



UNIVERSITY OF AGDER

The Drivers of Service Innovation

A study of the drivers of service innovation in a startup firm versus an established firm in the Norwegian healthcare sector.

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This Master's Thesis is carried out as a part of the education at the University of Agder and is therefore approved as a part of this education. However, this does not imply that the University answers for the methods that are used or the conclusions that are drawn.

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Abstract

This study explores the drivers of service innovation in small- to medium-sized Norwegian healthcare firms. One firm is a startup with only a few years of history trying to commercialize its operations. The other firm is well established with more than four decades of successful operations.

Much research has been put into the academic field of innovation and many studies have given academia and practitioners a rich base of knowledge. This is not the case for service innovation. Compared to innovation very little research has been conducted on service innovation. This study contributes to the emerging field of service innovation and has identified a gap in the literature. The gap that this study tries to fill is the drivers of service innovation.

The findings of this study indicate that technology has a minor effect on service innovation regardless of developmental stage. People, customer experiences, value, ideology of management and/or entrepreneurs and management support for learning from failure have a major effect on service innovation regardless of developmental stage. Both financial assets and business model are moderated by the stage of development, the effects on service innovation are minor in established firms and major in startup firms.

The academic field of service innovation is still growing and this paper encourages other researchers to conduct more research based on the findings of this study.

Key words: Drivers of service innovation; startup firm; established firm; small- to medium sized firms; Norwegian healthcare sector

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1 Introduction

Baregheh, Rowley and Sambrook (2009) in their definition on innovation emphasized differentiation from competitors and successful advancement in the marketplace. From this definition it is easy to understand that innovation is about competition. It is about creating new or improving existing products and services in order to win in the marketplace.

This is important because in order to survive firms must successfully compete. One of the most central aspects of competition is innovation because firms must innovate to stay competitive, but innovation is hard to master and its success even harder to maintain. This is why academia has put so much thought and research into this topic and why practitioners constantly have to offer new products and services.

This study will take the concept of innovation and extend it into the service sector. Something which is interesting because the service sector is becoming increasingly more important for developed economies in order to maintain future growth and create new jobs. (Furseth and Cuthbertson, 2013)

Jong, Bruins, Dolfsma and Meijaard (2003) explain the unique aspect of services in the following way: services tend to have simultaneous production and consumption; services tend to be heterogeneous; and; services tend to be perishable (meaning that they cannot be kept in stock).

According to Furseth and Cuthbertson (2013) an increasing number of societies around the world are becoming consumer societies, and these consumer societies have more demanding and informed consumers than ever before. Service innovation is the theory that addresses this rapid change and recognizes that the value creation coming from superior service delivered to the consumer is increasing.

Within the field of innovation much research has been done in the past and previous scholars have identified several factors that they see as drivers of innovation. Amongst these drivers are size of firm (Hansen, 1992; Hall, Lotti and Mairesse, 2009), skilled labor and knowledge training (Dijk, Hertog, Menkveld and Thurik, 1997; Audretsch and Feldman, 1996; Freel, 2005), research and development (Audretsch and Feldman, 1996; Lee, 1996; Jong and Vermeulen, 2006) networks and inter-firm alliances (Hanna and Walsh, 2002; Stam and Wennberg, 2009), proactive managers (Jong and Vermeulen, 2006; Kickul and Gundry, 2002), business model (Chesbrough and Rosenbloom, 2002) and customer orientation (Han, Kim and Srivastava, 1996).

Within the field of service innovation, however, no studies to date have tried to identify the drivers of service innovation. This is a current gap in the academic literature on service firms that is worth addressing in order to extend the field of service innovation further. Making this master thesis a contribution to the growing number of theories addressing the rapidly changing business environment of today.

In order to address this academic gap the research question for this study is: *What are the drivers of service innovation in small- to medium-sized firms in the Norwegian healthcare sector?*

Small- to medium-sized firms are interesting to study as most of the economic productivity of an economy is due to a large number of small and privately held firms, rather than a small number of large and publicly traded firms. The healthcare sector is interesting as the expected lifespan of most people today are much longer than first anticipated years ago. This is creating an increasing demand for new and innovative healthcare products and services. Given the choice of industry it is interesting to study Norwegian healthcare firms because Norway is a country with sustainable and large social welfare. This welfare system ensures that disabled and elderly people have the right to governmental support when needed, creating opportunities for healthcare innovators offering new products and services.

The research question will be answered in the following way. The academic literature on innovation and service innovation will be presented in the literature review. At the end of the review a new model created by Furseth and Cuthbertson (2013), the Service Innovation Triangle, will be used to derive a list of expected drivers of service innovation.

After the literature review section a qualitative case study analysis will be conducted. The two case study firms are in different stages of development. One is currently in the process of commercializing (a startup firm) whilst the second is highly commercialized (an established firm).

Subsequent to the qualitative case study analysis the research results will be thoroughly discussed and a series of final propositions for future research will be made. After the discussion the contributions, limitations and implications of this study will be explained.

At last, the conclusion of this paper will answer the research question posed above. Namely what the differences and similarities behind the innovative activity of a young startup firm versus a more mature firm are. These results will be presented in the final list of drivers of service innovation.

The results of this study contribute with a more nuanced understanding of the drivers of service innovation than first anticipated. Three of the expected drivers based on the Service Innovation Triangle were discarded in practice, and the case studies revealed two new drivers that theory did not yet recognize. Resulting in a final list of drivers of service innovation that is providing new and valuable insight for both academia and practitioners.

2 Literature Review

Innovation is a term most managers have heard of and discuss frequently yet the general understanding of innovation is diverse and the topic is complicated to fully understand. In this literature review a multidisciplinary definition of innovation will be presented first, in order to give the reader a clear understanding of how innovation will be perceived throughout this paper. Thereafter the most common types of innovation will be discussed in brief, to give some context to the field of innovation. Subsequently a table summarizing past empirical research results will be presented and discussed with focus upon the drivers of innovation.

The introductory section of this literature review will present innovation whilst the latter part will extend innovation into the new field of service innovation. This will be done through a new definition of innovation, including and emphasizing services as a vital part of businesses in general. The unique context of service innovation will be further explored through a second table outlining conceptual theories related to services. Thereafter the Service Innovation Triangle will be presented, which is the model that the analysis of this study will be based upon.

2.1 Definition of Innovation

Throughout the vast literature written on the topic of innovation several definitions on innovation have been provided. Every one of them adding to and differentiating from the previous, with great influence from that particular scholar. The classical definition of innovation is sourced from Schumpeter's early work (1934:65) and it is as follows.

“Developments [= innovations] are new combinations of new or existing knowledge, resources, equipment and the alike.”

A more modern definition of innovation by Stam and Wennberg (2009:79) adds to this classical definition and includes the terms discovery, improvement and adoption, whilst Schumpeter focused on developments solely. This definition includes the important factor of commercialization, the realization of innovation.

“Innovation is the search for, and the discovery, development, improvement, adoption and commercialization of, new processes, new products and new organizational structures and procedures.”

To give a definition that draws upon and reflects the multiple as well as diverse definitions on innovation, the final definition to be presented in this section is a multidisciplinary one. This definition adds to the previous one (Stam and Wennberg) by defining that innovation is a multi-stage process as well as a source of differentiation through competition in a marketplace. The definition from Baregheh, Rowley and Sambrook (2009:1334) is the most comprehensive yet.

“Innovation is the multi-stage process whereby organizations transform ideas into new/improved products, services or processes, in order to advance, compete and differentiate themselves successfully in their marketplace.”

This multidisciplinary definition will be used as the definition of innovation throughout this paper. A decomposition of this definition is useful in order to give a clearer understanding of how innovation is to be perceived in this paper.

Excerpt from definition	Decomposed explanation
“Innovation is the multi-stage process...”	Innovation is the combination of several processes and not the result of one single action
“whereby organizations transform ideas into new/improved products, services or processes...”	Innovation is about creating something new or improving the old, traditionally within products and now more increasingly within services
“in order to advance, compete and differentiate themselves...”	Innovation is the key to stand out from other firms in a rapid changing and competitive environment
“successfully in their marketplace.”	Innovation is only realized through successful commercialization in a market

Table 1: Decomposition of the definition of innovation

2.2 Types of Innovation

As outlined in the previous section the results of innovation may take many shapes and forms. This section will present the most general types of innovation drawing upon the work of Tim Mazzarol and his textbook *Entrepreneurship and Innovation*. In this textbook Mazzarol (2011) identifies six different types of innovations:

1. Process innovations
2. Product innovations
3. Radical innovations
4. Incremental innovations
5. Technical innovations
6. Administrative innovations

According to Mazzarol (2011:195) process innovations are the tools, devices and knowledge used in a given process; product innovations are outputs that benefit the customer directly; radical innovations are drastic changes in organizations and industries for the better; incremental innovations are marginal yet positive changes in existing practices; technical innovations are an advancement in organizational activities due to technological advancement; and administrative innovations are the structure, processes and human resources of a firm which is directly influenced by the management.

2.3 Drivers of Innovation

To identify the drivers of innovation from past literature a vast number of empirical articles have been studied thoroughly and included in a table summarizing the main findings (presented below). The majority of these articles have been sourced from Google Scholar whilst a minor number of articles have been forwarded from the thesis supervisor. Initially the number of articles were more than 40 in total. The number of articles were reduced through a process of studying and identifying whether or not the given article proved useful for this paper.

Study	Dependent Variable	Independent Variable	Results			Context of Study
			Effect	Directness	Direction	
Acs and Audretsch (1987)	Determinants of innovation	Market environment	Significant	Direct	Positive	Large and small firms in the US
Hansen (1992)	Innovation outputs	Age of firm	Significant	Direct	Negative	Firms in the US, based on NSF data
		Size of firm	Significant	Direct	Positive	
Dijk, Hertog, Menkveld and Thurik (1997)	Determinants of innovation	Market share	Insignificant	--	--	Large and small firms in the Netherlands
		Skilled labor	Significant	Direct	Positive	
		Market growth	Significant	Direct	Positive	
		Capital intensity	Significant	Direct	Positive	
Audretsch and Feldman (1996)	Innovative activity	Geographical location	Significant	Indirect	Negative	Firms in the US, based on SBIDB data
		Industry R&D	Significant	Direct	Positive	
		University research	Significant	Direct	Positive	
		Skilled labor	Significant	Direct	Positive	
Freel (2005)	Firm-level innovativeness	Firm-level training	Significant	Direct	Positive	SME firms in England
Khan and Manopichet-wattana (1989)	Innovative firms	Age of firm	Significant	Direct	Negative	Small firms based in Texas
		Dynamic environment	Significant	Direct	Positive	
		Proactive managers	Significant	Direct	Positive	
		Abundance of resources	Insignificant	--	--	
Stam and Wennberg (2009)	R&D effects on innovation	Low-tech firms	Significant	Indirect	Negative	Small startup firms in the Netherlands
		Inter-firm alliances	Significant	Direct	Positive	
		New product development	Significant	Direct	Negative	
		High tech firms	Significant	Direct	Positive	
Baptista (2000)	Diffusion of innovation	Regional learning	Significant	Direct	Positive	Small and large firms in England
Hall, Lotti and Mairesse (2009)	Innovation in SMEs	Firm size	Significant	Direct	Positive	Italian SME manufacturing firms
		International competition	Significant	Direct	Positive	
		Firm age	Significant	Direct	Negative	

Antoncic and Hisrich (2001)	Intrapreneurship in firms	Organization	Significant	Direct	Positive	Large and small firms in Slovenia and the US
		Environment	Significant	Direct	Positive	
		Growth and profitability	Significant	Direct	Positive	
Lee (1995)	Small firm innovation	In-house R&D and external technical sources	Insignificant	--	--	Small electronics firms in Korea
		In-house R&D and acquisition of technical information	Significant	Direct	Positive	
Hanna and Walsh (2002)	Network innovation in small firms	Inter-firm trust	--	Direct	Positive	Three network brokers in Italy, Denmark and the US
		Sharing of ideas	--	--	Positive	
		Pooling resources	--	Direct	Positive	
Tether (1998)	Economic value of innovations	Small and innovative firms	Significant	Direct	Negative	Small and large firms in the UK
		Large and innovative firms	Significant	Direct	Positive	
Kickul and Gundry (2002)	Small firm innovation	Owners with proactive personality	Significant	Direct	Positive	Small business owners in the US
Han, Kim and Srivastva (1996)	Organizational innovation	Customer orientation	Significant	Direct	Positive	Small and large banks in the US
		Competitor orientation	Insignificant	--	--	
		Inter-functional coordination	Insignificant	--	--	
Jong and Vermeulen (2006)	Determinants of product innovation	Managerial focus on innovation	Significant	Direct	Positive	Small firms in the Netherlands from seven different industries
		Market research	Significant	--	Positive	
		Inter-firm cooperation	Significant	--	Positive	
		Attribute profile of partner	Significant	Direct	Positive	
Oke (2007)	Innovation performance	Radical product innovation	Significant	Direct	Positive	Large and small firms in the UK
		Radical service innovation	Significant	Direct	Positive	
Chesbrough and Rosenbloom (2002)	Capturing value from innovation	Business model	--	--	Positive	Xerox PARC spin-off companies

Table 2: Empirical studies and the drivers of innovation

Based upon the empirical studies table, presented on the two previous pages, a table summarizing the most important results of these studies is now useful.

Drivers of innovation	Barriers of innovation	Not affecting innovation
Size of firm (= small)	Age of firm (= old)	Market share (= big)
Skilled labor and knowledge training	Geographical location	Competitor orientation
Research and development	--	Abundance of resources
Networks and inter-firm alliances	--	--
Proactive managers	--	--
Business model	--	--
Customer orientation	--	--

Table 3: The drivers of innovation

2.3.1 Size of firm

Much of the past literature within innovation has been focused around the question of size and what effect size have on the innovative capacity and outcome of a firm. Scholars have found through empirical testing that small firms have equal or even larger capacity for innovation than their counterparts, large firms (Hansen, 1992; Hall, Lotti and Mairesse, 2009). One can conclude that the flexibility small firms have due to their small size is an advantage when innovating. Small firms live in a constant threat of extinction, making the survival pressure another reason that propagates innovation.

