Chopra and Meindl (2007) add that it is not only the demand uncertainty that determine the optimal supply chain strategy but also supply lead time (Christopher, Peck and Towill 2006) or supply uncertainty (Chopra and Meindel 2007). Table 2 illustrates how Christopher, Peck and Towil (2006) see the two drivers affecting the selection of optimal supply chain strategy. Christopher, Peck and Towil (2006) add that the demand of a product is likely to change in relation to its stage in product life cycle. New products require a more responsive supply chain whereas older products require a more efficient supply chain (Christopher, Peck and Towill 2006).

In the end of 1990s, some views arose that there can also be a hybrid supply chain strategy that uses both the characteristics of lean and agile supply chains. This kind of strategy is called leagile. In a leagile system, there is so-called decoupling or order penetration point. Upstream of the decoupling point, the supply chain will exhibit lean principles whereby production will follow a forecast schedule. Downstream of the decoupling point, the supply chain will be agile and designed to be responsive to customer demand. The idea here is that for many products, the demand becomes unpredictable only downstream, but upstream of the decoupling point,

the demand can be highly stable. Leagile supply chain strategy can also be called as postponement strategy. In a similar manner to leagile, postponement approach delays the place of customization in the supply chain and therefore it can quickly adapt to changing market requirements. Table 3 presents the comparison of lean, agile and leagile supply chain strategies (Wang, Huang and Dismukes 2004; Mason-Jones, Naylor and Towill 2000).

Supply Chain Integration

The importance of supply chain integration aroused scholars' attention during the 1990s (Frohlich and Westbrook 2001; Cousins and Menguc 2006; Storey et al. 2006). Cousins and Menquc (2006) state that this is due to global competition that has forced firms to produce higher quality with lower price, and this can be attained via supply chain integration. According to Vickery et al (2003), an integrative supply chain strategy recognizes that integrated business processes (not individual functions or systems) create value for the firm's customers and that these processes reach beyond the boundaries of the firm by drawing suppliers and customers into the value creation process. The clear definition of supply chain integration is not that well established as some scholars only include the upstream (supplier) side of supply chain. However, it is much more general to include both upstream and downstream in the discussion of supply chain integration (Vickery et al. 2003).

Supply chain integration research has typically been viewed along two coordinated lines. The first involves the forward movement of physical goods from suppliers through manufactures and on to end-customers. Many of these views fall under the concept of Just in Time, while others highlight the importance of delivery integration in terms of implementing product postponement in the supply chain. The second involves the rearward movement of information and customer data through the chain. This enables all the actors in the supply chain to coordinate their activities, which enhances the efficiency in the supply chain. The different views are illustrated in the figure 3 (Rose, Singh Mann and Rose 2012; Frohlich and Westbrook 2001).

Vickery et al. (2003) presents two different strategies for supply chain integration according to the division between upstream and downstream operations: supplier partnering and closer customer relationships. Supplier partnering sees the supplier as a strategic collaborator. High level of trust, commitment over time, long-term contracts and joint conflict resolution are typical characteristics of the relationships. The parties also share information, risks and rewards.

TABLE 3 Comparison of Lean, Agile and Leagile Supply Chain Strategies

Decision category	Lean supply chain	Leagile supply chain	Agile supply chain	KPIS	
				Lean	Agile
Facilities	Aim for high capacity utilization rate. Long lead times are not a major problem. Prepare to locate far from market if it decreases costs. Avoid continuous product exchanges.	High capacity utilization rate for upstream operations, significantly lower for downstream operations. Invest in speed of product exchanges and shorten lead time at the end of the supply chain.	Capacity utilization rate cannot be too high. Aim for as short lead times as possible. Locate near the markets. Invest in the capability of making fast product exchanges.	Capacity utilisation, manufacturing costs.	Capacity utilisation, Lead time, setup times.
Inventory	Generate high turns and minimize inventory throughout the chain.	Postpone product differentiation as laste as possible. Minimize functional components inventory.	Make in response to customer demand. Allow for some finished goods inventory to ensure product availability.	Inventory carrying costs, inventory turnover.	Product availability, inventory level.
Transportation	Drive down costs of transportation by favoring cost-efficient transportation modes and high shipment sizes.	Apply cost-efficeint transportation modes to upstream operations, and fast and flexible modes to downstream operations.	Enhance responsiveness by favoring fast transportation modes and prepare to use low shipment sizes.	Transportation costs, delivery reliability.	Delivery speed, delivery reliability.
Information	Use the latest technology to facilitate information sharing	Use the latest technology to enable the postponement	Use the latest technology to capture the changes in the mar-	Forecasting accuracy	—

	in the supply chain. Use advanced forecasting techniques.	of product customization.	ket. The supply chain should be demand driven rather than forecast driven.		
Sourcing	Desired supplier attributes involve low cost and high quality.	Desired supplier attributes involve low cost and high quality, along with the capability for speed and flexibility, as and when required.	Desired supplier attributes involve speed, flexibility and quality.	Supply costs, supply quality.	Time of delivery, supply quality.
Organisation	Use a static organisational structure with few levels in the hierarchy.	Maintain an organisation similar to lean. May create temporal relationships with partners to implement innovative features.	Create virtual organizations by creating alliances with partners that vary with different product offerings that change frequently.	—	—
Quality	High quality and continuous improvement on it.	High quality both in upstream and downstream operations.	High quality in innovative products.	Defects in production, defects in deliveries.	Defects in deliveries.
Customer service	Low level of customer service.	Good level of customer service.	High level of customer service.	Customer service costs.	Customer query time.
Product development	Maximize performance and minimize costs.	Use modular design in order to postpone product differentiation as long as possible.	Design products to meet individual goals.	Testability, repeatability, product volumes.	Testability, servicability.

NOTES   Adapted from Christopher, Peck and Towill 2006; Chopra and Meindel 2007; Vonderembse et al. 2006; Wang, Huang and Dismukes 2004; Bozarth and Handfield 2008.
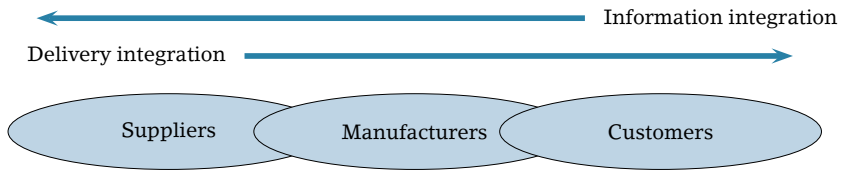
FIGURE 3   The Two Concepts in Supply Chain Integration Research (adapted from Frohlich and Westbrook 2001)

This kind of collaboration affords many of the advantages of vertical ownership without the attendant loss of strategic flexibility. Partners work together to ensure high product quality and low costs, with both companies sharing in the benefits. The partnership relationship might entail early supplier involvement in product design or acquiring access to superior supplier technological capabilities. It is vital to notice how Vickery et al. (2003) sees the underlying drivers for partnering to be long-term strategic ones rather than short-term cost-related ones (Vickery et al. 2003).

Closer customer relationships aim to enhance a firm's ability to determine its customers' requirements. Close customer relationships enable firms to proactively seek information on customer preferences, and then become more responsive. Insights gained as a result of establishing strong relationships with customers can also be used to enhance operational effectiveness and cost efficiency. Again, one should notice that the driver for stronger collaboration with customers is based first-hand on long-term strategic goals (Vickery et al. 2003).

Supply chain integration is not by any means opposed to lean and agile approaches. To build a comprehensive lean or agile supply chain, one needs to have very good relationships with both suppliers and customers. Actually, the concept of supply chain integration has arisen during the 1990s to at least some extent because of the needs presented by lean and agile approaches (Cousins and Menguc 2006).

SUPPLY CHAIN STRATEGY FRAMEWORK

According to the literature review, supply chain strategy framework could be presented in figure 4. Supply chain strategy framework is based on business environment, which could be high or low business volume. Corporate strategy main approaches are cost leadership and differentiation. Supply chain demand is based on predictable or unpredictable demand. Supply chain strategy has two approaches; efficiency or responsiveness, where efficiency is lean supply chain strat-
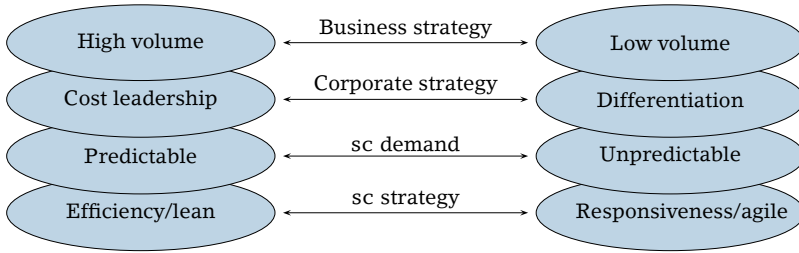
FIGURE 4   Supply Chain Strategy Framework

egy approach and responsiveness is agile supply chain strategy approach. When the business environment and volume is high, then strategy approaches for supply chain are cost leadership corporate strategy, predictable supply chain demand, efficiency, and lean supply chain strategies. If the business environment and volume is low, then strategy approaches for supply chain are differentiation corporate strategy, unpredictable supply chain demand, responsiveness, and agile supply chain strategies.

Empirical Case Study

The empirical case could be described as two independent supply chains in a global engineering business. One of the key subassemblies of case company's products is managed by case supply chains. Product is ready assembly subassembly, which consists of steel structure and components. The products are tailor-made and every product is customized according to the customers' needs (Sillanpää, Abdul Malek and Takala 2013).

Supply chain is organized globally so that there are three region-based supply chains: Europe, APAC and America. In every region, there are production locations, which are serving the supply chain. Production units are joint ventures, own units and also suppliers. The one important characteristic is that the cooperation is extremely deep with the production unit's in the whole supply chain (Sillanpää, Abdul Malek and Takala 2013).

The empirical case study was done together with the management of case supply chains.

Supply chain A:

- Location: Europe
- Owner: private owned
- Turnover: 15 million EUR
- Workers: 80

Supply chain B:

- Location: Asia
- Owner: private owned
- Turnover: 20 million EUR
- Workers: 100+

Business environment in both supply chains is slightly different. In supply chain A, the business environment is more dynamic than in supply chain B. The reason behind this is because demand fluctuation is extremely high in supply chain A. If categorizing supply chains business environment into high or low volume it could be stated that volume is low compared to business environment generally. In supply chain A, the business environment is also at some stages close to high volume but that is because of the demand changes.

According to literature review and developed supply chain strategy framework, corporate strategy could be categorized as a cost leadership or differentiation. In the case study, the corporate strategy seems to be a cost leadership for both supply chains. There is huge competition in the markets all the time and that is the driver to align corporate strategy to cost leadership. Even if it seems that case supply chain corporate strategy is cost leadership, both supply chains try to differentiate. Differentiation is the target to serve customers better and try to make your supply chain unique. When your supply chain is, unique it is more challenging to change it and competition is no longer the issue. In that perspective, both supply chains corporate strategy is differentiation.

In the dynamic business environment, the supply chain demand is commonly unpredictable. In the case supply chains, the demand is extremely challenging to forecast. In European supply chain A, the forecasting process is done together with customers but in the Asian supply chain B, it is done independently. Even if supply chain A demand forecasting is working, it is extremely challenging to estimate future supply chain demand. Practically in both supply chains the demand is forecasted based on past supply chain volumes. According to case study, the conclusion of the supply chain demand is that in both supply chains the demand is more unpredictable than predictable.

According to Sillanpää, Abdul Malek and Takala (2013) there are significant differences comparing supply chain strategies in Europe and Asia. Supply chain strategy part is the conclusion of the developed supply chain strategy framework and analysis of the business

environment, corporate strategy and supply chain demand. Supply chain strategy seems to be in both supply chains responsiveness and agile supply chain. The analyze of the supply chain strategy framework states that in both supply chains the business volume is low, corporate strategy is differentiation and supply chain demand is unpredictable (Sillanpää, Abdul Malek and Takala 2013).