The abovementioned findings may be further supported by the identification of an abundance of resources, a characteristic of large firms, as an insignificant driver of innovation (Khan and Manopichetwattana, 1989).

2.3.2 Skilled labor and knowledge training

Much research has been put into the understanding of the role people play within innovation. Findings here indicate that skilled labor and knowledge training yields positive effects on innovation (Dijk, Hertog, Menkveld and Thurik, 1997; Audretsch and Feldman, 1996; Freel, 2005). Freel (2005) argues that firm-level training raises firm-level innovation, this means that training may create innovation. The innovative activity of a firm depends upon skilled labor and this relationship is both significant and positive (Audretsch and Feldman, 1996).

2.3.3 Research and development

Central within the theory of innovation is research and development and a great deal of emphasis has been put upon this aspect of the innovation literature. Research and development within industries, universities and individual firms are all drivers of innovation (Audretsch and Feldman, 1996; Lee, 1996; Jong and Vermeulen, 2006). The evolution of research is likely to start at a university as the place of origin for the thoughts and ideas behind it, and then it is later refined and applied by specific firms within a given industry (Audretsch and Feldman, 1996). To better understand consumers and their needs market research is essential in order to create products that are able to satisfy those needs (Jong and Vermeulen, 2006).

2.3.4 Networks and inter-firm alliances

Much of the more recent literature on innovation has studied small firms and the influence of globalization, the opening of international markets and competition. In this light several scholars have investigated the importance of networks and inter-firm alliances and found it to be a significant driver of innovation (Hanna and Walsh, 2002; Stam and Wennberg, 2009).

Trust between firms, sharing of ideas and especially pooling of resources for small firms are all positive factors in a network setting when it comes to realizing the potential for innovation (Hanna and Walsh, 2002).

2.3.5 Proactive managers

Managers seeking out to understand, focus upon and implement innovation are more likely to be successful in doing so (Jong and Vermeulen, 2006; Kickul and Gundry, 2002). Making them proactive managers with a concentrated focus on innovation. This is supporting the widely believed notion that the right people within an organization is crucial for success.

Proactive traits amongst managers are similar to some of the traits that most entrepreneurs carry (Kickul and Gundry, 2002). Given the fact that entrepreneurs are some of the most innovative people within business this evidence might prove to be a strong driver of innovation.

2.3.6 Business model

In the more recent studies on innovation some scholars have looked at business models as a driver of innovation. The business model may even be more important in capturing value from innovations than possessing superior technology (Chesbrough and Rosenblom, 2002).

2.3.7 Customer orientation

All businesses are ultimately geared towards the customer and delivering value to him or her in order to receive compensation in return for that value. This is interesting as the empirical studies show that customer orientation is a positive driver of innovation whilst competitor orientation is deemed insignificant (Han, Kim and Srivastva, 1996).

2.4 Definition of Service Innovation

The criticality of customer orientation is especially evident in service-oriented firms and as we move ahead into the 21st century more and more societies around the world may now be called consumer societies. In consumer societies the choice consumers make is affected by more frequent advertisements through digital channels, as well as an increasing diversity of service experiences. Hence, this environment is in rapid change and service providers are in constant and growing competition. Thus, the value creation coming from superior service delivered to the consumer is increasing. Making the topic of change within services more important than ever before for managers of service firms. (Furseth and Cuthbertson, 2013)

To better understand this change within innovation a new definition of innovation with more focus on services is needed. This definition addresses the main differences between services and products which are: services tend to be intangible whilst products tend to be tangible; services tend to have simultaneous production and consumption whilst products tend to have a separation of production and consumption; services tend to be heterogeneous whilst products tend to be homogenous; and; services tend to be perishable (cannot be kept in stock) whilst products tend to have a shelf life, meaning that they can be kept in stock (Jong, Bruins, Dolfsma and Meijaard, 2003).

The service definition is sourced from Jong, Bruins, Dolfsma and Meijaar (2003:14).

“We conclude that a service is only a service when it is being delivered. Moreover, we conclude that services have some distinguishing characteristics. Services are intangible, simultaneously produced and consumed, and often customized to a client’s needs.”

Now that a definition of innovation as well as a definition of services have been provided, is it possible to construct an integrated service innovation definition by combining these two.

“Services are intangible, simultaneously produced and consumed, and often customized to a client’s needs; Service innovation is a multi-stage process whereby organizations transform ideas into new or improved services; In order to advance, compete and differentiate themselves successfully in their marketplace.”

A decomposed explanation of this definition is now useful in order to highlight the shifted focus onto services.

Excerpt from definition	Decomposed explanation
<i>“Services are intangible, simultaneously produced and consumed, and often customized to a client’s needs...”</i>	Services are inherently different from products in their key characteristics and how the consumer both perceives and uses the value offering
<i>“service innovation is a multi-stage process whereby organizations transform ideas into new or improved services...”</i>	As with innovation in general service innovation is a multi-stage process rooted in ideas but the end focus should be on services as the source of value
<i>“in order to advance, compete and differentiate themselves successfully in their marketplace.”</i>	Both innovation in general and service innovation is done in order to achieve predetermined results and commercialize either services or products

Table 4: Decomposition of the definition of service innovation

This definition is more suitable for the aim of this study and it is the definition of service innovation to be used consistently throughout this paper from this point on.

2.5 Service Innovation Theories

The following table (presented below) outlines some of the most important conceptual theories within service innovation, giving an overview of the field.

Study	Theory	Core Assumptions	Expectations
Edwards, Delbridge and Munday (2005)	Understanding innovation in SMEs	Innovative SMEs are those that understand and use knowledge effectively in the organization	The innovative potential of a firm depends on the linkage between the strategy and processes of the firm
Teece (2010)	The role of the business model in capturing value from innovation	A superior business model will allow a company to best meet customer needs as well as making significant profit	A business model can be a source of competitive advantage and innovation if it meets certain customer needs and is hard to imitate for other firms
Chesbrough (2003)	Open Innovation	Closed innovation, in which companies generate and commercialize only their own ideas has now become obsolete	Companies that can utilize both outside and inside ideas in order to reach the existing as well as new markets, will thrive in innovation
		Open innovation, in which companies use both internal and external ideas to reach markets is now prevalent	
		Growth stems exclusively from technological progress	
Chesbrough and Spohrer (2006)	Services science discipline	Technological automation (ICT) and globalization has led to a shift from traditional manufacturing industries to knowledge-intensive service industries	A service-based economy requires a services science based discipline
			An integrated services science based discipline will advance service innovation
Chesbrough (2011)	Open innovation within services	Research and development (R&D) must change focus from products solely to include services as well	The theory of open innovation applies readily to services and firms may innovate within services by interacting, listening to and understanding their customers needs better
Jong, Bruins, Dolfmsa and Meijaard (2003)	Innovation in service firms	People are at the core of successful service innovation	Innovation in services may change market conditions altogether and when one service firm is successful in innovating within a given industry, others will follow the success of this firm
		A firm climate that is supportive of innovation is a necessity for success	
		External conditions, that management may not influence, affect the results of innovation processes	

Table 5: Conceptual studies and the theories of service innovation

According to Furseth and Cuthbertson (2013) the field of service innovation is currently under researched and the understanding of how to innovate within services is still under investigation. Making this a field with several gaps to fill for current and future scholars within service innovation.

Henry Chesbrough has carried out several works on innovation and he argues for a service science discipline. In a paper from 2006 Chesbrough and Jim Spohrer addresses the changes in the environment of businesses, emphasizing technological automation and globalization as the drivers of change from traditional manufacturing to a knowledge-intensive economy (Chesbrough and Spohrer, 2006). This knowledge-intensive economy will predominantly be within services and it is here job growth will be in the future, not within traditional manufacturing as machines replaces humans (Chesbrough and Spohrer, 2006).

Chesbrough argues the case that with the change of societies research and development must change as well, from a focus on products solely to include services as well (Chesbrough, 2011). The change in research and development focus reflects upon the ever-increasing power of consumer choice and influence. This is because in a world in which consumers may easily share both positive and negative information about businesses via social media channels and internet websites. Services are more important than ever before as a single customer experience is shared with millions of other potential customers (Chesbrough, 2011).

Innovation within the service firm is the subject of a study carried out by a group of scholars and they conclude that successful innovation in services may change market conditions altogether. The scholars also expect that when one firm is highly successful several others will follow suit, reinforcing the trend and importance of innovation within services. (Jong, Bruins, Dolfsma and Meijard, 2003)

The model named the Service Innovation Triangle will be the basis for an analysis of the drivers of service innovation in the case studies of this paper. An explanation of this model follows in the subsequent sections.

2.6 Service Innovation Triangle

The Service Innovation Triangle is a result of the research project Value Driven Service Innovation (VDSI) which is an international project on service innovation. Developers of this model are Peder Inge Furseth and Richard Cuthbertson.

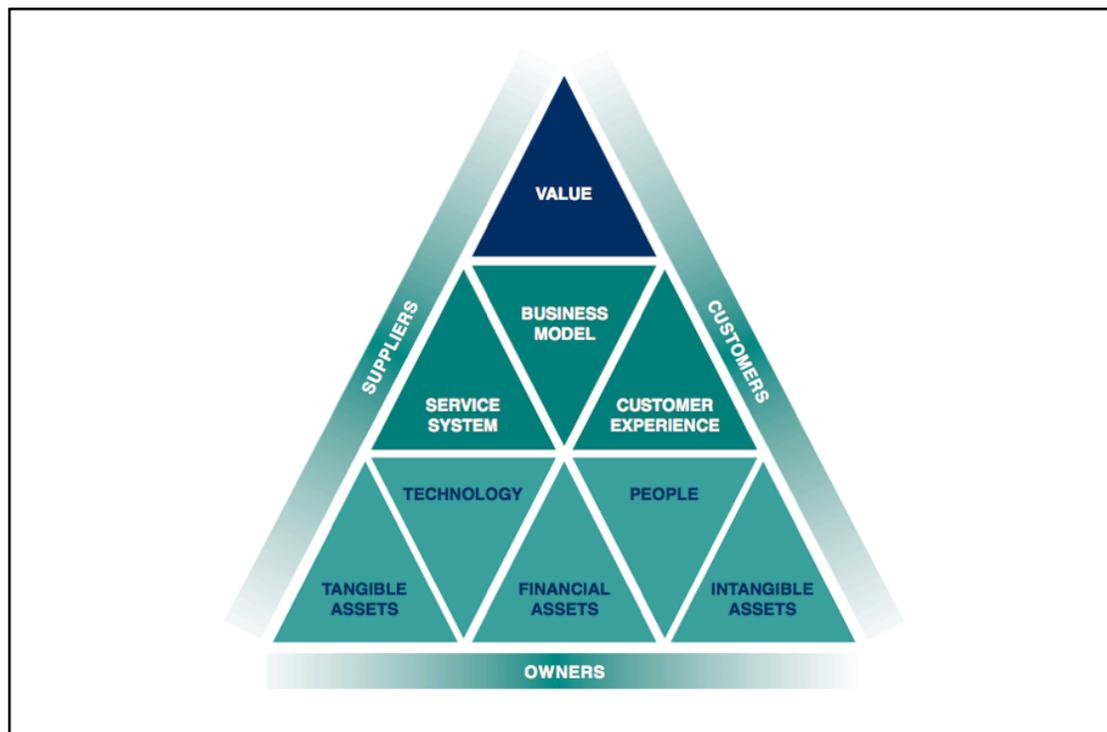


Figure 1: Service Innovation Triangle (Furseth and Cuthbertson, 2013)

The Service Innovation Triangle gives a holistic overview and visual presentation of a service firm. This is done through a connection of the resources of the firm (first layer, five sub-triangles), the management ability to deliver value (second layer, three sub-triangles) and the value delivered (third layer, one sub-triangle). Each of the nine sub-triangles represents a part of a service firm. (Furseth and Cuthbertson, 2013)

Some firms might have a lot of resources but poor ability to deliver value whilst other firms might have few resources but strong ability to deliver value. Hence, this model takes into account the capacity to innovate, the capability to innovate and the outcome of innovation. The value created is considered from the perspectives of three stakeholders, being that of the owners, suppliers and customers of the firm. (Furseth and Cuthbertson, 2013)

2.7 The Drivers of Service Innovation

To make the Service Innovation Triangle a useful tool for understanding the drivers of service innovation an explanation of the levels and the sub-triangles is necessary.

2.7.1 First level: Resources

The tangible assets, financial assets and intangible assets are not seen as large drivers of service innovation. These resources might be either large or small in service firms but the abundance of resources is not perceived as conducive for service innovation per se. (Furseth and Cuthbertson, 2013)

The people and the technology of the service firm are the two resources that are the more prominent out of the five. This is because a service firm might have a competitive advantage because of either its people or technology, maybe even both. Resulting in differences that might have large impacts on the innovative activity of a service firm. (Furseth and Cuthbertson, 2013)

2.7.1.1 Tangible assets

Tangible assets are the fixed and current assets of a firm and it might cover everything from machines, offices to warehouses and land. (Furseth and Cuthbertson, 2013)

2.7.1.2 Technology

Technology is the systems that allow for automation, communication and information internally and externally for a firm. (Furseth and Cuthbertson, 2013)

2.7.1.3 Financial assets

Financial assets may be the cash holdings, stocks, bonds or other forms of financial asset the firm may possess. (Furseth and Cuthbertson, 2013)

2.7.1.4 People

People are essentially all the employees as well as the managers of a firm but it extends beyond the share number of people the firm employs, and also includes the culture of the firm. (Furseth and Cuthbertson, 2013)

2.7.1.5 Intangible assets

Intangible assets are the nonphysical assets such as brands, trademarks, patents, copyrights and goodwill. These are all examples of intangible assets that a firm might possess. (Furseth and Cuthbertson, 2013)

2.7.2 Second level: Management

At the second level of the Service Innovation Triangle the influence of management ability come into consideration through the service system, business model and customer experiences of a service firm. All of these three elements are important to the innovative activity of a service firm due to the importance of skilled managers. Talented managers ensures that the service firm is optimized to take full advantage of its available resources, the first level of the Service Innovation Triangle. (Furseth and Cuthbertson, 2013)

2.7.2.1 Service system

Service system is the way in which the firm is organized in order to deliver its service to the customer. (Furseth and Cuthbertson, 2013)

2.7.2.2 Business model

Business model is the infrastructure behind how the firm offers value, to whom the value is offered and how the firm eventually gets compensated or paid for that value. (Furseth and Cuthbertson, 2013)

2.7.2.3 Customer experience

Customer experience is the sum of all the interactions between the customers of a firm and the firm itself. All customers have an individual experience at a given firm but from the point of view of the firm, all customers deserve to have the same level of customer satisfaction. (Furseth and Cuthbertson, 2013)

2.7.3 Third level: Value

Value is at the top level of the Service Innovation Triangle because the ultimate goal to reach for the service firm is to achieve value for all of its stakeholder groups. Attempts on innovation must be successfully realized in a market place in order to be considered a value. Hence, the innovative activity of a service firm revolves around commercializing its service offerings in order to create value for the owners, suppliers and customers of the firm. (Furseth and Cuthbertson, 2013)

2.7.3.1 Value

The definition of value differ from firm to firm and some might define it as market share or net profit, whilst other define it through firm specific result metrics. Furthermore, value can be of economical, societal, environmental or even emotional nature. (Furseth and Cuthbertson, 2013)

2.8 Suggested Agenda for Research

The last section of this literature review will address some of the expectations for this study. Posing one proposition per sub-triangle in the Service Innovation Triangle will enable this. Each of the propositions and the accompanying effects will be discussed based upon academic theory.

2.8.1 List of propositions

Proposition 1 – Tangible assets:

None of the academic papers from the literature review highlights tangible assets to be of significant importance when innovating. Given this lack of theoretical support the expectation is quite clear but negative; tangible assets will serve only as a minor innovative capacity enabler in service SMEs.

Proposition 2 – Technology:

Lee (1995:391) argues that research and development propagates radical innovation.

“In-house R&D have strong effects on radical innovation in a technology setting.”

Research and development is at the center of creating new technologies, as this study show. Radical innovations, according to Lee, are usually the result of new technologies that changes the marketplace to some or even a large degree.

This insight makes it reasonable to expect that technology will have a major effect on service innovation. Hence, technology will serve as a major innovative capacity enabler in service SMEs.

Proposition 3 – Financial assets:

Khan and Manopichetwattana (1989:605) claim that an abundance of resources are not related to nor supportive of innovation.

“The abundance of resources available to a firm is not found to correspond with successful innovation.”

According to this study an excess of finances, money, does not result in successful innovations. In other words, small firms with some money at hand or usually a shortage of it might just as well succeed with innovation.

Making the expectation for this driver clear; financial assets will serve only as a minor innovative capacity enabler in service SMEs.

Proposition 4 – People:

Jong and Vermeulen (2006:599) state that a managerial focus on innovation is important in order to create new products and services.

“A managerial focus on innovation was significantly connected to new-to-the-firm products and services.”

Khan and Manopichetwattana (1989:604) tested the proactiveness of managers and found it to be significantly related to innovation.

“There is a strong relationship between innovation and proactiveness of managers with a correlation of 0.78 at the 0.01% level.”

These two studies argues that a proactive focus on innovation by managers of the service firm is conducive to innovation. Managers behaving in this way carry with them some of the traits that are common among highly successful and innovative entrepreneurs (Kickul and Gundry, 2002).

This academic insight make it clear that people, especially the managers of the service firm, are expected to be drivers of service innovation. Hence, people will serve as a major innovative capacity enabler in service SMEs.

Proposition 5 – Intangible assets:

As with tangible assets, none of the academic papers from the literature review highlights intangible assets to be of any significant importance when innovating. Once more this lack of theoretical support leads to a clear and negative expectation; intangible assets will serve only as a minor innovative capacity enabler in service SMEs.

Proposition 6 – Service system:

Antoncic and Hisrich (2001:495) state that new solutions to the way in which organizational functions are performed is important to the service firm.

“The pursuit of creative or new solutions to the challenges of performing organizational functions (e.g., production, marketing, sales, and distribution) are innovations in the broadest sense.”

This statement argues that the way in which the service firm is organized in order to deliver its products and services to the customer, is of great importance for the innovative ability of the service firm.

This insight from the two authors, emphasizing the need for solutions to the challenges of the service system, supports the expectation that this factor will have major effect on service innovation in service firms. Hence, service system will serve as a major innovative capability enabler in service SMEs.

Proposition 7 – Business model:

Chesbrough and Rosenbloom (2002:529) state that a successful business model can both realize and capture economic value.

“A successful business model creates a heuristic logic that connects technical potential with the realization of economic value.”

The two authors (2002:530) further argue that new business models can be created in order to capture technological or market opportunities that the firm does not take full advantage of yet.

“The inherent value of a technology remains latent until it is commercialized in some way. In some instances, an innovation can successfully employ a business model already familiar to the firm. In other cases, though, such a business model will not fit the circumstances of the technological or market opportunity. In the latter cases, technology managers must expand their perspectives, to find the right business model in order to capture value from that technology.”

Business models can be the source of new value as it is the solution or the architecture of creating cash flows for the firm. Some firms might have superior technology but the successful firms realize their technology in the marketplace. A successful business model will be at the center of this realization of value. Hence, business model will serve as a major innovative capability enabler in service SMEs.

Proposition 8 – Customer experience:

Han, Kim and Srivastva (1996:7) argues that customer orientation might be the most important market orientation for the service firm.

“Although some consider customer orientation as important as competitor focus and inter-functional coordination, others consider it the most fundamental aspect of a corporate culture.”

The authors (1996:7) complements this argument by relating it to the process of continuous innovation.

“Customer orientation advocates a continuous proactive disposition towards meeting the exigencies of the customers. A focus on total customer satisfaction, thereby, should lead to a focus on continuous innovation.”

Successful customer orientation should lead to innovative solutions that benefit the customers and their experiences with the service firm, according to the authors of this study. Hence, customer experiences will serve as a major innovative capability enabler in service SMEs.

Proposition 9 – Value:

According to Oke (2007:582) both radical product and radical service innovations as well as incremental innovation resulted in high innovation performance.

“Radical product innovation and radical service innovation were found to be significantly related to innovation performance. Innovation performance was also found to be significantly related to the pursuit of incremental innovations for products and services.”

An interesting finding from the study Oke conducted is that both radical innovation and incremental innovation are related to the performance of innovation. Traditionally speaking, the perception is that only radical innovations lead to increased innovation performance (Oke, 2007).

This study show forth that innovators must prioritize both radical and incremental innovations in their work in order to create value, preferably finding the right balance between the two. Hence, value will serve as a major innovative activity enabler in service SMEs.

2.8.2 Summary

The nine propositions and their expected effects (either minor or major) on service innovation in service SMEs are summarized in the following figure.

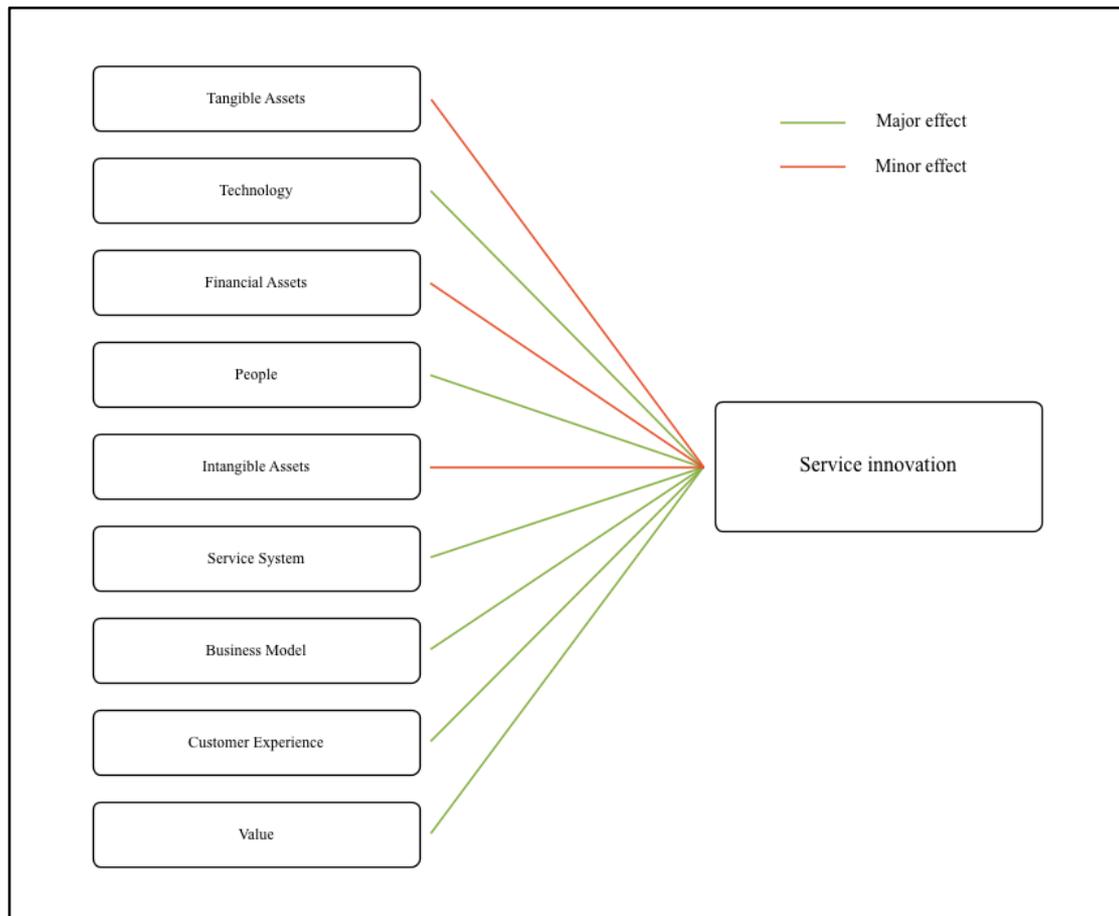


Figure 2: Factors influencing service innovation in service SMEs

3 Methodology

The methodology part of this paper is structured into five parts. First, the key characteristics or the context of this study will be presented. Second, the case selection will be discussed in brief. Third, the choice of data sources for the subsequent analysis will be detailed. Fourth, an explanation of the analysis procedure will be given. Fifth, a quality assurance of the research method will be undertaken.

3.1 Context of Study

According to Miles and Huberman (1994) qualitative data is the source of well-grounded and rich descriptive explanations, words they say, have the ability to be even more compelling than a mere presentation of numbers. The first distinguishing characteristic of this study is that it only will be qualitative in approach. This means that no research results can be either verified or presented as evidence based on this study. This study will however contribute with a small progression of the field and present a compelling paper through its usage of words instead of numbers.

The context of this study can be further exemplified through three additional characteristics being country, firm size and industry. Norway is the only country to be studied. Size of firms for this study is focused around small to medium-sized firms only, in order to have a series of comparable case studies for analysis. The industry of study is the healthcare sector, which is primarily delivering both products as well as services to everything from large hospitals to individual people.

SMEs are integral to the economic growth through a large proportion of employment growth, and innovation through the introduction of new and/or improved services and products in a given country (Furseth and Cuthbertson, 2013). The healthcare sector is most likely to grow as the baby boom generation retires in the early decades of this century. In combination with an extended lifespan for this generation new demands for better healthcare solutions are emerging.

3.2 Case Selection

According to Yin (2009) case studies are a preferable tool when researching “why” and “how” questions as well as focusing on a contemporary phenomenon. Furthermore, Yin (2009:47) states in his book *Case Study Research* that “*each case must be carefully selected so that it either (a) predicts similar results or (b) predicts contrasting results but for predictable reasons.*”

3.2.1 Borg Innovation

The access to cases for this study has been granted through the author’s personal network and the extended networks of these connections. This has proven to be highly time efficient for the progress of this study and created an initial bond of trust, as no impersonal “cold-calls” were necessary.

Borg Innovation, a venture capital firm located in Sarpsborg (a city in the county of Østfold, Norway), is the source for both of the case studies. Borg Innovation runs an incubator business, supports research projects and facilitates professional networks within the field of service innovation (Borg Innovation, 2013).

3.2.2 Case studies

The two case studies to be studied have been purposefully selected in order to fit criteria, and the specific cases that fit the criteria were chosen based on personal contacts. Abilia with 100 employees is a large SME that is wholly commercial and have more than forty years of history. Dignio with 4 employees is a small SME in the process of commercializing and with just a few years of history.

Both companies operate within the healthcare sector (context of this study), both companies are defined as SMEs (point of comparison) yet they have very different histories of commercialization (degree of variance). Abilia has been operating for four decades whilst Dignio is a recent startup. Hence, they fit the purpose of examining the drivers of service innovation in established versus young startup firms.

3.3 Data Sources

For this study both primary and secondary data sources will be used when analyzing the two above-mentioned cases. The main data sources are primary data (personal interviews) and secondary data (corporate websites).

As this is a qualitative study personal interviews will be the best way of gathering primary data because it allows the interviewer to observe and learn from the interviewee, in order to better answer the given research question. An interview guide will be used when conducting interviews. (Appendix – Interview Guide)

Secondary data sources will be used in order to enable a triangulation of all the data collected. To gather secondary data is crucial in order to analyze more than just one data source when answering the research question. This point is of such importance that it will be covered in a separate section below, section 3.3.2.