Conclusion

As the concept of supply chain strategy is quite loosely established, there is quite little academic literature that explicitly relates corporate strategy to supply chain strategy. However, academic literature that relates corporate strategy to scm concepts is somewhat larger (Trkman et al. 2007).

There are many scholars who state that corporate strategies with a focus on cost-leadership require lean supply chain processes, whereas corporate strategies with a focus on differentiation require agile supply chain processes (Morash 2001; Chen and Paulraj 2004). Lean supply chain principles minimize production, inventory and transportation costs in the supply chain, which is exactly what a cost-leadership strategy requires. Agile supply chain processes support differentiation strategy by implementing high levels of value-added customer service, proactive quality and collaborative communications and interactions with customers.

The need for supply chain integration has been explained by resource-based view of the firm (Cousins and Menguc 2006). According to this view, firms have realized that some strategic resources may lie beyond the boundaries of the firm and that the competitive advantage may be explained by a network of inter-firm relationships. On the other hand, supply strategies that concern supplier selection have been relatively loosely tied to corporate strategies, and if some are used, they are most often transaction cost or agency theory (Leiblein, Reuer and Dalsace 2002). According to transaction cost theory, cooperation with suppliers is limited by the transaction costs of managing the interaction. Agency theory postulates that in a healthy relationship with suppliers, incentives of both sides are aligned.

Supply chain strategy framework merge together business environment, corporate strategy, supply chain demand and supply chain strategy. Supply chain strategy framework is based on business environment where the main approaches are high and low volume. Corporate strategy is divided into cost leadership and differentiation and supply chain demand is based on predictable or unpredictable

demand. Supply chain strategy approaches are efficiency and lean or responsiveness and agile supply chain. Supply chain strategy framework is tested in one empirical case study where two supply chains are analysed. Empirical case study validates developed supply chain strategy framework.

Future research could be real multiple case studies in the global environment which could validate the supply chain strategy approaches and develop supply chain strategy framework for company's needs to develop supply chain strategies according company's strategy.

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Factors of Perception in Novel Food Consumption

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This paper aims to analyze factors of novel food consumption. The study was conducted in Maribor, Slovenia. Two hundred respondents from two age groups are included in the sample: between 18 and 35 years and between 36 and 55 years. The analysis focuses on quantitative and qualitative factors. The respondent age is the predominant variable to test hypothesis. The Pearson correlation and analysis of variance are used in the empirical analysis. The results show that qualitative factors explained greater statistical differences than quantitative.

Key words: novel food, consumption, socio-economic factors, quantitative, qualitative

Introduction

Consumer behaviour regarding food consumption has been studied by economics and behavioural sciences, i.e. psychology, sociology, and anthropology. The analysis of food consumption is a subject of interest to the perspective for economic theory as well as for those who are interested more generically in the behaviour of individuals in their process to make decisions (Muelenber and Steenkamp 1991).

Functional, genetically modified, ethnic, and organic and convenience are just some examples of novel food. The food sector is one of the largest manufacturing sectors in European Union (EU) countries in terms of turnover and employment (Food Drink Europe 2011). The consumers' perceptions of food consumption might change and transform over time (Meulenber and Steenkamp 1991). The ways in which the consumers observe the characteristics of food products could be relative to the learning experience for each product category. Hence, this study aims to explore the consumers' perceptions about the qualitative and quantitative factors of food consumption focusing on the comprehension of consumers' perceptions regarding novel food products consumption.

Backgrounds

According to Krugman (2005), globalisation has made the world more vulnerable. Movements of short-term capital can be a source of instabilities and these have increased with relaxation in the control of financial flows. Financial and economic crises might be a price to be paid for greater openness and integration. On the contrary, Sachs (2005) argued that the global economy is handled in a reasonable manner when facing crises.

This paper focuses on specific types of novel food and its acceptance by local consumers. It is possible that different factors determine a consumer's behaviour such as age, gender and education. The consumers might not accept any changes in their food consumption habits. Many people do not change their habits because they do not know how to change. Therefore, getting consumers to alter their customs can be a process that cannot happen overnight (Ulene and Prochaska 2011).

Consumers might consider combinations of attribute levels when they develop preferences and select food products according to the perception of the value they provide. Therefore, consumers' preferences when making the purchase decision are concerned in determining the contribution of each of the product attributes and their levels (Vázquez 1990). Consumers have a limited capacity to process the information, and because of that, the learning process is important. This process requires a consumer's attention, selection of information and interpretation of perceptions (Bettman, Luce and Payne 1998). Initial experience and expectations predispose learning. Thereby, to have previous knowledge of the characteristics of the product is useful in the buying process. On one hand, it allows the consumer to easily recognize the product they are looking for. On the other hand, it helps to incorporate more information about a new brand (Baker et al. 1986).

Defining the context is important for supply-side and demand-side decisions. The supply-side decision is to define the design for the product/service supply in the market. The demand-side consumer's decision is a selection among several alternatives, subject to checking the availability of budget, time, brand, flavour, regarding the product service that best meets their desires and needs (Ramos 1999).

Product consumption is a part of the life experience of individuals. For this reason, consumers have the ability to associate shapes and colours with certain characteristics that make up categories. The

research regarding the categorisation that makes the consumers' perceptions has focused on how the new products of the category are influenced by pre-existing beliefs and emotions (Loken 2006). A consumer's existing relationship with a brand plays an important role in the brand extension's success. There is ample empirical evidence that well-known brands could benefit from extensions more than brands, which exhibit less success. For example, Smith and Park (1992) argued that stronger brands might have a better ability to reduce perceived risk than weaker ones and showed a positive and significant relationship between brand strength and the brand extension's market share.

Literature focused on marketing and consumer behaviour has proved that geographical origin can contend with price effects, the value of the brand, perceived quality and it supposedly transfers the image of an attitude towards the region where the brand of the promoted products is from (Han 1989; Maheswaran 1994; Gürhan-Canli and Maheswaran 2000). Roth and Romeo (1992) showed that the perceived match between geographical origin and the product could be crucial in consumers' purchasing behaviour.

Following from the exposed literature, the following two hypotheses are proposed:

H₁ *The perceptions towards novel food product consumption are influenced by food consumption experiences and economic factors (quantitative).*

H₂ *The perceptions towards novel food product consumption (between female, male, younger and older consumers) are influenced by information on novel food and marketing-promotional activities (qualitative).*

It is important to mention that *age* is the primary variable in the correlation analysis, which helped us to take a decision regarding the tested hypothesis. The *gender* variable is also studied to show the differences of perception-opinion. The hypotheses are tested in the case of novel food consumption in the town of Maribor, Slovenia.

Methodology

SURVEY DESIGN

Slovenia is a relatively small country with a population a little more than 2 million (Statistical Office of the Republic of Slovenia 2013). The survey research was limited to Maribor, the second biggest town in Slovenia. Maribor had 93,847 inhabitants according to the 2012 census (Statistical Office of the Republic of Slovenia 2012). The town

is located in the Northeast of the country, in the Podravska statistical region, 23 km from the Austrian border. Maribor is divided into 33 residential areas. A total of 200 surveys were successfully conducted to make the analyses. The survey's structure considered the age and gender of the respondents. Two age groups of the respondents were considered. The first age group was between 18 and 35 years. This group was composed of 100 people: 50 female and 50 male. The second age group was between 36 and 55 years, and was also composed of 100 people: 50 female and 50 male. The survey's research on novel food was carried out between February and May 2013. It was explained to the respondents that novel foods are considered as functional, *genetically modified, ethnic, and organic and convenience food.* The respondents were asked to respond to four questions: two questions contained quantitative perceptions and the other two qualitative perceptions. The quantitative perceptions were evaluated by the following two questions: First, please indicate from the following aspects which ones are more important for you when buying food: *price, nutritional facts, product quality, and freshness (expiration date).* Second, please indicate from the information that appears on the food label which one you read: *nutrients, vitamins and minerals, and calories.*

The qualitative perceptions were evaluated by the following two questions: First, please indicate from the following aspects which ones are more important for you when buying food: *the package (how the product looks), geographical origin, taste, already know the product, and the brand.* Second, please indicate from the information that appears on the food label which one you read: *list of ingredients and geographical origin.*

The division into quantitative and qualitative factors of perceptions was made in order to determine which ones are the most important for the consumers when they purchase a particular product. For example, it can be seen as a hierarchical comparison between price (quantitative value) and taste (qualitative value).

The four questions used a five-point Likert-type scale to investigate how respondents perceived the effects of habit consumption: 1 indicated strongly disagree, 2 disagree, 3 neither agree nor disagree, 4 agree and 5 strongly agree (Likert 1932). For the second and fourth questions the importance was measured through the times the respondent read the information labels: 1 never, 2 rarely, 3 sometimes, 4 often, and 5 always. Two statistical methods are used to test hypothesis: Pearson correlation coefficient and analysis of variance (ANOVA).

We want to test if the set hypothesis is likely to be true with two possible outcomes: to reject the set hypothesis because of insufficient statistical evidence to support the set hypothesis, and cannot reject the set hypothesis because of sufficient statistical evidence in the sample in favour of the set hypothesis.

CORRELATION ANALYSIS

The Pearson correlation coefficient between the two variables is used as a measure of linear association between two normally distributed interval variables (Rodgers and Nicewander 1988). It tests whether there are significant differences between two variables using a correlation matrix, where any value less than or equal to 0.05 [(Sig.) ≤ 0.05] would be considered as significant.

ANALYSIS OF VARIANCE

The analysis of variance (ANOVA) is a statistical method, which finds if there are statistically significant differences between mean values. This technique allows for the analysing of differences between more than two means. Typical values for α are between 0.05 and 0.01. These values correspond to the probability of observing such an extreme value by chance (Tangren 2002). The ANOVA is used for two subsamples by two age groups to test whether the groups are statistically different.

Empirical Results

To clarify the H_1, a comparison of the attitude effects towards the quantitative variables – *price, nutritional facts, quality, and freshness* with the corresponding age – is tested. Table 1 presents the correlation results between *age* and the quantitative peers. As can be seen, only in one pair is there a statistically significant difference, between the exposed correlations.

For the first one it can be seen that the correlation coefficient between variables *age and good price of the product* is negative and weak $r = -0.301$. A p-value is equal to 0.000, which signifies that is highly statistically significant ($p \leq 0.01$). This significant effect explains that this first correlation could be seen in reality. The negative level of association means that variables are moving in opposite directions, the younger the people are, the more concern they have about the importance of the price. When analysing the rest of the peers between *age* and *nutritional facts, product quality and freshness (expiration date)* there are not significant effects in their compositions.

TABLE 1 Correlation Matrix between Quantitative Variables Price, Nutritional Facts, Quality, and Freshness, and Variables Age and Gender

Variable		(1)	(2)	(3)	(4)	(5)	(6)
(1) Age	(a)	1	0.000	−0.301**	0.114	0.024	0.084
	(b)		1.000	0.000	0.109	0.732	0.237
	n		200	200	200	200	200
(2) Gender	(a)	0.000	1	0.018	−0.091	0.057	−0.101
	(b)	1.000		0.803	0.201	0.424	0.156
	n	200		200	200	200	200
(3) Price	(a)	−0.301**	0.018	1	0.092	0.031	0.046
	(b)	0.000	0.803		0.195	0.667	0.522
	n	200	200		200	200	200
(4) Nutritio- nal facts	(a)	0.114	−0.091	0.092	1	0.317**	0.295**
	(b)	0.109	0.201	0.195		0.000	0.000
	n	200	200	200		200	200
(5) Quality	(a)	0.024	0.057	0.031	0.317**	1	0.459**
	(b)	0.732	0.424	0.667	0.000		0.000
	n	200	200	200	200		200
(6) Freshness	(a)	0.084	−0.101	0.046	0.295**	0.459**	1
	(b)	0.237	0.156	0.522	0.000	0.000	
	n	200	200	200	200	200	

NOTES (a) Pearson correlation, (b) sig. (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).