3.3.1 Data collection

Yin (2009) presents three principles of data collection and the first one is to use multiple sources of evidence; second is to create a database with an organized archive of all documents; and third is to maintain a chain of evidence which is to provide a clear pathway for the reader from research question all the way to the conclusion.

One interview with a founder and manager, lasting from thirty to sixty minutes, audio recorded, then word transcribed and subsequently coded were conducted per case study firm. The data was archived and stored on a computer and external hard disk.

During the analysis of the interviews corporate websites were utilized in order to triangulate the data. Factual information about the companies were extracted from the “about us” subpages on the websites. Certain answers made during the interviews were double checked against statements made on the corporate websites, in order to strengthen the answers made during the interview.

3.3.2 Triangulation

This study will draw upon multiple data sources in order to conduct a triangulation of the collected data. Yin (2003:116) provides an excellent explanation of what triangulation is *“when you have really triangulated the data, the events or facts of the case study have been supported by more than a single source of evidence; when you have used multiple sources of evidence but not actually triangulated the data, you typically have analyzed each source of evidence separately and have compared the conclusions from the different analyses – but not triangulated the data.”*

3.4 Analysis

Miles and Huberman (1994) presents a very good insight into the components of data analysis, called the flow model, in which there are four stages; (1) data collection period, which is the period of preparing (making codes) and conducting interviews (gathering data); (2) data reduction, which is the period of selecting as well as focusing on the relevant data; (3) data display, which is the period of organization and presentation of the most relevant data; and (4) conclusion drawing/verification, which is the final period in which the researcher summarizes and emphasizes his or her main findings.

The two authors, Miles and Huberman, note that the flow model and the four periods are intended to overlap in time, meaning that the researcher has to go back and forth throughout the study. Final conclusions however are always to be made at the end.

3.4.1 Table of codes

In order to make the table of codes the drivers of service innovation based upon the nine sub-triangles of the Service Innovation Triangle were used as keywords. Then a series of codes (= single words) were attached to each one of these keywords. The actual coding was a two step process, first the keywords were tested and then the codes showed if there was none, minor or major support of each specific keyword. The final table of codes include 42 codes (including keywords) as specified in table 6.

Tangible Assets	Inventory, warehouse, factories, offices, machines
Technology	IT, computer systems, information systems
Financial Assets	Money, stocks, bonds
People	Management, employees, culture, knowledge, talent
Intangible Assets	Brand, goodwill, intellectual property rights
Service System	Service offering, service system structure
Business Model	Payment method, cash flow, business model structure
Customer Experience	Customers, customer needs, customer driven
Value	Financial value, customer value, societal value, individual value, successful results, innovation

Table 6: Table of codes

Several new themes emerged during the effort of coding and these were accounted for as well. This means that they were coded in order to be properly identified and quantified. The realized set of codes are bigger than presented here but the new themes that emerged will instead be presented throughout the analysis and discussion parts of this paper.

3.5 Quality Assurance

There are four main criteria for evaluating qualitative research according to Bryman and Bell (2007:411) and these are:

1. Credibility
2. Transferability
3. Dependability
4. Confirmability

Credibility of findings is established through the establishment of research that is carried out in accordance with sound and good practices, as well as letting other researchers assess the work of the investigator in order to ensure correct practices. In order to ensure transferability of findings a rich account of the phenomena to be studied is recommended. Dependability suggests that researchers should involve auditors into their project, this can be done through peers who act as auditors and continually control that proper procedures are being followed. Confirmability refers to objectivity and it is important to note that complete objectivity is impossible to obtain in business research, it should however be evident that the researcher has acted in good faith and not based on personal values or meanings. (Bryman and Bell, 2007)

The appointed supervisor of this thesis ensures dependability as he acts as the auditor of this research study. Transferability is achieved through recording, documenting and reporting of processes undertaken throughout the research. Credibility is achieved by following the guidelines and good practices of methodology books. Confirmability is achieved by reducing the risks for subjective interpretations from the researcher. Sending the interviewees (= respondents) of this study their cases for review and comments can help mitigate this risk.

4 Analysis

The two case study firms will be analyzed in great detail throughout this section. The main findings from the two interviews will be presented in two sub sections, one for each of the cases, with a cross case comparison at the end.

4.1 Case I: Dignio – the startup firm

Dignio is a startup firm in response to the lack of quality in elderly care in Norway. The team of four behind the startup is passionate about the dignity of the elderly and this passion is what made them start Dignio. Dignio delivers innovative safety, health and assistance services to elderly people in Norway, with the goal of enabling them to live longer in their own homes. (Dignio, 2013)

The firm has its origin from a research project in 2010, named “ageing with dignity”, that included users and key stakeholders within the healthcare sector. This research project lead to a formal organization and incorporation of what is now the firm Dignio. The reason to why Dignio exists is that they want to offer a new model of care for elders, by adopting and using technology in an innovative as well as cost-efficient way. Benefitting the services given by care providers and increasing the life quality of users. (Dignio, 2013)

Tore Martin Skarpholt, a partner at Dignio, is the person that represented Dignio for this case study. He has extensive experience as an entrepreneur and has held various sales management positions at SAP, Oracle and Hyperion. (Dignio, 2013)

4.1.1 Definitions

To start off the interview Tore Martin was asked a couple of definition questions in order to set the context for the following questions, related to service innovation in practice. On the question of how he defined service innovation Tore Martin answered as follows.

“Innovation is a new way of creating or developing services and through cooperation finding new ways of delivering services in order to solve problems in a smarter way.”

When asked about how he defined value Tore Marin answered.

“Value is about something that has meaning for me as an individual or for other people. It can be both non-economical value and economical value. That is values that have meaning for me as a human being, the general environment and the people around me.”

Both of these definitions shows a practical and personal approach to the field of service innovation. The definition of service innovation is centered around cooperative creation, whilst value is highly personal and almost ideological in approach. The concept of ideology in the work on innovation is at the core of Dignio.

Based upon these two introductory questions the latter part of the interview focused on service innovation in practice. One main question was asked about each of the layers of the Service Innovation Triangle, with sub questions asked when applicable and necessary.

4.1.2 Resources

The resources that were highlighted by Tore Martin were technology but in particular people and he gave the following account of this resource.

“Well, the old answer to this question would be the top management or that the top management would have to have the will and determination for innovation to be implemented. However I do not think it is not necessarily like this nowadays; service innovation can just as likely come from the receptionist, the cleaning lady and other people that can contribute to the fact that a service innovation might happen. I am not saying that the top management is irrelevant but the old saying that the top management had to initiate and support innovation otherwise is it impossible, has changed somewhat in more recent times.”

This statement does not only highlight management to be important but it emphasizes that all employees of the organization are important for service innovation to succeed. Tore Martin mentioned the receptionist and the cleaning lady as examples of useful drivers of innovation. Traditionally these people would have been overlooked in the corporate environment, as they would not be seen as normal drivers of innovation. When asked to explain the statement above in more detail Tore Martin said.

“Well we are a startup company and we are an innovation company because we are a result of the fact that we saw an element of indignity in society, in the sense that elderly people live in unworthy environments and we want to make a change for them so they can live longer in their own homes, if they wish so.”

Form the point of view of analysis the most important word in the statement above is that of “we”, because it refers to the people of the company. Notice that it is mentioned a total of five times in such a short statement. Within a startup firm resources are scarce in general, making every employee an important resource and possible driver of service innovation.

4.1.3 Management

Tore Martin put emphasis upon two aspects that management can influence, the customers experiences and the business model of the firm. Tore Martin described the importance of customer experiences in a very simple yet highly important way.

“It is important to listen to the customers.”

Although this statement is very short does it contain one very important fact about Dignio as a firm. This fact is that the firm is market driven as a source of innovation. In other words, Dignio focuses on the customers when innovating.

This market driven approach to customers is evident and highlighted on the Dignio website (2013) as the firm explains why they exist.

“We are reminded every day of what we need to solve in caring for the elderly. Numerous tragic events that never should have happened are constantly reported by the media. It is happening to a part of our population who find it difficult to stand up and be heard. It is time to make a change.”

Evident once again in this statement, as seen in the definitions, is the ideology behind the firm. On the aspect of business model Tore Martin answered.

“The business model can be an element of service innovation because new business models can come from service innovation. That is one of the things we are working with at Dignio since we are a startup business. One of the ways in which we do this is by working with lean startup models and is testing out different forms of purchasing. Simply said testing and failing, and then learning from that.”

Both business model and customer experiences are important for startup firms to succeed and Tore Martin recognizes these two as drivers of service innovation. Another interesting finding from the conversation with Tore Martin was that he highlighted the point of failing when innovating.

“One of the other things that are very important in the work of service innovation is to have the permission to fail. It includes all levels of the firm, one must have great room for making and learning from mistakes.”

Accepting and embracing failure as a part of the process of innovating is a crucial aspect of the role of an innovator. Especially within a startup firm trying to commercialize their business from economic ground zero, but it is equally as important within established and already commercialized firms. Failing is a factor that senior managers of a firm must allow as well as encourage, in order to foster an innovative environment that seeks out innovations and dare to face risks.

4.1.4 Value

When asked about for whom value is created Tore Martin mentioned three groups, common for all of these is that it is people who are affected. Reflecting once more upon the ideology of the firm and the mission of creating better lives for elderly people. The first out of the three groups are the employees of the firm.

“First of all it is us who have a job at the company that got a job that gives us meaning in life. All of us who works at Dignio do not work at Dignio in order to make just money, because if we just wanted money we could have stayed at our old jobs that paid very well.”

Second out of the three groups Tore Martin mentioned is customers.

“The service we deliver has no value if the customer, the actual user, sees no value in our service.”

Last out of the three groups Tore Martin mentioned is the people around the customer, defined as the extended user group, a normal situation within the healthcare sector as elderly or disabled people have their family and friends around them.

“This includes not only the user but also all the people around the user since we are dealing with either elderly or vulnerable people due to diseases such as diabetes and the alike. These people can be the wife, the children or any other people with a relation to the person in need of care. And, all of these people are in affect influenced by service innovation.”

All of the three statements correlate with the definitions given by Tore Martin at the beginning of his interview because in the case of Dignio value is related to personal, even ideological goals. The employees of the firm, the customers of the firm and the family as well as friends of the customers are the people that Dignio wants to give a better life by succeeding with their firm. Money comes secondhand, as a sort of added bonus.

At the end of his interview Tore Martin gave an example based on his own experience on how service innovation is related to value, by exemplifying how they at Dignio have been able to succeed with service innovation in practice.

“An example of this is that we took in a medical dispenser from Sweden and the county of Sarpsborg already used it, they then told us that the dispenser system was full of flaws and errors. The batteries did not last and the lid loosened frequently and all sorts of problems. This was really bad and then we asked ourselves shall we start with this, and that is exactly what we are going to do. Because we wanted to learn about all of these problems from them so we could solve all of this problems by using our service designers.

We then invited the clients to our offices and placed them in a room with our designers and then we worked through all of the problems and designed new services so the medical dispenser actually became a new product. So this was an innovation, an actual improvement of something that already existed but did not work very well.”

This example shows that Dignio perceived a market opportunity in something that was not good enough, and that was the exact reason to why they wanted to import the medical dispenser. It was a bad product but Dignio thought they could make it better by using service innovation.

Through cooperation with other people and learning from failures (in this case the failures of other people) Dignio was able to redesign the services related to the product, effectively making it a new product. Both creative cooperation and learning from failures have been highlighted by Tore Martin in his interview, this example demonstrates how these two factors can be used to innovate in practice.

4.1.5 Summary

The Dignio case study shows that most of the propositions acts as expected, other propositions contradicts the expectations and some propositions are discarded as drivers of service innovation.

At the resource level technology, financial assets and people were mentioned but only people was highlighted in particular. People was emphasized as the crucial resource for service innovation to succeed. Financial assets were indirectly mentioned but downplayed, as expected. In the middle layer of the Service Innovation Triangle, the management ability level, all the propositions were supported except for the service system. On the top layer, value, a clear support of the proposition was expected and this was found.

The following figure has been updated to show how the nine propositions from the literature review influenced service innovation in the case of Dignio.