Between *gender* and *price,* the empirical results are different. One does not find statistically significant differences as the *p*-value is equal to $0.803 \geq 0.05$, and a correlation coefficient $r = 0.018$, which is very close to 0. This means that there is almost no correlation between the analysed variables. It is remarkable how the events can change from one variable to another, while *age* presented highly significant results within the variable price, while *gender* on the other hand showed opposite results. The similar effect as it was with age can be appreciated for gender and the rest of the combinations. One out of the four peers presented a significant effect, the one between *age* and *price*.

Table 2 presents the results of the two-way analysis of variance (ANOVA). *Age* does not have a significant effect on the importance of quantitative perceptions, since the *p*-value is equal to $0.388 \geq 0.05$. In addition, the quantitative factors have a significant effect due to $p = 0.000 \leq 0.01$. Finally, the interaction effect of both age and quantitative factors showed a significant effect, $0.000 \leq 0.01$. In other words, a difference was not found in the mean importance of age, but there is a difference in the mean importance within quantitative factors as well as in the interaction term of them.

TABLE 2 ANOVA Results between Variables Age, Quantitative Factors and the
Interaction of Them

Source	(1)	(2)	(3)	(4)	(5)
Age	0.405	1	0.405	0.746	0.388
Quantitative factors	150.285	3	50.095	92.320	0.000
Age*quantitative factors	15.145	3	5.048	9.304	0.000

NOTES   Column headings are as follows: (1) sum of squares, (2) df, (3) mean square, (4) F-test, (5) sig.

The second question of the survey referred to how often the respondents read the information shown on product labels. The study variables were *nutritional composition, vitamins-mineral,* and *calories* with the correspondent variable *age.* Table 3 presents the results of the correlation coefficients. The variable *age* did not present any significant difference with the other analysed variables. The pair *age* and *nutritional composition* (nutrients) had a very high non-significant effect as well as *calories,* 0.703 and 0.861, respectively. *Vitamins and minerals* were close to being significant, but the results are above the requested alpha level $0.078 \geq 0.05$.

Gender gives some interesting results. The three peers presented significance differences. *Gender* and *nutritional composition* show that p-value is equal to 0.030 at the alpha level of 5%, which makes it significant. The correlation coefficient is very weak and negative, $r = -0.154$, which signifies that both variables are moving into opposite directions. The remaining pairs *gender* and *vitamins* and *minerals* and *gender calories* show the same negative correlation coefficients which are equal to $r = -0.194$ and $r = -170$ and significant differences 0.006 and 0.016 respectively, at two different alpha levels. This is a good example of some greater differences among the studied variables, where *age* and *gender* indicate opposite results. In the comparison between age and gender, three out of the six variables are significant.

Using the same data, a two-way analysis of ANOVA was executed to analyse the quantitative variables previously exposed. Table 4 shows that age did not have a significant effect on the number of times the respondents look at the quantitative perceptions on labels; the p-value was above the alpha level 0.05, as it was equal to 0.182. The quantitative factors had a significant effect equal to 0.023 at 5%. Finally, the interaction effect of them was not significant according to the $0.472 \geq 0.05$.

Based on the results obtained by the Pearson Correlation coefficients and the analysis of variance, the set H_1 can be rejected in

TABLE 3 Correlation Matrix between Quantitative Variables Nutrients, Vitamins and Minerals, and Calories, and Variables Age and Gender

Variable		(1)	(2)	(3)	(4)	(5)
(1) Age	(a)	1	0.000	0.027	0.125	0.012
	(b)		1.000	0.703	0.078	0.861
	N		200	200	200	200
(2) Gender	(a)	0.000	1	−0.154*	−0.194**	−0.170*
	(b)	1.000		0.030	0.006	0.016
	N	200		200	200	200
(3) Nutrients	(a)	0.027	−0.154*	1	0.673**	0.669**
	(b)	0.703	0.030		0.000	0.000
	N	200	200		200	200
(4) Vitamins	(a)	0.125	−0.194**	0.673**	1	0.613**
and	(b)	0.078	0.006	0.000		0.000
minerals	N	200	200	200		200
(5) Calories	(a)	0.012	−0.170*	0.669**	0.613**	1
	(b)	0.861	0.361	0.000	0.000	
	N	200	200	200	200	

NOTES (a) Pearson correlation, (b) sig. (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

TABLE 4 ANOVA Results between Variables Age, Quantitative Factors (Labels) and the Interaction of Them

Source	(1)	(2)	(3)	(4)	(5)
Age	2.407	1	2.407	1.789	0.182
Quantitative factors	10.210	2	5.105	3.789	0.023
Age*quantitative factors	2.023	2	1.012	0.752	0.472

NOTES Column headings are as follows: (1) sum of squares, (2) df, (3) mean square, (4) F-test, (5) sig.

favour of the null hypothesis. There are not enough statistically significant differences to reject the null hypothesis.

To clarify the set H_2 the effects of attitude towards the qualitative variables are compared: Package (how the product looks), geographical location (where the product comes from), and the taste, already know the product, the brand name and the variable age.

The empirical results from the correlation analysis can be seen in table 5. The first pair between age and how the package looks exhibits a non-significant effect. The p-value is equal to $0.075 \geq 0.05$. The next pair was faced to geographical origin. In this case it can be detected that they have a significance effect between variables ($p = 0.000 \leq 0.01$) at the alpha level of 1%, and a low positive correlation equal to 0.296. This evidence indicates that both younger and older people once think that product origin is important. The

next pair regarding age and taste gives a low negative correlation $r = -0.167$ with a significant effect equal to 0.018 or the significance level less than 5%. Younger people have different perceptions regarding taste than older people, as for the former group it might be important while the latter group does not pay much attention to this variable. The fourth pair, age and already know the product demonstrates that the level of significance was above the 5% ($0.879 \geq 0.05$); the coefficient of correlation is close to zero ($r = 0.011$). This finding proves that there is a very weak correlation between the variables. Finally, the last peer reveals the interaction effect with the brand, which is statistically significant at less than 5% ($0.027 \leq 0.05$), and a relatively low correlation coefficient equal to 0.156. Resuming, three out of five peers between age and the qualitative variables presented significant effects at different levels. Campbell (1996) explains that the experience seems to be the principal motivation to learn about new products on the market. Therefore, the consumers' contacts with the product category generates experience and affects the ability to recognize the products and brands (Foxman, Muehling and Berger 1990). Nevertheless, in our experiment the variable age does not have a significant correlation with the variable 'I already know the product' while there is a significant effect with the variable brand name.

The variable *gender* reveals some intriguing differences. Between the five variables, just the *brand name* presented a statistical significant effect ($0.005 \leq 0.01$), while the rest of variables remained nonsignificant. The difference of the empirical results between *age* and *gender* could give another perspective to the research, depending on the perceptions between these two groups of consumers. An interesting to see the results for the variable *I already know the product,* which contradicts what Vargas (2003) said: Familiarity with the product predisposes the purchase; it does not allow that a misinformed purchase can be made, and finally leads to a trustworthy purchase.

Table 6 shows the results of the ANOVA performance for the qualitative variables. It can be seen that age, qualitative factors and the interaction of them were significant at the 1% level. In other words, there is a significant difference in the mean 'importance of the qualitative perceptions' based on age, qualitative factors and the interaction of them.

The last part of the research was focused on the food label information for the consumers. The investigated variables are *ingredients* and *geographical origin*. Table 7 confirms that the pair between *age* and *ingredients* is not statistically significant due to $p = 0.395 \geq 0.05$.

TABLE 5 Correlation Matrix between Qualitative Variables Package, Origin, Taste, Know the Product, and Brand Name, and Variables age and Gender

Variable		(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Age	(a)	1	0.000	0.126	0.296**	−0.167*	−0.011	0.156**
	(b)		1.000	0.075	0.000	0.018	0.879	0.027
	N		200	200	200	200	200	200
(2) Gender	(a)	0.000	1	−0.023	−0.027	−0.061	0.119	0.198**
	(b)	1.000		0.747	0.705	0.393	0.093	0.005
	N	200		200	200	200	200	200
(3) Package	(a)	0.126	−0.023	1	0.175*	−0.029	0.261**	0.319**
	(b)	0.075	0.747		0.013	0.686	0.000	0.000
	N	200	200		200	200	200	200
(4) Origin	(a)	0.296**	−0.027	0.175*	1	0.153*	0.130	0.133
	(b)	0.000	0.705	0.013		0.031	0.066	0.060
	N	200	200	200		200	200	200
(5) Taste	(a)	−0.167*	−0.061	−0.029	0.153*	1	0.027	−0.107
	(b)	0.018	0.393	0.686	0.031		0.699	0.132
	N	200	200	200	200		200	200
(6) Known product	(a)	−0.011	0.119	0.261**	0.130	0.027	1	0.326**
	(b)	0.879	0.093	0.000	0.066	0.699		0.00
	N	200	200	200	200	200		200
(7) Brand	(a)	0.156**	0.198**	0.319**	0.133	−0.107	0.326**	1
	(b)	0.027	0.005	0.000	0.060	0.132	0.00	
	N	200	200	200	200	200	200	

NOTES (a) Pearson correlation, (b) sig. (2-tailed). **Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

TABLE 6 ANOVA Results between Variables Age, Qualitative Factors and the Interaction of Them

Source	(1)	(2)	(3)	(4)	(5)
Age	8.836	1	8.836	10.809	0.001
Qualitative factors	512.824	4	128.206	156.836	0.000
Age*qualitative factors	22.304	4	5.576	6.821	0.000

NOTES Column headings are as follows: (1) sum of squares, (2) df, (3) mean square, (4) F-test, (5) sig.

There is almost no correlation between them since the correlation coefficient is equal to $r = 0.060$. On the other hand, age and *geographical origin* displays a statistically significant correlation at the 1% level as $p = 0.000 \leq 0.01$. However, the correlation coefficient $r = 0.251$ is relatively low. It can be seen that the results for *gender* are the opposite. *Ingredients* have significant differences while *geographical origin* does not. There is a significant correlation effect in the first pair as $p = 0.001 \leq 0.01$ with a negative correlation coefficient equal to −0.242, while the second pair also presents a negative correlation

TABLE 7 Correlation Matrix between Qualitative Variables Ingredients and Geographical Origin, and Variables Age and Gender

Variable			(1)	(2)	(3)	(4)
(1) Age	(a)		1	0.000	0.060	0.251**
	(b)			1.000	0.395	0.000
	N			200	200	200
(2) Gender	(a)		0.000	1	−0.242**	−0.078
	(b)		1.000		0.001	0.270
	N		200		200	200
(3) Ingre-dients	(a)		−0.054	−0.242**	1	0.412**
	(b)		0.447	0.001		0.000
	N		200	200		200
(4) Origin	(a)		−0.190**	−0.078	0.412**	1
	(b)		0.007	0.270	0.000	
	N		200	200	200	

NOTES (a) Pearson correlation, (b) sig. (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

TABLE 8 ANOVA Results between Variables Age, Qualitative Factors (Labels) and the Interaction of Them

Source	(1)	(2)	(3)	(4)	(5)
Age	13.323	1	13.323	11.175	0.001
Qualitative factors	7.023	1	7.023	5.891	0.016
Age*qualitative factors	6.003	1	6.003	5.035	0.025

NOTES Column headings are as follows: (1) sum of squares, (2) df, (3) mean square, (4) F-test, (5) sig.

coefficient ($r = -0.078$) but with no significant correlation coefficient according to $p = 0.270 \geq 0.05$.

Finally, the ANOVA was performed. Table 8 suggests that age has a significant effect as $p = 0.001 \leq 0.01$. The qualitative variables also have a significant effect ($p = 0.016 \leq 0.05$) as well as the interaction of them ($p = 0.025 \leq 0.05$). The results suggest that age, qualitative factors and the interaction of them have statistically significant differences in the mean how often consumers see the labels of the products they buy.

Taking into account the results obtained by the Pearson Correlation coefficients and the ANOVA, the set H₂ cannot be rejected: *The perceptions towards novel food product consumption are influenced by information on novel foods and marketing-promotional activities.*

Conclusions

The empirical analysis confirmed that there are significance differences in consumer perceptions when buying novel food, regarding

age. The comparison between the variables age and gender showed that the preferences-perceptions regarding the novel food could vary in a significant way. The correlation analysis confirmed the importance of quantitative and qualitative perceptions. The correlation coefficients were more significant for age and the qualitative perceptions. The ANOVA confirmed the most significant results in the qualitative variables and the age variables, and the interaction of them.

The perceptions of younger and older consumers can be perceived in a very different way when making the statistical analysis. According to the set H_2, consumers can perceive towards the brand name and the product origin. This suggests that in the case of new products, there is a greater probability of acceptance by the consumer when there is a similarity of the product either with a category previously related to, or with a specific known brand (Barone, Miniard and Romero 2000) or it is supported by the strong promotional campaign made by marketing companies and social networks (Subramani and Rajagopalan 2003).

It is possible that consumers' experiences can be transcendental when buying products and services. Moreover, as argued by Erdem and Keane (1996), consumers can react adversely to the variation in product attributes. Therefore, a change in product attributes can cause a lack of credibility in content or distrust. For future research, it would be interesting to further investigate whether Slovenian consumers would be willing to accept a change in their consumption habits and thus distrust in food consumption.

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The Growth Drivers of Start-up Firms and Business Modelling: A First Step toward a Desirable Convergence

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This paper represents the first step of a broader research project focusing on the growth performance of start-up firms in technological sectors. While our main assumption is that the growth of such firms can be mostly attributed to strategic factors, we aim at reviewing the available literature on the topic with a broader scope, with the purpose of identifying the different determinants of new firms' growth. After summarising the most relevant research perspectives on the theme, we introduce the perspective of the business model. In our view, this construct represents a significant conceptual improvement for the study and explanation of the developmental processes and performances of new ventures in high-tech and science-based fields. We first define what a business model is, according to the extant literature, and then discuss the implications of the adoption of such a concept for our research. We conclude the paper by describing the research path ahead.

Key words: new ventures, high-tech, science-based, growth, business model

Introduction

Over the past few decades, new ventures in high-tech and science-based industries have been considered an important engine of economic development. They have received a lot of attention from

scholars from several scientific fields (e.g., economics of innovation, entrepreneurship, strategic management), and strong support for such entrepreneurial initiatives has been provided by policy makers from all over the world. This favouring of new high-tech ventures is based on the belief that certain types of firms – particularly those based on innovative products and new technologies – matter more than others when it comes to fostering countries' long-term economic growth. The level of interest in and support for such ventures has rapidly broadened in scope, to cover both the science-based and the high-tech, along with academic spin-offs, which are aimed specifically at exploiting public research (Chiesa and Piccaluga 2000).

However, given increasing evidence regarding the relatively poor performance of such new ventures, doubts have begun to be raised about their actual contribution to economic development (Lazzeri and Piccaluga 2011). Such doubts are based on the observation that while, on the one hand, there are a handful of new ventures that are indeed growing very quickly and for long periods of time (Morris 2011), on the other, the vast majority of high-tech and science-based new ventures still show very low rates of growth, if any at all. Consequently, a better understanding of the characteristics and attributes of such firms, their growth drivers and the possible obstacles to their development has become a primary goal for researchers, policy makers and the organisations whose mission is to promote and drive economic development.

This paper represents the first step in an ongoing research project involving several Italian Universities that is focused on start-up firms and their growth processes. The aim of the paper is to 'set' the grounds for an alternative view of the growth of high-tech and science-based new ventures. After summarising the most common research perspectives on the topic – entrepreneurial, contextual and strategic – we introduce the perspective of the business model. We first define what a business model is, according to the current literature, and then discuss the concept within the aims and scope of our research. At the end of the paper, we describe the path ahead for our research.

Background

High-tech and science-based new ventures account for a disproportionate share of major, radical innovations. New ventures that have established their business around ideas and findings from both high-tech fields – such as nanotechnology, aerospace and robotics – and science fields – such as biology, biomedicine and nuclear physics

– are able to originate technological breakthroughs, rather than simply incremental product innovations. The available literature on the growth processes of new ventures operating in the high-tech and science-based sectors is still very limited. Thus, to provide the theoretical foundations for our research, we had to enlarge the scope of our review and examine the growth processes of small firms in general.

Indeed, Small and Medium Enterprises' (smes) growth drivers are among the most debated and controversial topics in the managerial literature (Churchill and Lewis 1983; Scott and Bruce 1987). In approaching this literature, we have mostly aimed to identify those drivers and variables that could have a significant role in high-tech settings. Although it is still questionable whether we can consider dimensional growth a firm's goal *per se,* we can definitely say that growth brings several benefits to a firm. Among these, many benefits are that it increases the firm's market power over customers and suppliers, it expands the investment capacity in new products and new technologies, and it improves the firm's reputation in the market. However, growth has also some negative effects, such as increased rigidity in the organisation and a slowing of the decision-making processes; nevertheless, generally, the benefits are thought to far outweigh the sacrifices.

Expectations for growth may vary substantially over a new firm's life cycle (Delmar and Wiklund 2008). However, growth is widely considered an impelling objective for new ventures, so much so that the topic has stimulated a considerable amount of empirical research (Delmar, Davidsson and Gartner 2003; Gilbert, McDougall and Audretsch 2006). Different explanations have been given for the differences between high- and low-growth new ventures. Emphasis has been placed on several determinants, such as the profile of the founding entrepreneur, the characteristics of the business environment, the different business strategies formulated and implemented, the different business models adopted and their adaptation over time (Song et al. 2008).

With no claim of being exhaustive, in the following pages, we identify and briefly introduce three of the main schools of thought that have contributed to the understanding of this topic. Different growth factors are emphasised by each approach. These are, namely:

- entrepreneurial factors;
- contextual factors; and
- strategic factors and access to resources and capabilities.

While such factors have general validity for any type of industry

and firm, we will derive from them specific implications regarding the growth processes of new ventures in high-tech sectors.

ENTREPRENEURIAL FACTORS

A number of academic contributions focus on the importance of the personal attributes and individual skills of the founding entrepreneur and identify a number of possible problems faced by new ventures when trying to grow, such as scarce market knowledge and sales capabilities, or poor timing for venture start-up (Carland, Hoy and Carland 1988; Terpstra and Olson 1993).

According to Bhidè (2000), transforming improvised start-ups into noteworthy enterprises requires a radical cultural shift, from 'opportunistic adaptation' in niche markets to the pursuit of more ambitious strategies, which, in turn, require specific personal traits in the founding entrepreneur and/or the management team that were less important initially, such as ambition and risk taking. Kelley, Bosma and Amorós (2011), in their broad study of entrepreneurship activities, also emphasise the 'personal' factors behind a new venture and focus on differences in entrepreneurial attitudes, experience and aspirations as a possible explanation for growth differentials between new ventures in different sectors and countries.

The founder's individual characteristics are assumed important for many reasons. First, it is believed that the individual traits of the founder can shape the culture and the behaviour of the firm he/she leads (Mullins 1996). It is understood that the consequences of this can be either positive or negative, but it is generally assumed that more innovation-oriented and risk-taking entrepreneurs generally represent an asset in new, proactive firms. Second, launching a new firm is a challenging process, and individual traits, such as education and prior industry experience, can be critical to providing the new venture with the appropriate strategies, the right combination of resources and the right time horizon (Birley 1985; Cooper, Woo and Dunkelberg 1988; Duchesneau and Gartner 1990; Hansen 1995; Sapienza and Grimm 1997; Stuart and Abetti 1986; Watson, Steward and Barnir 2003). Third, external investors often assess the potential of a new venture by evaluating the individual attributes of its founder(s) (Colombo and Grilli 2005). In sum, individual traits, such as the founder's psychological attitudes and his/her experience and practical skills, can be expected to drive new ventures towards higher growth performance. Thus, Baum, Locke and Smith (2001) maintain that a motivated founder – with reference to his/her vision, goals and self-efficacy – is a key factor in the growth of a new firm.

Within this research vein, a widely used construct is the Entrepreneurial Orientation (EO). In its basic constituents, EO refers to the entrepreneur's attitudes towards risk taking, ability to capture emerging market opportunities and behaviour towards innovation (Covin and Slevin 1991). Many scholars have used EO in their attempts to explain growth differentials between new ventures. In general, such studies confirm that a high EO tends to be associated with superior growth performance (Wiklund 1999; Zahra and Covin 1993). However, some of the literature warns that a lot of fine-grained work remains to be done on the empirical side to fully prove this association (Hart 1992; Lumpkin and Dess 1996; Smart and Conant 1994).

Firms can also be led by entrepreneurial teams, not just by single individuals. Thus, we can understand why the quality of the founding team has become the unit of analysis for several scholars (Eisenhardt and Schoonhoven 1990; Feeser and Willard 1990). Here, the size and qualitative composition of the founding team are the factors that most support the growth of new firms (Zucker, Darby and Brewer 1998). Despite the commonalities at the conceptual level, the two approaches in the literature (solo entrepreneur vs. entrepreneurial teams) have developed in quite independent ways, with the latter taking a more organisational drift.

In sum, the literature described above supports a view of new ventures' development in which growth rates are affected by the profile of the founding entrepreneur and the management team. A number of studies, specific to the technological sector, share the same view. For example, a diversified management team in which technological and managerial expertise coexist is recognised as an important factor for the growth of new high-tech ventures (Colombo and Grilli 2005; Marino and De Noble 1997; McGee, Dowling and Megginson 1995).

CONTEXTUAL FACTORS

The relationship between the growth of the firm and contextual (environmental) factors has been observed from many different angles. Though the description that follows is not exhaustive, three perspectives have dominated the scene.

The *first* looks at the industry structure and the market dynamics. This perspective is largely dominant in strategic studies, where firms' moves are typically assumed to be driven by the opportunities (and threats) emerging from the market and to be favoured (or constrained) by the structural characteristics of the industry to which

a company belongs (Davidsson 1989a, 1989b; Stevenson and Jarillo-Mossi 1986; Stevenson and Jarillo 1990). The majority of these studies take the environment as a given. Hence, it is assumed that certain markets and industries offer more favourable conditions than others for both the establishment of new ventures and their growth (Audretsch 1995; Cooper, Gimeno-Gascon and Woo 1994; Vivarelli and Audretsch 1998). Other studies claim that industries, markets and niches do not exist *per se,* but are created by firms through their strategic decisions and moves (Deloitte and Touche Consulting Group (GB) 1997; Storey 1996).

A *second perspective* emphasises the role of institutional factors (regulations, culture, norms, infrastructures, etc.) in supporting or inhibiting growth. Among this group of studies, Fritsch (1997), Djankov, McLiesh and Ramalho (2006) and Ardagna and Lusardi (2010) observe that firms grow more and faster in countries (or regions) characterised by efficient markets and effective financial and labour regulations.

The work done by Hung and Chu (2006), Breznitz (2007) and Gilsing, van Burg and Romme (2010) shows that it is possible to design effective public policies to foster the creation and growth of high-tech firms. The following mechanisms, in particular, have been shown to be more promising than others: encouraging partnerships, fostering entrepreneurship and venture initiatives in the innovation system and sustaining commercialisation activities. Finally yet importantly, differences in taxation systems contribute to differences in the firms' growth rates in different locations. In this regard, Fisman and Svensson (2007) find that both fiscal pressure and bribery practices reduce firms' growth capacity.

A *third perspective* on contextual factors looks at the location of the new firms and the characteristics of the local environment. This perspective has become widely popular among regional economists, geographers and industrial economists and has been brought into an impressive amount of studies on related concepts, such as industrial clusters (Porter 1998), industrial districts (Becattini 1990) and regional innovation systems (Doloreux 2003).