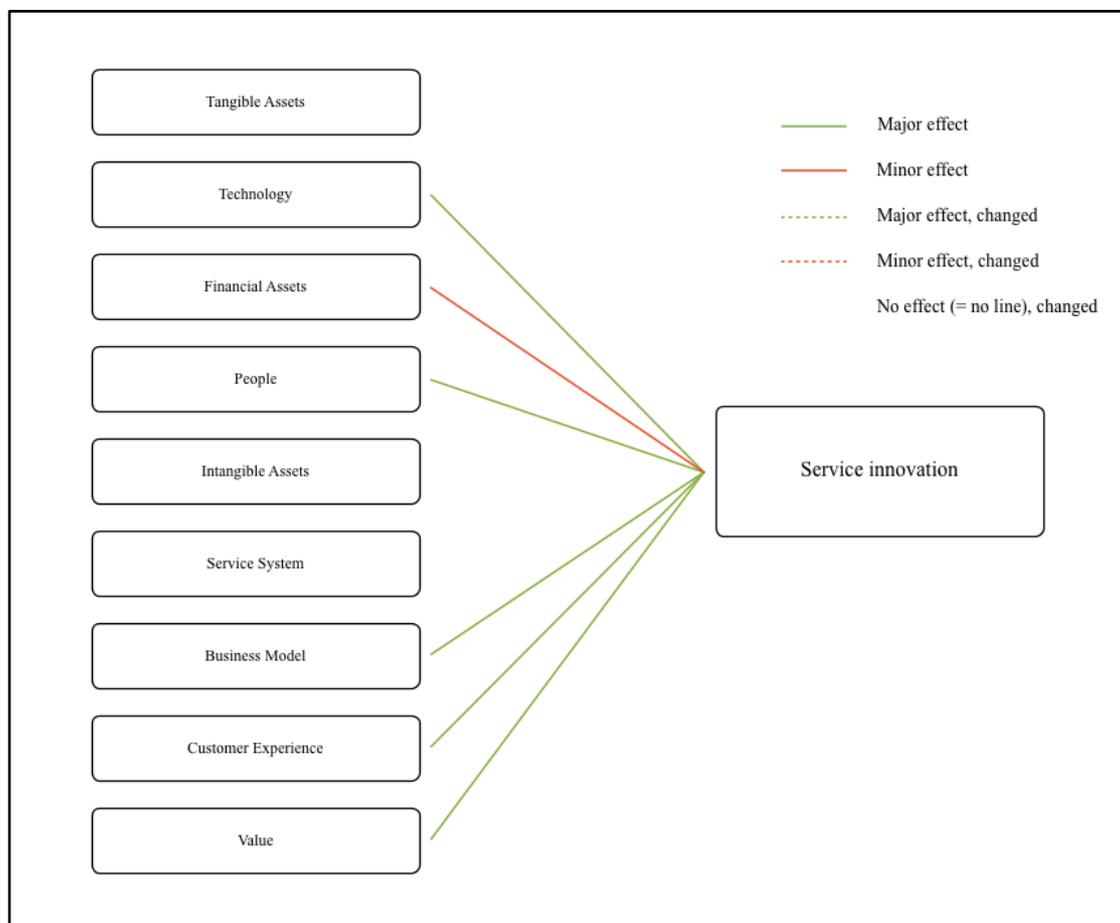


Figure 3: Factors influencing service innovation for Dignio

4.2 Case II: Abilia – the established firm

Abilia is a well established firm with more than forty years of experience within the healthcare sector. Abilia delivers innovative product and service solutions for disabled and elderly people. The company is a result of a series of mergers between four former companies named Gewa AB, Falck, Igel and Handitek. MedCap, a Swedish private equity firm that invests in small to medium-sized life sciences companies, is the current owner of Abilia. (Abilia, 2013)

Abilia is mainly operating in Norway and Sweden but the firm has a small proportion of its business from Denmark. Abilia sells its products to more than 20 countries worldwide through an international network of exporters. (Abilia, 2013)

In 2010 Abilia was awarded the Innovation Prize of the Year by the Norwegian Research Council. A nationwide panel of more than 2000 business leaders awards the prize and Abilia received more than one third of the total votes. This prize is a testament to the success and innovativeness of the firm. Former prizewinners include much larger and publicly traded firms such as DiaGenic, a pharmaceuticals firm, and REC, a multinational solar power firm. (Abilia, 2013)

Terje Myhre, the manager of Abilia Senior and the product manager of Alert, is the person that represented Abilia for this case study. In partnership with two others he founded the firm Igel that was later merged with Falck, creating the firm named Falck Igel. This firm was then merged into what is now Abilia. (Abilia, 2013)

4.2.1 Definitions

When asked to define service innovation Terje instead gave an explanation of what he called “user driven innovation”.

“User driven innovation stands strong because we want to create the best product and products influenced by the users themselves tend to benefit them the most.

And when it actually benefits the consumer we eventually sell more products, because it creates direct value for them.”

User driven innovation can be perceived to be the same as market driven innovation. Products and services within the healthcare sector are not mass marketed but rather specialized towards customers with certain needs due to disabilities or old age. Terje explained this concept in more detail and with special emphasis put upon why it is crucial for success when dealing with healthcare innovations.

“So user driven innovation is a necessity for success, especially in this line of business. We look at it in two ways. One is the information from the market about what they want and two the things that they don’t know that they need, but do indeed need. In order to do so we have to use our experiences with the target market so we can create better technologies and products for our users.”

Terje focuses on what the market needs right now and what the customers will need but they don’t know of yet, which is much more uncertain and harder to get right. Both pro- and reactive innovation approaches are important but success in the case of Abilia is based upon years of experience with the target market. When asked to define value Terje gave a more nuanced explanation based upon his own experience.

“When we started this company we had some ideological values because we got an idea and thought we could do something useful with it. There was also an economic aspect to it but we mainly started because we wanted to create something useful; making it user driven innovation from day one. We put the users need in focus and tried to give them a better and more active life. That is kind of our core value and it is actually possible to make money by doing so.”

Ideological reasons are mentioned as the initial drive behind the founding of the firm but Terje also highlighted the importance of economic value from a business perspective. Money, in the sense of getting rich, was not the reason for starting the firm but more of a necessity for survival in the early years and at later stages growth.

4.2.2 Resources

The two resources that Terje mentioned were people and financial assets. Terje described people in the following way, focusing on competencies.

“Well, competency about what you are going to be doing is probably the most important. The people and the ideas are very important. All of the people working here have some sort of health related background, therapists, teachers, nurses and so on. All of them know the primary market well so having that competency makes them able to be part of creating or delivering something new.”

Having the right people is very important to succeed with innovation and business in general, maybe even the most important resource of all. In Abilia the right people have knowledge about what they are doing and the market they are going to serve. With this competency, as Terje puts it, are they able to be a part of the innovation processes.

From a business perspective financial assets is a crucial necessity for the survival of a startup firm, as Terje described in his definition on value. This explanation of financial assets partly reflects his view on the success and failure of startups.

“When we work in such a small and niche market it might take some time before the money comes in. Therefore is it important to have enough money to survive until the money starts coming in. That is why so many startups die out because they have no capital to develop or survive for long enough time.”

Important to take away from this explanation is that financial assets are important to survive and eventually grow a firm in a professional way. Terje detailed the importance of financial resources with an example from his own experience building and managing a growing business.

“When we started we were three people and it was easy to have ideological views however when you are as large as 100 people you must think about money as well. All the way up until 10 people we could run the business easily and do not worry about

money too much; we knew all of the customers and we knew that money would be coming in. When you are 100 people you would have to organize the staff and put money into focus all the time. However, keeping the core value in focus has been a necessity for us to make money.”

When asked further about the importance of controlling finances Terje gave an explanation that can act as a rule of thumb for entrepreneurs in the process of building an organization with overheads, out of a startup firm with no overheads at all.

“When it comes to money and business I think it is a divide when you come to around 8 to 10 people. If you do not have any professional assistance at that stage it is impossible to carry on without it. So there is a sort of magical limit that means that you need to get some assistance when you reach a given size, for all startup firms.”

This focus on financial assets shows that they do not drive innovation itself but enable it. In the sense that startup firms need money in order to survive, grow and create a viable organization managed in a professional manner. When innovating it is more important to focus on core values, such as ideology, in order to achieve success.

4.2.3 Management

Customer experiences were the only factor that Terje emphasized at the level of management ability. He focused specifically on delivering what the customer actually needs. Since most of the users have some sort of communication or mobility disability, almost all of the products and services offered by Abilia are tailored towards specific and sometimes unique customer needs. Terje explained the importance of customer experiences in the following way.

“If it is user driven then it is likely to succeed. To say it quite literally, if you have a problem and I have a solution; when you see that, then you buy my product. Because what we are doing is different from normal retailing where you go from store to store. We make highly specialized products for small niche markets so we realized that as long as the product met a real consumer need it would sell.”

The statement below reflects the vision behind the brand name Abilia and the focus on customer experiences, as the company (2013) writes the following on their homepage to explain the choice of name.

“The name Abilia comes from the word ‘ability’. By providing the opportunity to increase your own ability we want to give everyone, regardless of disabilities, independence and self-confidence in their everyday life.”

The homepage quote focused on “*your own ability*” revealing an individual approach to customers. This echoes the explanation given by Terje when he was asked to define service innovation, he instantly and almost as a reflex focused on the customer.

4.2.4 Value

When asked to explain how service innovation is related to value Terje gave a very straight and clear-cut answer, building upon his explanation of customer experiences.

“Innovation is related to value because we are making what people need and then we take paid for that.”

Terje then explained that value is created for two parties from his point of view, the customers of the firm as well as the owners of the firm.

“When we sell something we believe that we sell life quality but we do also make money by doing so.”

This ties together both the ideological and economical values that Terje mentioned in his definition on value. In order to detail the statement Terje used his own experience to give an example of how they once had innovated. In the 1990s Abilia created a touch-screen device when the technology for touch-screen devices did not exist.

“We had a communication product that went on scanning technology so you could pick a symbol, a letter or something like that in order to communicate. This was developed for people who had very bad mobility but some of them were able to point and use their own hands and fingers. We then needed a touch screen and this was before any touch screens existed, pen-based screens drove this system that we sold in the end of the 1990s. The ability to point and touch a screen would significantly increase the market and we looked for screens and it was impossible to find.

What we did to solve this was that we realized that a pen is only a pressure point so we used a plastic cover and made hundreds of small imprints of pen pressures onto this plastic cover. The result is that when you place this into a pen-based screen system is that you can use normal finger pressure to act as a pen all over the screen, virtually making it a touch-screen because there are pens all over the screen. In order to make this touch-screen we used a bed of needles, placed a plastic cover on top and used a roller in order to make these hundreds of pen-like pressure points.

All of this was user-driven innovation because we would never have thought of this without interacting with the customer and listening to their needs. The main part of innovation in this case is that we facilitated and enabled disabled people to communicate.”

This example summarizes all of what Terje mentioned in his interview and it is a good lesson for other companies trying to innovate. A clear identification of a consumer need is present, current technology is premature, the market is big, solution to the problem will create a competitive advantage and human creativity is the real driver of service innovation.

With very little investment into the new product since needles, rollers and plastic covers are quite cheap. Terje was able to create a whole new product by improving an already existing product, significantly improving the life quality of his users and the profitability of his own firm. Realizing both ideological value by improving life quality and economical value by taking paid for doing so.

4.2.5 Summary

The Abilia case study shows that four propositions acted as expected, four were completely discarded as factors and one contradicted the theoretical expectation.

At the resource level people was seen as a major effect whilst financial assets were seen as a minor effect, these results were as expected. Abilia works with technological products but technology was only mentioned indirectly, contradicting the strong theoretical support for research and development. Only customer experiences was mentioned at the management level and the effect was major. Clear support for service innovation was expected at the value level and this was found.

The following figure has been updated to show how the nine propositions from the literature review influenced service innovation in the case of Abilia.

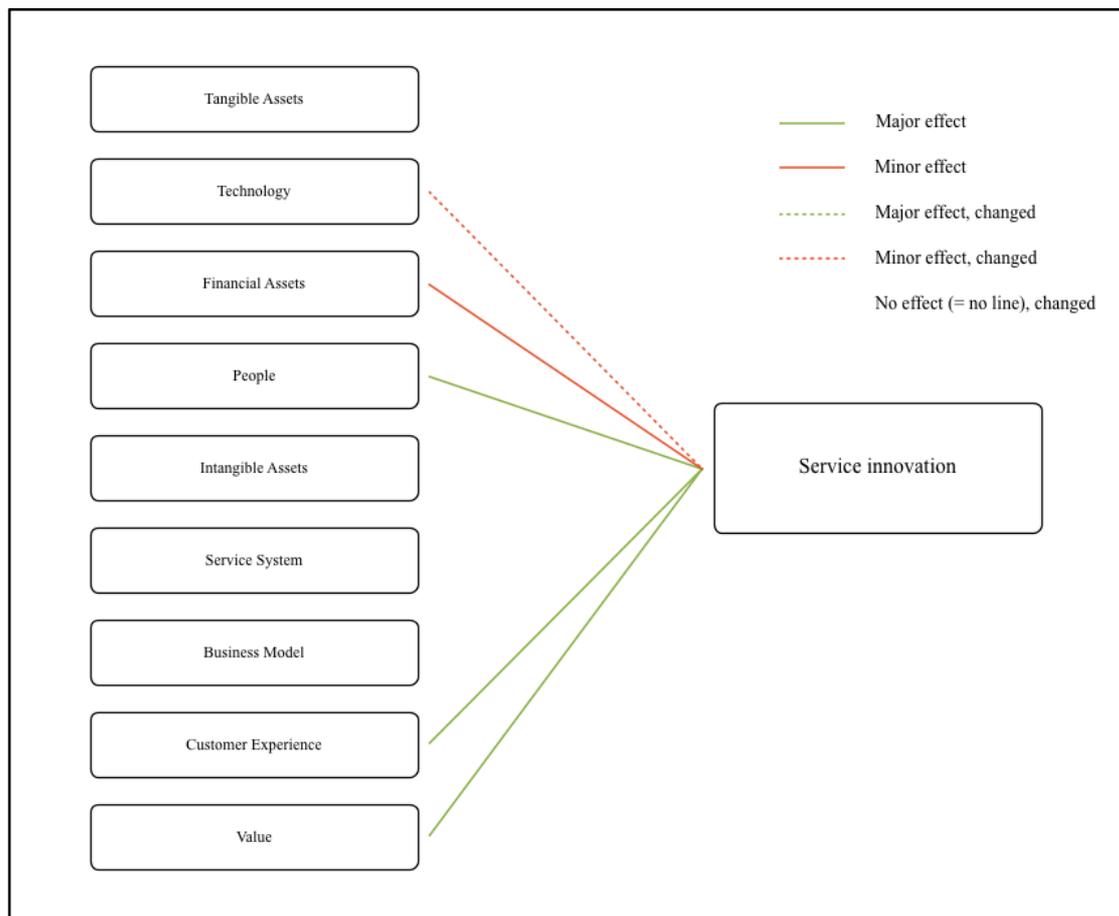


Figure 4: Factors influencing service innovation for Abilia

4.3 Case Comparison

Both of the cases have several strong correlations when it comes to identifying drivers of service innovation but interestingly enough are there some big deviations as well. This section will look at and discuss these correlations and deviations. Based upon the insights from the two case studies a couple of new drivers of service innovation will be presented at the end of this section.