As local firms benefit from these contextual forces, the location itself becomes a key determinant of their performance, both in terms of profitability and growth. Under certain conditions, a 'magnet' effect is created (new suppliers, new clients, new firms and new talents are drawn to the area) that reinforces itself over time (Thakor and Lavack 2003). The case of the Silicon Valley in California is illustrative in this regard. In this vein, Glaeser et al. (1992) claim that

TABLE 1   Factors Affecting the Growth of New Ventures:
Entrepreneur's Individual Traits

Factors	Definitions/measurements	References
Higher educa-tion	Important entrepreneurial skills are en-hanced through higher education.	Sapienza and Grimm (1997); Watson, Stew-ard and Barnir (2003)
Entrepreneurial experience	Entrepreneurs with prior en-trepreneurial experience are more accustomed to the entrepreneurial process and more likely to avoid costly mistakes than entrepreneurs with no prior entrepreneurial experience.	Cooper, Woo and Dunkelberg (1988); Duchesneau and Gart-ner (1990); Stuart and Abetti (1986)
Broad social and profes-sional network	Founders with broad social and profes-sional networks have potential access to additional knowhow, capital and cus-tomer referrals.	Birley (1985); Fu et al. (2006); Hansen (1995)
Entrepreneurial orientation	Willingness to innovate market offer-ings; propensity to take risks to try out new and uncertain solutions; proactive attitude toward new marketplace oppor-tunities.	Wiklund (1999); Zahra (1991); Zahra and Covin (1993)
Motivation (vi-sion, goals and self-efficacy)	Vision, challenging goals and self-efficacy represent mechanisms for actu-alising an entrepreneurial opportunity?	Baum, Locke and Smith (2001)

proximity and location play an important role in enabling the diffu-sion of knowledge – and especially of *tacit* knowledge – across firms in a spatially bounded region (Audretsch and Feldman 1996; Jaffe 1989; Jaffe, Trajtenberg and Henderson 1993). Strong inter-firm net-works, enabling knowledge spillovers, offer high-tech firms a higher chance of survival and success (Raz and Gloor 2007), providing them with access to resources that would not otherwise be available (Witt 2004).

STRATEGIC FACTORS

Several scholars emphasise the importance of market strategies in explaining growth differentials among new ventures (Almus and Nerlinger 1999; Bloodgood, Sapienza and Almeida 1996; Li 2001; Marino and De Noble 1997; Siegel, Siegel and Macmillan 1993; Smallbone, Leigh and North 1995; Zahra and Bogner 2000). For example, in an attempt to define the characteristics that distin-guish high-growth from low-growth companies, Siegel, Siegel and MacMillan (1993) find that market strategies matter considerably, although this also depends on the size and the age of the firm. The

TABLE 2 Factors Affecting the Growth of New Ventures:
Entrepreneurial Team

Factors	Definitions/measurements	References
Industry experience	Experience of the firm's management team in related industries and markets.	Colombo and Grilli (2005); Marino and de Noble (1997)
Marketing experience	Experience of the firm's management team in marketing.	Marino and de Noble (1997); McGee, Dowling and Megginson (1995)
Managerial and start-up experience	Experience of the firm's management team in previous managerial positions and start-up situations.	Colombo and Grilli (2005); Marino and de Noble (1997)
R&D experience	Experience of the firm's management team in R&D.	Marino and de Noble (1997); McGee, Dowling and Megginson (1995)
Size of founding team	Size of the firm's management team.	Chamanski and Waagø (2001)

TABLE 3 Factors Affecting the Growth of New Ventures:
Market and Competitive Environment

Factors	Definitions/measurements	References
Competition intensity	Strength of inter-firm competition within the industry.	Chamanski and Waagø (2001)
Environmental dynamism	Pace of change in the firm's external environment.	Wiklund and Shepherd (2005); Zahra and Bogner (2000)
Environmental heterogeneity	Perceived diversity and complexity of the firm's external environment.	Zahra and Bogner (2000)
Product/market maturity	Stage of product life cycle.	Eisenhardt and Schoonhoven (1990); Park and Bae (2004); Sandberg and Hofer (1987)

results seem to suggest that since young and small companies have resources starvation, they will perform better by focusing all their efforts on reaching limited goals.

Kaplan, Sensoy and Stromberg (2009) analyse a sample of successful venture capital-financed companies and examine how firm characteristics evolve from the early business plan to initial public offering (IPO). What they conclude is that external investors should place more weight on the business strategy of start-ups ('the horse' in the authors' metaphor) than on the management team

TABLE 4   Factors Affecting the Growth of New Ventures: Strategy

Factors	Definitions/measurements	References
Internatio-nalisation	Extent to which a firm is involved in cross-border activities.	Bloodgood, Sapienza and Almeida (1996); Li (2001); Marino and de Noble (1997)
Diversification	Extent to which a firm is involved into new product areas.	Li (2001); Marino and de Noble (1997)
Differentiation	Number of versions of products for each niche.	Baum, Locke and Smith (2001); Mange-matin et al. (2003)
Low-cost strat-egy	Extent to which a firm uses cost advan-tages as a source of competitive advan-tage.	Baum, Locke and Smith (2001); Blood-good, Sapienza and Almeida (1996)
Market growth rate	Extent to which average firm sales in the industry increase.	Bloodgood, Sapienza and Almeida (1996); Lee, Lee and Pennings (2001)
Marketing in-tensity	Extent to which a firm is pursuing a strategy based on unique marketing ef-forts.	Li (2001)
Product inno-vation	Degree to which new ventures are de-veloped and new products or services introduced.	Li (2001); Park and Bae (2004)
Marketing planning	Formalisation of a synoptic model of strategic planning.	Gruber (2007)

('the jockey'), since having good strategies seems to be more impor-tant than having the best people to carry them out. In more general terms, the entire Stanford Project on Emerging Companies supports this view and suggests that a good business idea and non-human capital assets are relatively more important than the characteristics of the management team for the success of a start-up firm (Baron and Hannan 2002; Baron, Hannan and Burton 1999; Beckman and Burton 2008).

Furthermore, other studies try to combine the strategic view of the firm with other theoretical perspectives – such as the entrepreneurial theory and the organisational theory of the firm – in an attempt to come to a better, more comprehensive explanation of new ventures' growth differentials (e. g., Baum, Locke and Smith 2001; Chrisman, Bauerschmidt and Hofer 1998; Sandberg and Hofer 1987). Much of this literature does not take a fully strategic perspective, but instead supports a contingency approach in which it is assumed that the

TABLE 5 Factors Affecting the Growth of New Ventures:
Access to Resources and Capabilities

Factors	Definitions/measurements	References
Financial resources	Level of financial assets of the firm.	Robinson and Mc-Dougall (2001)
Firm age	Number of years a firm has been in existence.	Zahra, Matherne and Carleton (2003)
Firm size	Number of firm employees.	Zahra, Matherne and Carleton (2003)
Firm type	A firm's type of ownership (corporate ventures or independent ventures).	Zahra, Matherne and Carleton (2003)
Patent protection	Availability of firm's patents protecting product or process technology	Marino and de Noble (1997)
R&D alliances	The firm's use of R&D cooperative arrangements; for NTVs, these also correspond to horizontal alliances.	McGee, Dowling and Megginson (1995); Zahra and Bogner (2000)
R&D investment	Intensity of the firm's investment in internal R&D activities.	Zahra and Bogner (2000)
Supply chain integration	A firm's cooperation across different levels of the value-added chain (e. g., suppliers, distribution channel agents or customers).	George et al. (2001); George, Zahra and Wood (2002); Mc-Dougall et al. (1994)
Marketing capabilities	Nature of product/service offerings, marketing expertise and knowledge and product-promotion activities that new ventures have.	Zou, Chen and Ghauri (2010)
Technological capability	The use of advanced technology, valuable technology sources, patents and copyrights.	Lee, Lee and Pennings (2001)
Network capabilities	A firm's ability to develop and utilise inter-organisational relationships.	Heirman and Clarysse (2004)

growth of new ventures is mostly attributable to the fit between characteristics of the external environment and internal factors, such as the firm's organisational structure and strategies (Eisenhardt and Schoonhoven 1990; Feeser and Willard 1990). A complementary strategic view on the growth of new ventures is offered by the Resource-Based View of the Firm. According to this perspective, new ventures' growth is mostly due to their resources and capabilities base and their ability to access external resources through relations and networks with other firms (Lee, Lee and Pennings 2001; Heirman and Clarysse 2004; McDougall et al. 1994; Zahra and Bogner 2000; Zahra, Matherne and Carleton 2003).

TABLE 6 Factors Affecting the Growth of New Ventures: Contextual Factors

Factors	Definitions/measurements	References
University partnerships	A firm's use of cooperative arrangements with universities.	Chamanski and Waagø (2001); Zahra and Bogner (2000)
Nongovernmental financial support	Financial sponsorship from commercial institutes.	Lee, Lee and Pennings (2001)
Industry growth rate	Industry growth rate and the maturity of the market are recognised as directly correlated with small firms' growth.	Audretsch and Mahmood (1994); Baldwin and Gellatly (2003)
Economies of scale in the industry	Presence of economies of scale push firms to invest to grow quickly.	Audretsch (1995); Vivarelli and Audretsch (1998)
Fast-growing market niches	Profitable market niches tend to be created and populated by small firms that grow quickly.	Deloitte and Touche Consulting Group (GB) (1997); Storey (1996)
Environmental heterogeneity	When markets are complex and heterogeneous, companies can more easily identify and develop profitable niches to grow.	Covin and Covin (1990); Kolvereid (1992)
Industrial districts and clustering	Concentration within a geographic area results in higher firm efficiency, performance and growth due to three main location-related benefits: labour market specialisation and sharing; availability of specific intermediate goods and non-traded inputs; and knowledge externalities and knowledge spillovers.	Becattini (1990); Porter (1998)
Location brand advantage	When the location itself gets recognised by the market as superior in the production of specific outputs and under certain conditions can deliver a branding advantage to the firm.	Thakor and Lavack (2003)

Continued on the next page

In particular, Lee, Lee and Pennings (2001) examine the influence of internal capabilities and external networks on firm performance (measured by sales growth) by using data from a sample of Korean technological start-up companies. The research results show that the indicators of internal capabilities are important predictors of a start-up's performance, while, among external networks, only linkages to venture capital companies predicted the start-ups' performance.

Tables 1–6 summarise, and partly expands upon, the results of the literature review.

TABLE 6 *Continued from the previous page*

Factors	Definitions/measurements	References
Knowledge spillover	Proximity and location play an important role in enabling the diffusion of knowledge across firms in a spatially bounded region.	Audretsch and Feldman (1996); Glaeser et al. (1992); Jaffe (1989); Jaffe, Trajtenberg and Henderson (1993)
Higher growth for knowledge-based firms in clusters	Firms based on knowledge inputs should manifest better performance if located in a firm cluster, since they will have superior access to both knowledge spillovers and knowledge resources.	Audretsch and Dohse (2007)
Level of regulation	Countries or regions with better regulations allow the economy – and the firms – to grow more quickly, and the quality of regulations plays a central role, particularly for new entrepreneurs, in the pursuit of a business opportunity.	Ardagna and Lusardi (2010); Djankov, McLiesh and Ramalho (2006)
Legal and financial systems development	Firms operating in industries that need more access to external finance grow much more quickly in regions with more advanced financial systems.	King and Levine (1993)
Local financial system sophistication	Stock market development and ease of access to private credit promote entry and growth of new companies.	Aghion, Fally and Scarpetta (2007)
Local taxation (and bribery) system	Local differences in the taxation system, both official and unofficial (in the form of bribery), are relevant to firm growth rate differences across locations.	Fisman and Svensson (2007)

Business Modelling and the Growth of New Ventures: What We Already Know

THE BUSINESS MODEL CONCEPT

The above review of what we know regarding the drivers of growth reveals how difficult is to integrate different explanations of new ventures' growth processes into a single perspective. In recent years, several scholars have moved their attention toward a new construct, i. e., the *business model,* which is able to provide a coherent framework for explaining how technical potential can be converted into economic value. In this vein, the business model can be considered a theoretical device that mediates between technological development and new ventures' growth (Chesbrough and Rosenbloom 2002).

The business model is a concept that, in recent years, has been

gaining ground in several managerial disciplines. Although we still lack an agreed-upon definition of what a business model is, we can objectively claim that the concept refers to a set of decisions that relate to a firm's market strategy and organisational structure, as well as to the activities it performs both inside and within the business environment, through a network of transactions. As such, the concept builds on the extant literature on business strategy, organisation design, transaction theory and business networks.

Zott, Amit and Massa (2011) provide a broad, multifaceted review of the literature on this topic, starting with the origins of the construct itself, and they discover that the literature on business models has been developing largely in separate silos. In particular, three non-converging research streams can be associated with the business model concept: the e-business literature, the strategic management field and the area of innovation and technology management.

The e-business literature stream has evolved in parallel with the rapid advent, since the late nineties, of the 'new economy.' Scholars' attention has been dedicated mainly to the different options available for creating and capturing economic value in this specific business environment, where products are typically intangible in nature and where proprietary rights are not always clearly attributable.

Second, the strategic literature has emphasised the importance – for both new and established firms – of combining several decisions that affect different management areas in a consistent way, from value chains to organisation design to market positioning. In this light, the business model corresponds to a framework that integrates such dimensions toward a common direction.

Third, the innovation and technology management literature uses the business model concept to enlarge the scope of the innovation activity carried out by firms. In this sense, business modelling is recognised as an additional dimension of the innovation capability of the firm. Special consideration has been dedicated to models that combine internal and external innovation activities within so-called 'open innovation systems.'

According to Amit and Zott (2001), the business model concept is very close to the strategy approach, but they do not coincide. Indeed, firms compete through their business models, but, while the strategy approach emphasises the competitive dimension (value capture), the business model places a lot of emphasis on cooperation, partnership, joint value creation and customer value proposition. For some authors, the business model definition precedes (or contains) strategy formulation (Zott and Amit 2007, 2008). For others, the business

model is the reflection of a realised strategy (Casadesus-Masanell and Ricart 2010).

Zott, Amit and Massa (2011) support a view of the business model as a construct that emphasises a system-level, holistic approach toward explaining how firms do business. This holistic view of the business model concept is shared by other authors (Onetti et al. 2012) who consider the business model a promising emerging unit of analysis in the management field, as it brings several advantages by combining organisational and strategic aspects and looking at how value is created and eventually captured.

In general, most of the literature tends to see the business model construct through static lenses and therefore look at it as a detailed description, at a specific moment in time, of how a company creates value for consumers and for itself (Osterwalder 2004). Another approach recognises that firms are continuously subject to external environmental pressures and need to adapt their business models to preserve their appropriateness (Cavalcante, Kesting and Ulhøi 2011; Wirtz, Schilke and Ullrich 2010).

Much of the literature on business models reflects the first (configurational) approach (Afuah and Tucci 2001; Teece 2010). For instance, Morris, Schindehutte and Allen (2005) define the business model as a structural template made up of six fundamental components: value proposition, customers, internal processes/competencies, external positioning, economic model and personal/investor factors. The focus is on the internal coherence of the six components. Johnson, Christensen and Kagermann (2008) break up the concept into the following four interwoven elements: customer value proposition, profit formula, key resources and key processes.

BUSINESS MODELLING IN HIGH-TECH AND SCIENCE-BASED CONTEXTS

Pisano (2006; 2010) and Braguinsky et al. (2010) have recently addressed the issue of designing viable business models for science- and/or research-based new ventures. Their main driving question is the following: can organisations, motivated by the need to make a profit and satisfy shareholders, successfully conduct basic scientific research as a core activity? According to Pisano (2010), science-based businesses confront three fundamental challenges: 1) the need to encourage and reward profound risk taking over long time horizons ('the risk management problem'); 2) the need to integrate knowledge across highly diverse disciplinary bodies ('the integration problem'); and 3) the need for cumulative learning ('the learn-

ing problem'). While each of these challenges – risk, integration, and learning – are present to varying degrees in most business settings, in science-based businesses, the three appear in far greater force and often simultaneously. In this respect, science appears to be a specific environment in which business organisations must develop different and specific models to run their activities in a profitable way. In other words, we can expect that viable science-based businesses will need to design and implement business models that are not just replications of those prevalent in traditional business settings.

Such new business models may also show radical differences at the entrepreneurial level. Indeed, Braguinsky et al. (2010) challenge the conventional view of science-based businesses, which is focused on the inseparability of the roles of the inventor and the Schumpeterian entrepreneur who implements the business in practice. Similar dynamics have been observed in the case of new high-tech ventures. Onetti et al. (2012) underline that nowadays, such firms are forced to develop a broad strategic vision and competitive strategies and capabilities that are necessarily global. What really matters to the growth of these firms is an 'effective business model design, where decisions about core activities and where to focus investments are interconnected to decisions about location of activities, and about inward and outward relationships with other players' (p. 363).

Conclusions

Despite the limitations of and gaps in the literature on business models, we strongly believe that this construct can be potentially useful for our research on the growth processes of new ventures in high-tech and science-based sectors. Why do some new ventures grow more quickly (and for a longer time) than others? What explains the above-average performance of some new ventures, and which contingent factors may limit the growth of such firms? We believe that business models can represent a major driver of growth. Despite the scarce literature available in this area, we hold this claim to be true also for high-tech and science-based industries. Our key research question is the following: *Do certain business models appear to be more effective than others in supporting the growth of high-tech and science-based new ventures?*

To provide an answer, further steps are necessary. The first is defining the business model construct in a parsimonious way and operationalising it for empirical research. Most of the definitions we have found bring together many variables (e.g., value proposi-

tion, economic model, internal processes), and in practice, each one is declinable in multiple ways, producing a combination of possible models that would be impossible to manage empirically. Hence, our first challenge will be the selection of the most appropriate building blocks for the configuration of the business model.

Our second step will be to give this construct a dynamic nature and content. Indeed, it is the ability of the firm to adapt its business model to the changing environment that matters most in assuring good growth performance. Despite the dearth of literature on the topic, we believe it is possible to leverage and capitalise on some solid anchorages.

First, there is the work by Amit and Zott (2001), which identifies four different dimensions of the business model that can influence the value creation (and, thus, the growth performance) of a new venture. They include:

- the business model's novelty;
- the degree of customers' and partners' lock-in to a specific business model;
- the available complementarities (i. e., the possibility of offering a bundle of different products/services through the same business model); and
- the level of transactional efficiency.

Second, there is the work by Pisano (2010), which recognises the call for more risk-taking approaches, knowledge integration and cumulative learning practices in science-based and, in some measure, high-tech firms.

Relying upon such seminal works, while better clarifying the components and patterns of evolution of the business model, we aim to demonstrate that successful new ventures in high-tech and science-based sectors are those that can effectively adapt their business models over time. Such adaptation is facilitated by learning processes whereby the newly established firms experiment with new combinations of strategies, organisational designs and activity systems. New ventures must preserve their business model's fit with the environment while retaining the internal consistency of its components. Different stages of a new venture's development lead to business model changes. Such changes may support or impede growth. Further research in this area will need to identify effective patterns of business model changes in different industry settings for both high-tech and science-based new ventures.

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Prospect Theory and SERVQUAL

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The aim of this paper is to make a scientific contribution for a better understanding of the relationship between the Prospect Theory and SERVQUAL. The first objective is to analyse whether the SERVQUAL scale is an appropriate scale to quantify service quality and customer satisfaction of automobile-insurances. The second objective is to discuss the relationship between service quality and customer satisfaction. With the prospect theory, the relationship is explained and described. Only a negative asymmetric relationship between service quality and customer satisfaction can be explained by the prospect theory. The proposed diminishing sensitivity lacks sufficient significant empirical evidence.

Key words: SERVQUAL, customer satisfaction, prospect theory

Introduction

The subject of service quality and customer satisfaction is not new. These two constructs and their causal order in different industries have received considerable attention in the scientific literature in the past 30 years (Crosby and Stephens 1987; Martinez and Martinez 2010). The insurance industry is characterized by its introverted behaviour in publishing data on service quality and customer satisfaction. The aim of this paper is therefore to identify in how far the characteristics of the Prospect Theory can be used in order to explain the relationship of service quality and customer satisfaction in the insurance industry.

Depending on the understanding of the term 'quality' and its perspective, quality can result in different interpretations. The most influential attempt for systematization goes back to the different quality terms by Garvin (1984), who identified five sub-qualities with partial analyses. However, Garvin's approach has never been extended and often serves only as visualization in service-marketing (Zollondz 2006).

In everyday language, the term 'quality' is used as a synonym of a product or service with specific characteristics. A differentiation between a quality-characteristic as a factor or as a texture is helpful

(Zollondz 2006). Additionally the term 'quality' has a positive connotation as the expectations are fulfilled above average. The level can include a positive and a negative evaluation (Haller 1998).

The quality of a service is the result of a set of characteristics, which can be weighted differently and can have appositive or a negative reciprocity. The quality results from a comparison of expectations with the perceived service quality. The expectations differ from service to service (Masing and Pfeifer 2007). In this paper, the definition based on Lewis and Booms (1983, in Parasuraman, Berry and Zeithaml 1985, 42) is followed:

> Service quality is a measure of how well the service level delivered matches customer expectations. Delivering quality service means conforming to customer expectations on a consistent basis.

Fehr and Rusell (1984, in Oliver 1997) show the need to focus on the terminology: 'Everyone knows what satisfaction is until asked to give a definition. Then it seems, nobody knows.' Usually the term 'satisfaction' is used as a synonym for enjoyment, happiness, gratification or subjective well-being (Brockhaus 1984). As for as its epistemology is concerned, the term 'satisfaction' refers to Latin 'satis' (enough) and 'facere' (to do). The satisfaction with a product or service is therefore that characteristic which is looked for in order to achieve the so-called 'satis'-point (Oliver 1997).

Early concepts of customer satisfaction describe customer satisfaction as an assessment of a specific buying decision; a so-called transactions-specific satisfaction (Oliver and DeSarbo 1988). This cognitive approach dominated the marketing and customer behaviour literature until the early 90ies. In the meantime, many scholars have turned away from the transaction specific satisfaction and add an affective component to the preliminary cognitive description (Caro and Garcia 2007). Other scholars claim that satisfaction should be viewed as a judgment of cumulative experiences with a product or service instead of a transaction specific phenomenon (Johnson and Fornell 1991). According to this argumentation, individuals can combine different experiences with a product or service over a period of time (Rust, Zahorik and Kleiningham 1995). The concept of cumulative satisfaction should be preferred to the transaction-specific satisfaction because it is a more fundamental indicator of a firm's past, current and future performance (Garbarino and Johnson 1999). Giese and Cote (2000) refer to the inconsistent definitions in the scientific literature. In some cases the definitions are only partly

inconsistent but with overlapping components. Overall, three components can be identified:

1. Customer satisfaction as a reaction (affective or cognitive).
2. The reaction refers to a specific focus (expectation, product, consumption and more).
3. The reaction takes place after a specific time period (after consumption, after the decision based on cumulative experience and more).

The aim of this paper is not to gain knowledge of single service episodes or contact points but rather to discuss the influence of service-quality on customer satisfaction, the concept of the cumulative satisfaction. Yi and La (2003) recommend the cumulative concept especially if the Confirmation/Disconfirmation (CD) Paradigm is used. In connection to this approach Oliver's (1997, 13) description is applied to this study:

> Satisfaction is the consumer's fulfilment response. It is a judgment that a product or service feature of the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfilment, including levels of under- or over fulfilment.