4.3.1 Technology

Technology was only mentioned in the case study of Dignio and it was neither emphasized to any certain degree either. Both case firms are technology-based but the results from the two interviews indicate that innovation is driven more from other factors, rather than technology per se.

Although the importance put upon technology differ between the two cases this is not expected to be due to the source of variance. The developmental stage of the firm does not affect the influence of technology.

4.3.2 Financial assets

Only in the case study of Abilia was financial assets mentioned but it was more from the point of view of an entrepreneur than an innovator, with regards to the survival of a firm. Making it an indirect factor more than a driver, resulting in a minor effect.

Financial assets were not prioritized in the Dignio case study. Tore Martin perceived financial assets, in the sense of him getting rich, to be second priority compared to the prospect of creating and delivering value for their customers. This is interesting as Dignio needs money to survive and grow but ideology is a stronger value than money.

Financial assets presents the clearest distinction in between the two cases and this is expected to be due to the source of variance. The developmental stage of the firm affects the perception of and importance put upon financial assets.

4.3.3 People

Both of the case firms highlighted as well as emphasized people to be one of the most crucial resources for service innovation to succeed, alongside customer experiences. This might reflect upon the fact that both firms are managed by its founders and entrepreneurs rely on every employee to succeed.

4.3.4 Business model

Only in the case study of Dignio was business model mentioned as a driver of service innovation. This might be natural to expect since they are currently trying to commercialize their operations, something that involves the creation of a viable business model. In the case study of Abilia the concept of business model was reduced to the notion of simply creating what the consumer actually needs, and then taking paid for doing that. Given the niche markets, low volumes and high specialization of products this very simple business model actually works for Abilia.

For the startup firm, Dignio, the business model is important because the firm is in the process of creating cash flows. The established firm, Abilia, does not focus on the business model per se because cash flows are already present. Hence, the developmental stage of the firm affects the influence of the business model.

4.3.5 Customer experiences

Both of the case study firms mentioned customer experiences as an important and crucial driver of service innovation. This is directly tied to the people of a the firm as it is the employees that interacts with the customers, creating experiences. In the Dignio case study learning from the customers was mentioned in particular, whilst the Abilia case study mentioned the concept of user driven innovation. For both firms interacting with and learning from customers are clearly elements of high importance in the work of an innovator.

4.3.6 Value

A direct connection between service innovation and value were present at both case study firms. Tore Martin at Dignio and Terje at Abilia were able to exemplify this connection by drawing upon their own personal experiences and tell about how they had innovated in practice.

4.3.7 New drivers of service innovation

Two new drivers of service innovation emerged as a result of the case studies.

1. Ideology of management and/or entrepreneurs
2. Management support for learning from failure

4.3.7.1 Ideology of management and/or entrepreneurs

The most recurrent factor mentioned by both of the interviewees was ideology. The healthcare sector is centered around human values making both of the case study firms prone to ideology as a driver. Ideology however is of such an importance that all firms and managers is ought to learn from it. Firms with ideology as a driver have a moral compass of sound values to use when innovating and serving customers.

Ideology is intangible in nature but it is to be perceived as a new resource. This is because intangible assets are defined as brand and IPR in this paper, something all firms have more or less of. Ideology however is not necessarily present in all firms, making ideology an important new driver of service innovation.

4.3.7.2 Management support for learning from failure

Having managers that allow for failure to be a part of the innovation processes and learning from failure was highlighted as very important by the interviewees. This is identified as an important new driver of service innovation because all innovative

processes carries with them an unknown element that must be explored. In order to explore this unknown element throughout the process of innovation, failure and risk-taking must be encouraged by management. This creates an environment in which employees feel confident enough to try new ideas, fail and learn from them.

Management that does not encourage failure and risk-taking creates an environment in which employees work within their comfort zones and never dare to try new ideas. This is because of the fear of performing badly or maybe even losing ones livelihood.

4.3.8 Summary

The following figure summarizes all of the effects discussed in this case study section. Each effect is briefly explained in order to give some context to the figure.

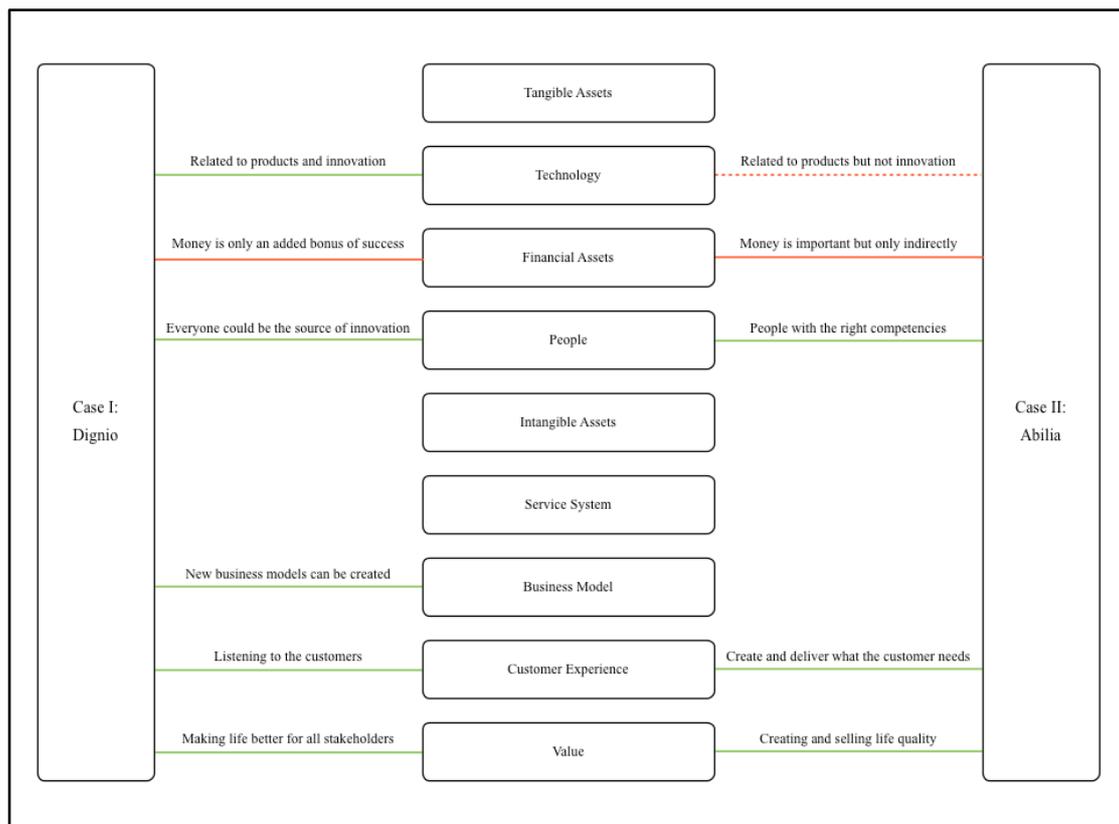


Figure 5: Summary and explanation of the case study results

5 Discussion

This section will discuss the results from the case study analysis in more depth. The first discussion is between the two cases and the second discussion is between expected and found results.

5.1 Between the two Cases

The first discussion will take a comparative perspective and look at both of the case study firms and discuss the definitions of service innovation and value. In order to give a better contextual understanding of the key differential factors of the healthcare sector, a brief discussion of this sector will follow at the end.

5.1.1 The definitions of service innovation

The definition of service innovation based on academic theory from the literature review section of this paper is as follows.

“Services are intangible, simultaneously produced and consumed, and often customized to a client’s needs; Service innovation is a multi-stage process whereby organizations transform ideas into new or improved services; In order to advance, compete and differentiate themselves successfully in their marketplace.”

Tore Martin at Dignio defined service innovation in the following way based on his own experiences with service innovation in practice.

“Innovation is a new way of creating or developing services and through cooperation finding new ways of delivering services in order to solve problems in a smarter way.”

Terje at Abilia defined service innovation in a more unique way by pinpointing what he called user driven innovation, a term that he felt better described their innovation work within Abilia.

“User driven innovation stands strong because we want to create the best product and products influenced by the users themselves tend to benefit them the most. And when it actually benefits the consumer we eventually sell more products, because it creates value direct value for them.”

The interesting thing to do now is to look for certain similarities amongst these three definitions, and especially in between the theoretical grounded one and the practical ones. The crucial aspects of these definitions needs to be highlighted in order to understand the critical importance of the words and their true meaning.

Several similarities exists in the three definitions and two of them are the notion of something new and the creation of services and/or products. In the case of Dignio the word *“new”* is explicitly used and this word is also part of the original definition of service innovation. A new and novel approach to a problem is definitively important when innovating.

Building upon the previous statement, in all of the three definitions the words *“production”* and/or *“creation”* are mentioned. More specifically creating what the customer wants. Especially at Abilia was this important as the definition described what they were doing rather than defining service innovation, as Terje outlined user driven innovation.

One crucial aspect of all of these definitions is the understanding of deliverance, which is the divide between an attempt on innovation and the realization of it. In the theoretical definition of innovation *“differentiates themselves successfully”* is mentioned. In the Dignio definition of innovation *“solve problems”* is mentioned. Similarly in the Abilia definition of innovation *“sell more products”* is mentioned.

The key understanding to take away from this analysis is that all three definitions emphasizes that innovation must create value for someone, a mere attempt at innovating is not enough. In other words, innovation must be realized through successful value creation in the marketplace.

5.1.2 The definitions of value

Both of the case study definitions of value reflects the individuals giving them. They are highly personal in approach with a high degree of empathy for others. The first definition to be quoted below is the one that Tore Martin at Dignio provided. The second definition is provided by Terje at Abilia.

“Value is about something that has meaning for me as an individual or for other people. It can be both non-economical value and economical value. That is values that have meaning for me as a human being, the general environment and the people around me.”

“When we started this company we had some ideological values because we got an idea and thought we could do something useful with it. There was also an economic aspect to it but we mainly started because we wanted to create something useful; making it user driven innovation from day one. We put the users need in focus and tried to give them a better and more active life. That is kind of our core value and it is actually possible to make money by doing so.”

The two important points to take away from the definitions are that value is not limited to one but rather all parties involved, and that entrepreneurs might start businesses for other reasons than just making money.

Value for both Tore Martin and Terje is about enhancing other peoples lives and in the same process enriching their own lives. This aspect of caring for others is of such an importance that the brand names of the firms are a symbol of this philosophy. Hence, Dignio is derived from dignity whilst Abilia stems from ability.

Making personal wealth is second priority in both case studies. This might seem surprising since both of the interviewees are entrepreneurs but they feel that successful innovation comes from delivering value to customers, and this value is not of economical nature.

5.1.3 The healthcare sector

The definitions on both service innovation and value makes it clear that the choice of sector gives a bias throughout this study. This subsection will briefly explain this bias in order to clarify the context of the healthcare sector.

The healthcare sector is unusual from other sectors in the sense that the end user is extended, meaning that there are more people involved when using the services and products offered. This is what was called “*an extended user group*” throughout both of the two case studies. The extended user group is family and friends related to the direct user of healthcare. This unique feature means that people stands very strong within this sector. Making the bias of this study clear. The healthcare sector and the people working within it are all highly emphatic towards other people, skewing the results towards this direction.

5.2 Between Expected and Found Results

The second discussion will compare the expected results based on the literature review with the results found from the two case studies. Throughout this process of comparison a series of new propositions for further study will be derived. These are denoted as the final propositions.

5.2.1 Tangible assets

Open ended questions were asked during the interviews and neither Tore Martin nor Terje chose to emphasize tangible assets in their discussions on service innovation. These results, or lack of results, show forth the relative unimportance tangible assets have when discussing innovation in practice.

The expectation from the literature review was that tangible assets would be a minor innovative activity enabler in service SMEs, because none of the empirical articles identified is as a driver of service innovation. The theoretical expectation is supported by this study but to a much larger degree than first anticipated.

Tangible assets are the first discarded element of the Service Innovation Triangle that does not lead to service innovation, since the case study results indicate that tangible assets do not influence service innovation in service firms.

5.2.2 Technology

In Dignio case study Tore Martin mentioned Technology to be of importance when innovating but he did not emphasize this claim to any large degree, it was more of a checkpoint rather than a point of great interest. The Abilia case study on the other hand only mentioned technology indirectly in the discussion on service innovation.

The expectation was that technology would be a major innovative activity enabler in service SMEs. Audretsch and Feldman (1996), Stam and Wennberg (2009) and Lee (1995) all spoke of research and development and technology to be of great importance to innovation, their results on these factors were even significantly positive. Lee (1995) emphasized that in-house research and development was directly related to the results of firms in a technology setting. The results from this study does not correspond with academic theory which is surprising. To some extent is it actually contradicting the strong results found in the literature on innovation.

This contradiction is hard to explain but an explanation might be that both of the respondents work with other aspects of a service firm than technology. Tore Martin at Dignio has background as a sales professional whilst Terje at Abilia is an educated teacher. Obviously the backgrounds of the two respondents influences their answers and since this study is based on only one narrative per case study firm, results might contradict theory not because of theoretical flaws but lack of narratives.

If this study had interviewed two engineers with degrees within computer science, it is reasonable to expect that the results would have corresponded with theory to a much larger degree. This background and narrative is more congruent with the academic results presented by Audretsch and Feldman (1996), Stam and Wennberg (2009) and Lee (2005). This lack of more than one narrative is a clear limitation of this study.

Technology is one of the elements of the Service Innovation Triangle that is related to service innovation. Academic theory suggest that this relationship has a major effect on service innovation, this study however indicate that this relationship only has a minor effect. The final proposition is therefore changed from major to minor:

Final proposition 1: Technology will serve only as a minor innovative activity enabler in service SMEs.