Model Development

The model for this paper is based on the CD-Paradigm. The CD-Paradigm can be traced back to works by Engel, Kollat and Blackwell (1968), Howard and Sheth (1969), and Oliver (1977). The cognitive oriented approach has been accepted in the satisfaction-research stream. The high acceptance is caused by the sound theoretical foundation (Fournier and Mick 1999) and its use in the retail- and service-industry (Oliver and DeSarbo 1988; Spreng, MacKenzie and Olshavsky 1996). In the service quality literature the GAP analysis model and the SERVQUAL scale (Parasuraman, Berry and Zeithaml 1988) which is based on the CD-Paradigm are prominent. With SERVQUAL the customer receives two scores in identical Likert scales, for each of the 22 service attributes (1 = completely wrong/dissatisfied, 7 = completely right/satisfied). As shown in figure 1, one scale indicates the expectations of the service performance (EP) delivered by excellent insurance companies and the other scale reflects the perceived performance (PP) by excellent insurance companies. Afterwards service quality is quantified in a comparison process between these two scores (EP – PP).
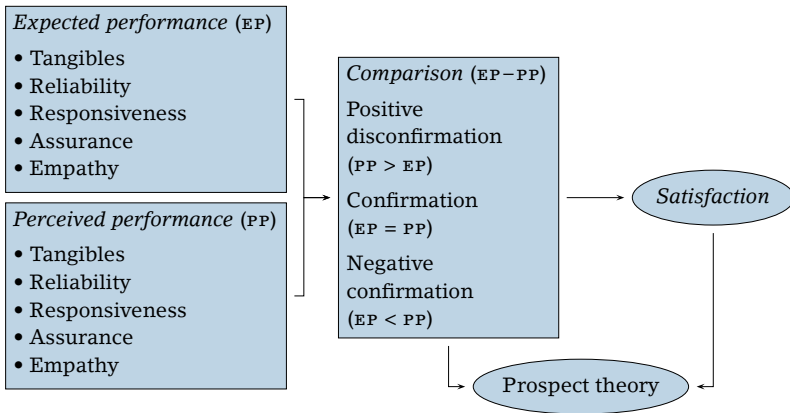
FIGURE 1   Model Development

SERVQUAL consists of five distinct dimensions: tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman, Berry and Zeithaml 1988, 1991). According to Parasuraman, Berry and Zeithaml (1988, 30–31) SERVQUAL

> [...] provides a basic skeleton through its expectations and perceptions format, encompassing statements for each of the five service-quality dimensions. The skeleton, when necessary, can be adapted or supplemented to fit the characteristics of specific research needs of a particular organization.

Even though SERVQUAL receives substantial empirical support, there are with difficulties with it. The critical analysis includes the ambiguous definition of expectation, the instability of the dimensions as well as the lack of applicability across industries. The criticism leads to a lively discourse in the scientific literature (Carman 1990; Cronin and Taylor 1992 and 1994; Teas 1993). Despite the counterarguments the developers do not find the criticism strong enough to abandon the scale (Parasuraman, Zeihaml and Berry 1994) because it is still the only general, diagnostic, and adaptive measure of service quality (Kalamas, Laroche and Cézard 2002).

The development of SERVQUAL took place with customers in the insurance industry and has been applied to many other industries (Ueltschy et al. 2007). However, in the insurance industry, it has been used only to a limited extent. Therefore, it is necessary to prove the reliability and validity of SERVQUAL in the insurance industry:

> H_1 SERVQUAL *is not a reliable and valid scale to measure service-quality of automobile-insurers.*

Because the aim of this paper is not to gain knowledge on single service contact experience, but rather on the influence of the service quality on customer satisfaction, the concept of the cumulative satisfaction is used. In the literature, satisfaction is applied as a one-dimensional (Aga and Safakli 2007) as well as a multi-dimensional construct (Ostrom and Iacobucci 1995). With a one-dimensional construct customer satisfaction is evaluated solely with one variable, while with a multi-dimensional construct more variables determine the overall satisfaction.

While Ostrom and Iacobucci (1995) analyze different service industries, Hermann, Huber and Braunstein (2000) focus solely on the automobile insurance industry. The latter use four dimensions which determine the overall satisfaction: relative quality, product-satisfaction, back-office satisfaction and front-office satisfaction. To measure customer satisfaction in this research the scale by Hermann, Huber and Braunstein (2000) is used. Therefore, the reliability and validity as well as the dimensionality need to be proved:

H$_2$ *The scale to measure customer satisfaction of automobile-insurance customers is not reliable and valid.*

H$_3$ *The scale to measure customer satisfaction of automobile-insurance customers is not multi-dimensional.*

Eskildsen et al. (2004) as well as Ueltschy et al. (2007) confirm a significant influence from service quality on customer satisfaction. Figure 2 illustrates two different relationships discussed in literature: (i) linear and symmetric and (ii) non-linear and asymmetric.

Figure 2 shows the traditional view of the relationship between service quality and customer satisfaction. In this approach, the relationship is linear and symmetric. A linear symmetric relationship implies that a change of a unit in service quality leads to an equal unit change in customer satisfaction, independent of whether the change happens in the low or high end of the scale. In most customer satisfaction programs, the use of such linear and symmetric relationships is ubiquitous (Anderson and Mittal 2000). Nevertheless, current research shows that, in most cases, is not linear and symmetric but follows a non-linear and asymmetric relationship with diminishing returns in its impact on satisfaction as depicted in figure 2 (Anderson and Mittal 2000; Stan et al. 2007; van Doorn 2008).

Furthermore, the literature distinguishes between negative asymmetric (Stan et al. 2007) and positive asymmetric (van Doorn 2008) relationships. A relationship is negative asymmetric when changes in the negative evaluation of service quality have a greater impact
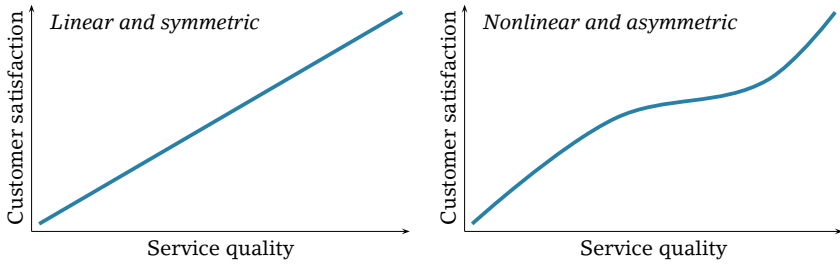
FIGURE 2   Service Quality and Satisfaction Relationships

on customer satisfaction than changes in the positive evaluation.

For instance, a decrease in the negative evaluation (from 3 to 1) has a much larger impact on overall satisfaction than equal increase in positive evaluation (from 5 to 7). In addition to that, because of the inherent nonlinearity, performance changes towards the middle of the scale are more consequential than performance changes at the high end (Anderson and Mittal 2000). In contrast with a positive asymmetry, a greater change of positive evaluation has a higher impact on customer satisfaction than a negative change (van Doorn 2008).

Prospect Theory

In order to explain the non-linear and asymmetric relationships, several scholars (e. g. Yi and La 2003; Slotegraaf and Inman 2004) use the hypothetical value function of the prospect theory by Kahneman and Tversky (1979). The prospect theory is a descriptive theory in which all of the alternatives an individual faces are reduced to a series of prospects that are evaluated independently of an S-shaped value function as depicted in figure 1. As shown in figure 1, the value function of the prospect theory has three characteristics:

- reference point dependency,
- loss aversion (the function is steeper for losses than for gains), and
- diminishing sensitivity (concave for gains and convex for losses).

The reference point is built by the expectations of the service quality offered by the automobile insurers. On the x-axis the perceived performance and on the y-axis the values for the customer-satisfaction are shown. According to Einhorn and Hogarth (1981), the loss aversion integrated into the prospect theory suggests that losses loom larger than gains. In the satisfaction context, a negative deviation from the reference point, expectations, should carry more

weight in the overall-satisfaction judgment than equal amounts of positive outcomes on attribute performance.

The diminishing sensitivity in the context of satisfaction means that, at high (low) levels of service quality, positive (negative) performance on a specific item should not affect satisfaction as dramatically as it does at lower levels of performance. This development is similar to the diminishing returns hypothesis in classical economics and is depicted in figure 1. In order to figure out whether the relationship between service quality and customer satisfaction can be explained by the characteristics of the prospect theory, a two-step approach is necessary. First, one has to find out if a non-linear relationship exists, therefore:

H$_4$ *The positive and negative deviations from the five* SERVQUAL *dimensions do not show a negative asymmetric influence towards customer satisfaction.*

Secondly, it is necessary to prove the characteristic of the diminishing sensitivity by the following hypothesis:

H$_5$ *The negative and positive deviations of the five* SEVQUAL *dimensions cannot be explained by the diminishing sensitivity according to the prospect theory.*

Sample

Data for this study were obtained by a student sample in Austria. Student samples are always discussed in the literature; nevertheless, there are several reasons to use students instead of a heterogeneous sample. Calder, Philips and Tybout (1981) differentiate between two forms of studies: As 'effects application research' the scholars describe those studies in which the research goal is to obtain findings that can be generalized directly to a real-world situation of interest. 'Theory application research' aims at obtaining a scientific theory that can be generalized through the design of theory-based interventions that are viable in the real world. In addition to that, 'theory application research' requires a falsification procedure. Theories that survive rigorous attempts at falsification are accepted and accorded scientific status. If the analysis is based on a theory, a homogenous sample like students should be favoured because this reduces the standard as well as the beta-error and leads to a higher statistical power (Sternthal, Tybout and Calder 1996) – under the assumption that the theory is true (Calder, Philips and Tybout 1981). In order to receive statistically significant results, the concept of Jacob Cohen (1988) for statistical power analysis for behavioural

sciences is used to determine the required sample size. Based on this concept, the power of a statistical test depends upon three parameters: (i) the significance criterion, (ii) the reliability (power) of the sample results, and (iii) the 'effect size' (d) – that is, the degree to which the phenomenon exists. For this analysis $\alpha 2 = 0.10$, power $= 0.8$ and $d = 0.2$ has been chosen and leads to a sample size of $n = 310$.

Analysis & Results

According to Churchill (1979, 68), the calculation of the coefficient alpha should be absolutely the first measure to calculate to assess the quality of the instrument. The scientific literature requires a Cronbach's alpha of $\alpha > 0.8$ in order to accept specific test scores. A lower score of $\alpha > 0.7$ is sufficient for Cortina (1993) if the scale items are higher than 20.

The SERVQUAL results show for the 'expectations' $\alpha = 0.92$, 'perceived performance' $\alpha = 0.96$ and for the GAP (EP – PP) $\alpha = 0.93$. The results for the dimension 'tangible' is $\alpha = 0.78$; 'reliability' $\alpha = 0.86$, 'responsiveness' $\alpha = 0.86$, and 'empathy' $\alpha = 0.85$. Based on these results, H_1 has to be falsified and the alternative hypothesis that SERVQUAL is a reliable and valid scale needs to be accepted.

The results for the satisfaction scale are similar with a Cronbach's alpha between $\alpha = 0.88$ and $\alpha = 0.93$ for the four dimension. In detail, the 'relative quality' receives $\alpha = 0.91$, 'product satisfaction' $\alpha = 0.85$, 'back-office-satisfaction' $\alpha = 0.93$ and 'front-office-satisfaction' $\alpha = 0.89$. The overall satisfaction receives $\alpha = 0.92$. According to these results, H_2 has to be rejected because the data for the satisfaction scale are reliable and valid.

A factor analysis can be used to confirm whether the number of suggested dimensions can be verified empirically. Because the eigenvalue of the factor analysis has only one component with a value of 11.22 and a variance of 66%, no rotation of the component is possible. This indicates that only in this context the customer-satisfaction is one-dimensional and, not as assumed, multi-dimensional. Therefore, H_3 has to be falsified as well.