5.2.3 Financial assets

Khan and Manopichetwattana (1989) claim that an abundance of resources is insignificant when innovating. Hansen (1992) and Hall, Lotti and Mairesse (2009) argues that small firms are just as likely to be as innovative as large firms. This reflects the claim made by Khan and Manopichetwattana (1989) as small firms, by default, have limited financial assets when compared to large firms.

The results from the two case studies were mixed but making money were second in priority to creating value for other people for both case study firms.

In the Dignio case study Tore Martin made a point of the fact that they did not start the firm in order to make money. He explicitly stated that if money were their number one priority they could all have stayed in their current jobs, that indeed paid very well. Terje at Abilia had another point of view. He emphasized that financial assets were a necessity in order to succeed with innovation but this was seen from the point of view of firm survival, not service innovation in practice. In other words, financial assets acts more as an enabler of service innovation than a driver of it.

The expectation was that financial assets would be a minor innovative activity enabler in service SMEs. This expectation is supported by the results found in this study but moderated by the development stage of the firm.

Financial assets are one of the elements of the Service Innovation Triangle that are related to service innovation but this relation is not direct but rather indirect. All the good ideas, hard work and innovative activity of a startup firm will be lost if the firm is not able to survive the startup phase. Making financial assets a necessity for firm survival in the early phases of development. That is why firms need financing in order to commercialize a product in the marketplace and turn an idea into reality.

Dignio, the young startup firm, needs financing in order to survive, create future cash flows and eventually grow. Abilia, the well established firm, does not need financing in the same way as the future cash flows are consistent and predictable. The final proposition is because of this moderated by the stage of development:

Final proposition 2: Financial assets will serve as a major innovative activity enabler in young (startup) service SMEs and a minor role in more mature (established) service SMEs.

5.2.4 People

Tore Martin at Dignio mentioned all people of the service firm in his discussion, both senior management and ordinary staff. He emphasized that even the receptionist or cleaning lady could be conducive to innovation. In the Abilia case study, Terje did not emphasize neither management nor employees but he highlighted skilled workers in general. He said that all the people here, they have the right background and the right competencies in order to be a part of the innovative processes.

Dijk, Hertog, Menkveld and Thurik (1997) state that skilled labor is significantly related to innovation in a positive way. This study then corresponds with the statement made by Terje at Abilia. Khan and Manopichetwattana (1989), Kickul and Gundry (2002) and, Jong and Vermeulen (2002) argues that proactive managers with a focus on innovation is directly related to high innovative activity. These studies supports the argument put forth by Tore Martin as proactive managers are more likely to include and motivate all of the employees throughout the organization.

The expectation was that people would be a major innovative activity enabler in service SMEs. This expectation is clearly supported based on this study.

Both of the two case study firms put very much focus upon the people of their organizations, making this factor almost the core of the discussions. This might be natural to expect since the two firms are in or have been in the startup phase, where the entrepreneurs depend on every employee to make a big contribution to the firm. The essence of the two discussions however relate more to the importance of what people can do and not the concept of entrepreneurship. All the innovative activity of a service firm depends upon the people of that firm, regardless of the developmental stage of the firm. This was the main message from both of the interviews.

Out of all the elements in the Service Innovation Triangle people might be the most important, because people are the initial factor that influences all the other elements of the model. According to the results of this study skilled workers at all levels of the organization are drivers of service innovation, making the final proposition obvious:

Final proposition 3: People will serve as a major innovative activity enabler in service SMEs.

5.2.5 Intangible assets

In the Dignio case study neither brand, IPR or any sort of other intangible assets were mentioned during the interview session. The same event occurred during the Abilia case study.

The expectation was that intangible assets would be a minor innovative activity enabler in service SME, because academic theory did not identify this resource to be a driver of service innovation. The theoretical expectation is supported by this study but even more than first anticipated.

Based upon the results of this study the intangible assets of a service firm are the second discarded element of the Service Innovation Triangle.

5.2.6 Service system

During the interview sessions the topic of service system was not mentioned by neither of the two interviewees. The questions were designed so the respondents could spend time discussing factors that they felt had an impact on service innovation. The results from both of the case studies in this study therefore indicate that service system is of little or no importance when innovating in service firms. This is surprising given the theoretical support that was found in the literature on innovation.

The expectation was that service system would be a major innovative activity enabler in service SMEs. Antoncic and Hisrich (2001) identified that the way in which the way the organization was structured in order to deliver its service was positively related to innovation. This study, however, contradicts this finding.

Reasons to this contradiction might be found in the structure of the questions and the freedom the respondents had in their discussion. When asked, the interviewees were never directed into mentioning nor discussing service system. This contradiction might therefore come from the fact that other factors are more important than the service system, such as people and customer experiences.

The lack of different narratives might be another reason for this contradiction. If the questions had been aimed at specialists working with the design of the service system the results would probably have been stronger. Once more this lack of more than one narrative is a clear limitation of this study.

The service system of a service firm is the third discarded element of the Service Innovation Triangle based upon the results of this study.

5.2.7 Business model

In the Dignio case study business model was explicitly discussed and highlighted by Tore Martin as a method of both creating and driving innovations. Chesbrough and Rosenbloom (2002) stated that business models can realize technological as well as market opportunities and capture economic value. This academic insight then corresponds with the statement made by Tore Martin.

The Abilia case study however do not mention business model directly nor does it focus upon the concept at all. The focus is instead aimed at the customer and making what the customer wants and then (basically) taking paid for doing that.

The startup firm (Dignio) seeks to generate new cash flows and then tries to create a viable business model, whilst the established firm (Abilia) already has viable cash flows and does not need to focus on the business model to drive service innovation.

The expectation was that business model would be a major innovative activity enabler in service SMEs. Results from this study supports this proposition but only to a limited degree. The results are in fact moderated by the developmental stage of the service firm.

The business model is an important factor of the Service Innovation Triangle as it is the architecture of payments, and inflow of capital are the lifeblood of any given service firm. Much innovation can surround the business model of a service firm but the results of this study suggests that the effects are much larger in young firms in opposite to more mature firms. The final proposition is then:

Final proposition 4: Business model will serve as a major innovative activity enabler in young (startup) service SMEs and a minor role in more mature (established) service SMEs.

5.2.8 Customer experience

Han, Kim and Srivastva (1996) claim that customer orientation is necessary for success with innovation. The results found from the two case studies supports this claim. Amongst the answers given were “*listening to customers*” and “*learning from customers*”.

Tore Martin at Dignio said that listening to the customers were important in order to satisfy their needs. Terje at Abilia emphasized learning from customers and he used the concept of user driven innovation in order to explain this statement. Both of the two case study firms are focused on customers which is an essential market orientation according to Han, Kim and Srivastva (1996).

The expectation was that customer experiences would be a major innovative activity enabler in service SMEs. This expectation is supported by the results of this study. Customer experiences is also a very important element of the Service Innovation Triangle since the element represents the interaction between the firm and all of its customers.

Success within innovation is about creating new products and services, not rivaling existing ones. Terje at Abilia made the comment that successful firms must create what the customer needs right here and now, but more importantly what he or she will need in the future. This comment made by Terje solidifies the statement about innovation.

In order to gain knowledge about the marketplace and the needs of customers, firms must “*listen*” and “*learn*” from their customer experiences. Communicating with customers on a continuous basis is essential in order to accomplish this task. The final proposition is then:

Final proposition 5: Customer experiences will serve as a major innovative activity enabler in service SMEs.

5.2.9 Value

Oke (2007) argued that innovative performance comes from the creation of value through radical product and service innovations. Both of the two case studies were able to exemplify this theoretical claim in practice.

Tore Martin at Dignio presented an example where his firm chose to import a medical dispenser that they knew had a service flaw. This flaw, however, was perceived to be the opportunity Dignio needed in order to create value. What they did was to import the dispenser, work with the customers, engage service designers and redesign the processes around the usage of the dispenser. The new process solutions solved the flaw and improved the medical dispenser, making it a radical service innovation.

Terje at Abilia presented an example where customer needs presented an ability to gain competitive advantage as the current technology was still premature. Some of the disabled customers Abilia had in the early 1990s were able to move hands and make gestures, which meant that they had the ability to communicate by gesturing. The problem however was that touchscreen technology did not exist at that time. In order to solve this problem Terje invented an added feature to a pen-based screen, the current technology. This added feature made of a plastic sheet with thousands of pen imprints put upon the pen-based screen. Enabled disabled people to communicate by pushing directly onto the screen, circumventing the use of a pen. Resulting in a touchscreen without touchscreen technology, making it a radical product innovation.

The expectation was that value would be a major innovative activity enabler in service SMEs. This expectation is clearly supported by the results of this study.

Value is at the top of the Service Innovation Triangle because the goal of all the innovative activity within a service firm is value creation. The examples from the case studies shows how value can be created in practice and the final proposition is that:

Final proposition 6: Value will serve as a major innovative activity enabler in service SMEs.

5.2.10 New drivers of service innovation

The cross case comparison presented two new drivers of service innovation that will be further discussed here.

5.2.10.1 Ideology of management and/or entrepreneurs

The ideology of management and/or entrepreneurs was particularly strong for both of the two cases in this study. As previously explained, this is due to a natural bias within the healthcare sector that tends to skew the results towards people and ideological values.

This finding is very interesting because ideology was not mentioned in any of the academic papers on service innovation. Ideology as a driver of service innovation is therefore important to investigate further for other researchers, as there might be a potential window to fill in the service innovation literature.

In both of the case study firms ideology was the initial drive behind the founding of the firms. Terje and Tore Martin became entrepreneurs because they had a vision and an ideological drive but this initial drive is still guiding them in their work every day, it is their core value.

All firms should have an ideology that guides them in their work. Ideology rooted in a positive vision of the future gives the firm a map of guidance and a reason to exist, other than the maximization of profits. This new driver of service innovation is of great importance and needs to be included as a final proposition for further study:

Final proposition 7: Ideology of management and/or entrepreneurs will serve as a major innovative activity enabler in service SMEs.

5.2.10.2 Management support for learning from failure

Learning from failure is probably common knowledge but having the management support for or maybe even the encouragement of failure, is a much more odd thing to have. This is because most corporate environments, especially large and highly formalized ones, works towards the mitigation of risks instead of welcoming it.

The two case studies included in this paper highlights management support for learning from failure as an integral part of the innovation process. This factor is not present in the current literature on service innovation, which is surprising, creating another potential gap for future researchers to fill.

Most new innovations fail in the marketplace according to Furseth and Cuthbertson (2013) and this is why innovation is not about getting it right the first time, but having the right mindset going forward. Firms that are innovative have the ability to take calculated risks, learn from past failures and always get better at implementing service innovations. This is why management support for learning for failure needs to be included as a final proposition as well:

Final proposition 8: Management support for learning from failure will serve as a major innovative activity enabler in service SMEs.

5.3 Summary

The following figure, based upon figure 2 from the literature review, summarizes all of the changes to the drivers of service innovation. Hence, this figure is the final list of factors influencing service innovation in service SMEs.

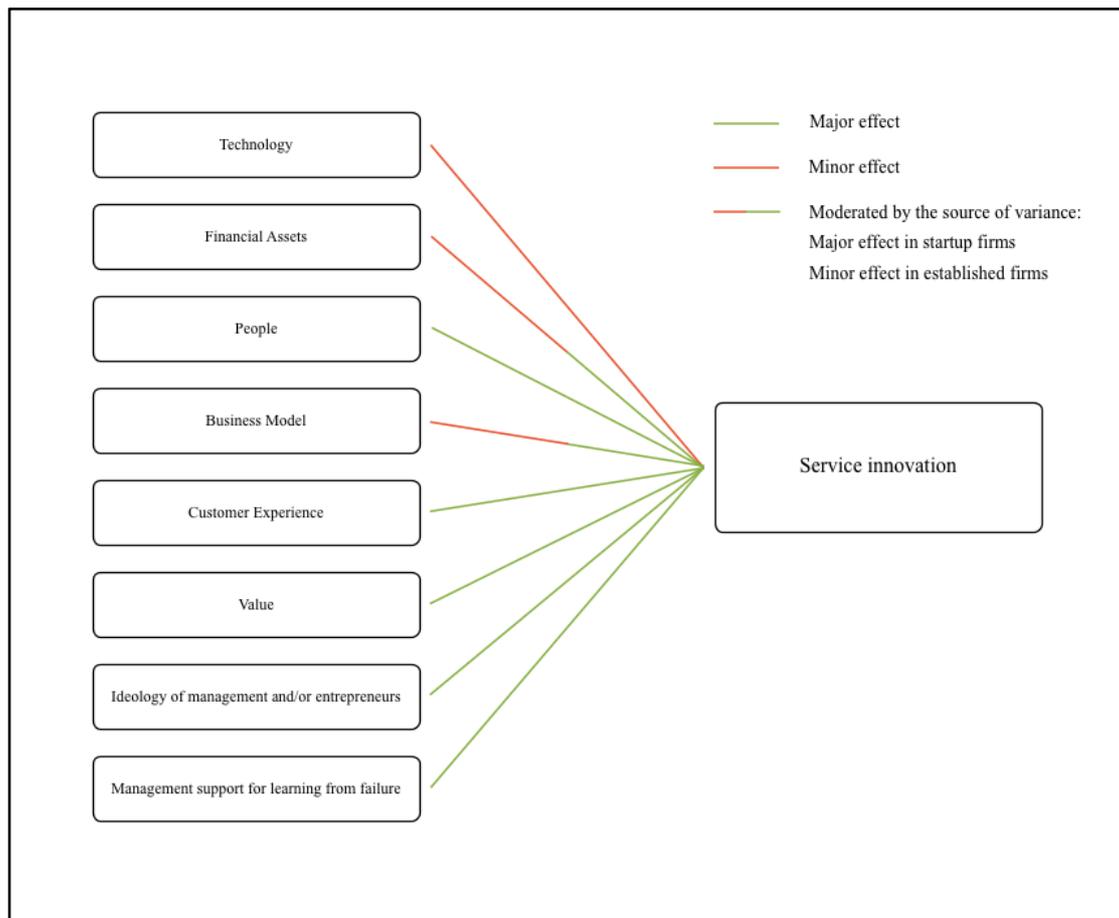


Figure 6: Final list of factors influencing service innovation in service SMEs

The table below compares the initial framework (figure 2 from the literature review) with the final framework (presented in figure 6 above) in order to systematically summarize the changes that have been discussed throughout this section.