In order to analyze the relationship between service quality and customer satisfaction, the analytic strategy was adapted by Anderson and Sullivan (1993). Consequently, the asymmetric and diminishing impact of each SERVQUAL-item on overall satisfaction is modelled as follows:

$$\text{Overall Satisfaction} = \text{Intercept} + \beta_1 \times \text{LN\_GAP} + \beta_2 \times \text{LP\_GAP}. \qquad (1)$$

The extent to which the automobile insurers provide service quality higher or lower than the given expectation by the customer is represented by GAP, divided into N_GAP and P_GAP to indicate negative and positive service quality based on SERVQUAL respectively. The letter L of LN_GAP and LP_GAP indicates the natural logarithm. Since natural logarithms cannot operate negative numbers, the SERVQUAL item of the negative deviation from the expectations LN_GAP_1 is equal to $\ln(-GAP_1)$ and LP_GAP_1 is equal to zero. If the deviation from the expectation of an item is positive, then LP_GAP is equal to $\ln(GAP_1)$ and LN_GAP_1 equals to zero. For example, if an item is '−3,' then the $LN\_GAP = \ln(-(-3))$ and LP_GAP = 0. If an SERVQUAL item is '4,' then $LP\_GAP = \ln(4)$ and LN_GAP = 0.

It should be noted that, in this analysis plan, the overall customer satisfaction has been taken as the dependent variable, LN_GAP and LP_GAP are the independent variables. That means, two coefficients ($\beta1$ and $\beta2$) are estimated for each of the five SERVQUAL dimensions, which results in 10 coefficients. Due to this analysis plan, hypotheses H_4 and H_5 can be answered based on the regression coefficient. First, it ensures that all coefficients are positive, which makes the interpretation more useful and convenient for managers. The greater the absolute value of the coefficient, the greater the effect of the deviation of service quality on customer satisfaction. If the coefficient of a negative GAP is higher than the coefficient of the positive GAP, then a negative asymmetry exists. In addition to that, the natural logarithm transformation captures diminishing sensitivity. If the coefficient alpha for a positive GAP on an item is significant, it can be interpreted as diminishing sensitivity on a specific dimension. Results for these analyses are reported in table 1.

A comparison of the results in table 1 show that $LN\_GAP_j > LP\_GAP_j$ for all five SERVQUAL dimensions, indicating a negative asymmetry. In addition to that, the magnitude of the asymmetry is different for each attribute. Thus, the magnitude of the asymmetry is much larger for the dimension 'responsiveness' (−1.384 vs. 0.257) than for 'tangibles' (−0.477 vs. 0.243). Therefore, H_4 has been falsified because a negative asymmetry between positive and negative deviations on SERVQUAL dimensions has been identified.

Due to logarithm transformation, the diminishing sensitivity hypothesis can be facilitated. A characteristic of a logarithm function is that, as the values get more extreme, the function tapers off and thus resembles the diminishing curve. If the coefficient is significant, it gives support for the diminishing hypothesis (Anderson and Sullivan 1993). The results in table 1 show that the hypothesis can neither

TABLE 1 Regression Results

Item	LN_Dimension$_x$			LN_Dimension$_x$			(7)	(8)	(9)
	(1)	(2)	(3)	(4)	(5)	(6)			
Tangibles	−0.477	0.127	0.007	0.243	0.364	0.003	Yes	No***	No***
Reliability	−1.111	0.000	0.245	0.500	0.416	0.008	Yes	Yes***	No***
Responsiveness	−1.384	0.000	0.391	0.257	0.450	0.019	Yes	Yes***	No***
Assurance	−1.155	0.000	0.317	0.380	0.492	0.008	Yes	Yes***	No***
Empathy	−1.215	0.000	0.327	0.139	0.747	0.026	Yes	Yes***	No***

NOTES (1) regression coefficient for negative deviations (β_1), (2) significance, (3) R^2, (4) regression coefficient for positive deviations (β_1), (5) significance, (6) R^2, (7) negative asymmetry, (8) diminishing sensitivity (β_1), (9) diminishing sensitivity (β_2).

be falsified for the negative deviation from the reference point of the dimension 'tangibles' nor for any dimension of the positive deviation. Therefore a diminishing sensitivity according to the prospect theory can only be identified for the negative deviations of the dimensions 'reliability,' 'responsiveness.' 'assurance,' and 'empathy.'

Discussion

This paper investigates whether the relationship between service quality and customer satisfaction can be explained and described by the characteristics of the prospect theory in the context of the automobile-insurances. The results can be summarized as follows:

1. Despite the criticism of the SERVQUAL scale, the results show a reliable and valid alpha coefficient in the automobile-insurance industry.

2. Customer satisfaction is not, as assumed, a multi-dimensional construct. It should rather be investigated as a one-dimensional construct with a single variable, which shortens also the questionnaire.

3. Service quality and customer satisfaction have a negative asymmetric relationship on the dimension level. That is, a negative GAP has a greater impact on customer satisfaction than an equivalent positive GAP.

4. Regarding diminishing returns, the results are mixed. For four out of five negative GAPS, there is empirical support for diminishing returns but not for the positive GAPS.

5. Finally, results calls into question previous linear conceptualized models and show additional proof for non-linearity where the prospect theory can serve for the description and explanation purposes.

These results show that the relationship between service-quality and customer satisfaction is fundamental and has several implications for research and practice.

Conclusions

Improving the service quality is a key for insurance companies as it is considered a competitive advantage in the market. In this study, the constructs used have been analyzed individually at the beginning. Only after the proof of their reliability and dimensionality, the constructs have been added to a causal chain. This shows whether the instruments can be further used in the chosen industry. The results show that the SERVQUAL can be used in its entirety in the automobile insurance industry, while the satisfaction construct should be used one-dimensionally. In addition to that, the procedure to determine the correct sample size based on the concept for statistical power analysis for behavioural science supports the results to find also small effects in the causal relationship. From the theoretical point of view, it has been shown, that the descriptive characteristics of the prospect theory can be used only to a limited extent to explain the impact of service quality on customer satisfaction.

The discussion has exposed the relevance of service quality in the insurance industry as it is of an utmost concern and differs significantly to the retail business. By understanding the difference in the effects of service quality on customer satisfaction, managers of insurance companies can implement changes more effectively. Based on the result if a manager wants to improve customer satisfaction, he/she would receive the highest impact on a change in the dimension 'responsiveness,' while a change in the dimension 'tangible' would lead to less change in satisfaction. The strategic implications are therefore straightforward: Maximization of customer satisfaction can be achieved not by maximization but rather by optimization of the service quality.

Limitations

The first restriction can be found in the student sample. A student sample gives the advantage of a homogenous group but limits the results, as only a specific target group has been asked. A heterogeneous approach might lead to a different result. The second restriction can be found in the focus of a specific insurance sector. A replication research with different insurance-sectors is needed to enhance the robustness of the negative asymmetric relationship.

The third limitation can be found in the single database. It is of interest if, when, and how the expectations as well as the perceived performance change over the time and how this change influences customer satisfaction.

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Abstracts in Slovene

Dojemanje inovativnost v podjetjih in poslovnih institucijah
Wojciech Misterek in Beata Lewicka

Namen članka je predstaviti ključne značilnosti inovativnega podjetništva po mnenju podjetnikov in poslovnih institucij. Raziskava, opravljena med subjekti na izbranem območju ᴇᴜ prikazuje, kako je inovativnost opisana s strani podjetnikov in institucij, ki jih podpirajo. Zdi se, da je glavna značilnost inovatorja sposobnost hitrega prilagajanja trgu s spreminjanjem ponujenih izdelkov in storitev. Kot je pokazala raziskava, je poglavitni problem nezadostno sodelovanje med podjetniki in univerzami oziroma raziskovalnimi centri. Torej je nujno potrebno ustvariti ustrezne mehanizme, ki bi na eni strani spodbujali akademski svet k trženju svojih raziskav, po drugi strani pa izboljšali pretok raziskovalnih informacij.

Ključne besede: inovativnost, podjetništvo, poslovne institucije, raziskave in razvoj
Management 9 (2): 83–94

Strategija dobavne verige: empirična študija primera v Evropi in Aziji
Ilkka Sillanpää in Sebastian Sillanpää

Namen naslednje študije primera je predstaviti pregled literature o strateških pristopih dobavne verige, razviti strateški okvir dobavne verige in potrditi okvir v empirični študiji primera. Uporabljeni raziskovalni metodi sta pregled literature in študija primera. Študija predstavlja strateški okvir dobavne verige, ki združuje poslovno okolje, korporativno strategijo, povpraševanje dobavne verige in strategijo dobavne verige. Po mnenju raziskave lahko vse različne koncepte, ki se trenutno uporabljajo kot strategija dobavne verige strnemo v predstavljeni strateški okvir dobavne verige. Razviti strateški okvir dobavne verige je praktično orodje za poslovodje. Prihodnje raziskave bodo lahko obsegale mnogovrstne študije primerov v globalnem okolju za nadaljnji razvoj strateškega okvirja dobavne verige.

Ključne besede: strategija dobavne verige, korporacijska strategija, upravljanje dobavne verige
Management 9 (2): 95–115

Dejavniki zaznave potrošnje novih živil
Gabriel Lagunes Martínez in Štefan Bojnec

Članek obravnava vplive različnih dejavnikov na navade ljudi, kadar kupujejo živila. Gre za merjenje morebitne povezanosti med različnimi spremenljivkami. Raziskava je izvedena v Mariboru na vzorcu

200 ljudi, ki so razdeljeni v dve starostni skupini, in sicer 18–35 let in 36–55 let. Poudarek je na kvantitativnih in kvalitativnih dejavnikih, ob čemer je za preverjanje hipotez dominantna spremenljivka starost. Uporabljena sta Pearsonov koeficient korelacije in analiza variance. Rezultati kažejo, da kvalitativni dejavniki pojasnijo večji delež statistične razlike kot kvantitativni.

Ključne besede: nova živila, poraba živil, socio-ekonomski dejavniki, kvantitativni dejavniki, kvalitativni dejavniki
Management 9 (2): 117–130

Vodniki rasti start-up podjetij in oblikovanje poslovnih modelov: prvi korak proti zaželeni konvergenci

Bernardo Balboni, Guido Bortoluzzi, Moreno Tivan, Andrea Tracogna in Francesco Venier

Članek predstavlja prvi korak širšega raziskovalnega projekta, ki se osredotoča na uspešnost rast start-up podjetij na tehnološkem področju. Medtem ko je naša glavna predpostavka ta, da lahko rast tovrstnih podjetij v večini pripišemo strateškim dejavnikom, je naš cilj je pregledati razpoložljivo literaturo s tega področja, z namenom identifikacije različnih dejavnikov rasti novih podjetij. Zatem ko povzamemo najpomembnejše raziskovalne poglede na temo, uvedemo vidik poslovnega modela. Po našem mnenju ta konstrukt predstavlja pomembno konceptualno izboljšavo za proučevanje in razlago razvojnih postopkov in delovanja novih podjetij na področjih znanosti in visoke tehnologije. Sprva opredelimo poslovni model glede na obstoječo literaturo, nato razpravljamo o posledicah sprejetja tovrstnega koncepta za našo raziskavo. Članek zaključimo z opisom nadaljnje raziskovalne poti.

Ključne besede: start-up podjetja, nove tehnologije, rast, poslovni modeli
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Teorija pričakovanja in SERVQUAL

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Namen članka je znanstveno prispevati k boljšemu razumevanju odnosa med teorijo pričakovanja in modelom SERVQUAL. Prvi cilj je preučiti, ali je SERVQUALova lestvica ustrezna za ugotavljanje kakovosti storitev in zadovoljstva strank avtomobilskih zavarovanj. Drugi cilj je razprava o povezavi med kakovostjo storitev in zadovoljstvom strank. Odnos je pojasnjen in opisan s teorijo pričakovanja, ki lahko razloži le negativen in nesorazmeren odnos med kakovostjo storitev in zadovoljstvom kupcev. Predlagani zmanjšani občutljivosti primanjkuje zadostna količina pomembnih empiričnih dokazov.

Ključne besede: SERVQUAL, zadovoljstvo kupcev, teorija pričakovanja
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