	Initial Framework	Final Framework
Level of analysis	Drivers of service innovation in small- to medium-sized firms	
Number of factors	9	8
List of original factors	Tangible assets	
	Technology	Technology
	Financial assets	Financial assets
	People	People
	Intangible assets	
	Service system	
	Business model	Business model
	Customer experience	Customer experience
	Value	Value
List of new factors	N/A	Ideology of management and/or entrepreneurs
		Management support for learning from failure

Table 7: Comparison of initial and final framework

6 Contributions, Limitations and Implications

The theoretical contributions, limitations and implications of this study will be explained throughout this section. This is important because it defines the boundaries of the new insights and relates it to the practical world of applying service innovation.

6.1 Contributions

The most general contribution of this paper is that it has conceptually studied the Service Innovation Triangle and contributed to theory development. Through the process of studying this model in the service SME context this study have identified critical new elements, whilst discarded others that did not emerge as important.

The driver of service innovation that this study has identified as a minor effect on innovation is technology, whilst the major effects are people, customer experiences, value, ideology of management and/or entrepreneurs and management support for learning from failure. Financial assets and business model are moderated by the developmental stage of the firm, with major effects on startup firms and minor effects in more established firms.

The theoretical contribution of this paper is important because it reveals the factors of the Service Innovation Triangle that drives service innovation, and it presents two new drivers of service innovation that previous academic theory did not recognize.

This study have contributed to expand or at least build upon the existing literature within the field of service innovation for academia. The final list of drivers of service innovation is of good guidance for practitioners evaluating and analyzing the innovative potential of their firms.

6.2 Limitations

There are three limitations that are important to identify in order to define the boundaries of this study. The first limitation is geographical location, the second is choice of industry and the third is the reliance on only one interviewee per case study.

This study is only confined to one country, Norway, meaning that the results can't be viewed from an international context. Norway is a small country with a very limited population of only five million inhabitants. Disabled or elderly people are being taken care of by the government if needed, as the standard of social welfare is strong and supported by a politically and economically stable government. These circumstances create a viable market for healthcare services, as people who could not afford these services are being covered for by the state. In many other countries the standard of social welfare is much lower enabling only affluent people to afford expensive healthcare products and services.

The healthcare industry is different from most other industries, meaning that the answers of the interviewees are naturally skewed towards certain biases. The clearest bias is the emphasis put upon people and more specifically the idea of helping other people. This is reflected in the personalities of most of the managers and employees working within this industry, as they are all highly emphatic towards other people. In this study this has been defined as ideological values. Other industries might not be as ideological as the healthcare sector, meaning that the results might be industry specific as a result.

The reliance on one interviewee per case study is an obvious limitation due to the lack of a rich and diverse narrative. One individual, when asked, will usually tell their story with their own personal point of view. The results of this study are naturally based upon the experiences of the two interviewees. All the results are from the point of view of business managers since the study did not interview more stakeholders such as employees or customers. This means that the results are based on one narrative with a managerial perspective. More narratives and stakeholder point of views could have opened up a richer and deeper understanding of the topics covered. This lack of narratives is without doubt the strongest limitation of this study.

6.3 Implications

The first implication of this study is that the Service Innovation Triangle is not directly applicable as a model for understanding the drivers of service innovation. The model gives a good overview for understanding the framework of a service firm but it does not identify all the drivers of service innovation explicitly. In that sense is the model too general in approach. This study will not suggest changes to the model as it is intended to be a framework model but this study suggests that a new model should be developed for that purpose solely. A task that future researchers and scholars might embark upon in order to contribute to both the academic and practical field of service innovation.

The second implication of this study is that ideology of management and/or entrepreneurs and management support for learning from failure were identified as new drivers of service innovation. These two factors were not recognized as drivers by the academic literature prior to this study. Meaning that this might be a potential gap to fill within the literature on service innovation. This study encourages other researchers to address these two factors in order to fill this potential gap.

The third implication of this study is that a final framework with a new list of drivers of service innovation is presented. This study suggests that this list is put to a rigorous test by future researchers, conducting a quantitative analysis in order to assess whether or not these drivers are significantly positive.

Several implications and suggestions for future research are present. Making this study a starting point for future research within the field of service innovation.

7 Conclusion

The purpose of this paper has been to identify the differences and similarities in the drivers of service innovation in a startup firm versus an established firm in the Norwegian healthcare sector. This master thesis is a qualitative case study analysis and the main contribution is in theory development.

This study comprises a comprehensive literature review drawing upon a vast number of academic papers, starting with the more mature literature on innovation and then expanding into the emerging literature on service innovation. The Service Innovation Triangle, a visual representation of a service firm in the modern consumer economy, was presented as the model to be conceptually studied.

Two Norwegian small- to medium-sized firms were used as case studies. The first case study firm was Dignio which has a few years of history trying to commercialize its operations and four employees who also founded the company. The second case study firm was Abilia which has almost forty years of operative history and one hundred employees.

The research question that this master thesis has answered is: *What are the drivers of service innovation in small- to medium-sized firms in the Norwegian healthcare sector?*

The main findings of this study is twofold. Three of the factors in the Service Innovation Triangle were discarded as drivers of service innovation, and two new drivers of service innovation emerged from the case studies.

The final list with the drivers of service innovation based upon the findings of this study consists of six factors from the Service Innovation Triangle, out of a total of nine factors, as well as the two new drivers that this study discovered. Each one of these drivers and their effect on service innovation will be further discussed below.

7.1 The Final List of Drivers of Service Innovation

1. Technology

Technology is the only driver that is expected to have a minor effect on service innovation regardless of the developmental stage of the firm. In other words this effect is the same whether the firm is a young startup or a more established firm.

2. Financial assets

3. Business model

The two drivers financial assets and business model are expected to be moderated by the developmental stage of the firm. Meaning that the source of variance creates different effects on startup firms versus more established firms. Financial assets and business model are expected to have a major effect on startup firms whilst the effect is expected to be minor in more established firms.

4. People

5. Customer experience

6. Value

7. Ideology of management and/or entrepreneurs (new driver)

8. Management support for learning from failure (new driver)

The five drivers people, customer experience, value, ideology of management and/or entrepreneurs and management support for learning from failure are expected to have a major effect on service innovation regardless of the developmental stage of the firm.

These eight drivers are the factors that contribute to the innovative activity within a service firm in either a minor or major way. Hence, when innovating these are the drivers that have an impact on service innovation in a service firm according to this study.

7.2 The Future of Service Innovation

The main contribution of this paper has been in theory development and the conceptual study of the Service Innovation Triangle. This study has helped to expand the theory of service innovation as well as proven to be a starting point for future research. Later scholars can try to fill the gaps that this study has identified in the service innovation literature.

Scholars can try to analyze and test the drivers of service innovation in a quantitative study in order to significantly validate the results made in this study. Furthermore, scholars are ought to both qualitatively and quantitatively study the two new drivers of service innovation that emerged in this study. These new drivers deserves the attention of bright minds and the creation of ideas that might help move this emerging field further. Helping academia better understand this newly developed theory.

The results of this study have an implication for managers of service firms trying to innovate within the service sector. Managers must understand and distinguish between the factors that are only necessities for running an organization effectively, and the factors that impacts and drives service innovation.

The discarded factors of the Service Innovation Triangle are the organizational necessities of a service firm that are not related to service innovation. According to this study these factors are the tangible and intangible assets as well as the service system of a service firm.

The final list of drivers of service innovation presented in this study gives the manager an overview of the factors of a service firm that impacts service innovation. When innovating this list can serve as a starting point for analysis: managers can apply this framework to their service firm; given their current stage of development identify the most effective drivers; and; increase the innovative activity of their service firm by focusing on these drivers of service innovation.

References

Articles

Acs, Z.J. & Audretsch, D.B. (1987). Innovation in large and small firms. *Journal of Economics Letters*, 23, 109-112

Adegoke, O. (2007). Innovation types and innovation management practices in service companies. *International Journal of Operations and Production Management*, 27(6), 564-587

Antoncic, B. & Hisrich, R.D. (2001). Intrapreneurship: Construct refinement and cross-cultural validation. *Journal of Business Venturing*, 16, 495-527

Audretsch, D.B. & Feldman, M.P. (1996). R&D spillovers and the geography of innovation and production. *The American Economic Review*, 86(3), 630-640

Baptista, R. (2000). Do innovations diffuse faster within geographical clusters? *International Journal of Industrial Organization*, 18, 515-535

Bareghe, A., Rowley, J. & Sambrook, S. (2009). Towards a multidisciplinary definition of innovation. *Journal of Management Decision*, 47(8), 1323-1339

Chesbrough, H. (2011). Bringing open innovation to services. *MIT Sloan Management Review*, 52(2), 85-90

Chesbrough, H. (2011). The era of open innovation. *MIT Sloan Management Review*, 35-41

Chesbrough, H. & Rosenblom, R.S. (2002). The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spinoff companies. *Journal of Industrial and Corporate Change*, 11(3), 529-555

- Chesbrough, H. & Spohrer, J. (2006). A research manifesto for services science. *Communications of the ACM*, 49(7), 33-40
- De Jong, J.P.J. & Vermeulen, P.A.M. (2006). Determinants of product innovation in small firms: A comparison across industries. *International Small Business Journal*, 24(6), 587-609
- Edwards, T., Delbridge, R. & Munday, M. (2005). Understanding innovation in small and medium-sized enterprises: a process manifest. *Technovation*, 25, 1119-1127
- Freel, M.S. (2005). Patterns of innovation and skills in small firms. *Technovation*, 25, 123-134
- Furseth, P.I. & Cuthbertson, R. (2013). The service innovation triangle: a tool for exploring value creation through service innovation. *International Journal of Technology Marketing*, 8(2), 159-176
- Hall, B., Lotti, F., & Mairesse, J. (2009). Innovation and productivity in SMEs: Empirical evidence for Italy. *Journal of Small Business Economics*, 33, 13-33
- Han, J.K., Kim, N., & Srivastava, B.K. (1996). Market orientation and organizational performance: is innovation a missing link? *The Journal of Marketing*, 1-31
- Hanna, V. & Walsh, K. (2002). Small firm networks: a successful approach to innovation? *Journal of R&D Management*, 32(3), 201-207
- Hansen, J.A. (1992). Innovation, Firm Size, and Firm Age. *Journal of Small Business Economics*, 4(1), 37-44
- Huergo, E. & Jaumandru, J. (2004). How does probability of innovation change with firm age? *Journal of Small Business Economics*, 22, 193-207
- Jong, J.A., Bruins, A., Dolfsma, W. & Meijard, J. (2003). Innovation in service firms explored: what, how and why? *EIM Business & Policy Research*, 1-73

Khan, A.M. & Manopichetwattana, V. (1989). Innovative and non-innovative small firms: Types and characteristics. *Journal of Management Science*, 35(5), 597-606

Kickul, J. & Gundry, L.K. (2002). Prospecting for strategic advantage: The proactive entrepreneurial personality and small firm innovation. *Journal of Small Business Management*, 40(2), 85-97

Lee, J. (1995). Small firms innovation in two technological settings. *Journal of Research Policy*, 24, 391-401

Stam, E. & Wennberg, K. (2009). The roles of R&D in new firm growth. *Journal of Small Business Economics*, 33, 77-89

Teece, D. (2010). Business models, business strategy and innovation. *Long Range Planning*, 43, 172-194

Tether, B.S. (1998). Small and large firms: sources of unequal innovations? *Journal of Research Policy*, 1-40

Van Dijk, B., Hertog, R.D., Mekveld, B. & Thurik, R. (1997). Some new evidence on the determinants of large and small firm innovation. *Journal of Small Business Economics*, 9, 335-343

Books

Bryman, A. and Bell, E. (2007). *Business Research Methods*. 2nd edition. Oxford University Press

Mazzarol, Tim. (2011). *Entrepreneurship and Innovation: Readings and Cases*. 2nd edition, 1st printing. Tilde University Press

Miles, M.B., and Huberman, M.A. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. 2nd edition. Sage Publications

Schumpeter, J.A. (1934). *The Theory of Economic Development*. Harvard University Press

Yin, Robert K. (2009). *Case Study Research: Design and Methods*. 4th edition. Sage Publications

Case Sources

Abilia (2013). About Abilia. Retrieved March 27, 2013 from <http://www.abilia.no/om/index.aspx?cat=300500&id=300504>

Borg Innovation (2013). About Borg Innovation. Retrieved February 19, 2013 from <http://www.borginnovasjon.no>

Dignio (2013). About us. Retrieved March 25, 2013 from <http://www.dignio.com/about/>

Interview with Abilia manager; The interview with Terje Myhre took place at the headquarters of Abilia in Oslo at the 8th of March 2013, a sound recording and subsequent word transcription with coding was made.

Interview with Dignio partner; The interview with Tore Martin Skarpholt took place via Skype at the 7th of March 2013, a sound recording and subsequent word transcription with coding was made.

Appendix – Interview Guide

Section I: Lead-in

Thank you very much for taking some time off in your busy schedule and seeing me for this interview.

Description of study

My study and master thesis is about service innovation and more particularly about the drivers of service innovation in small to medium-sized Norwegian firms. In order to better understand this topic am I going to interview two SME firms engaged in service innovation in Norway. The goal of this study is to get a better understanding of what drives service innovation in SMEs.

Formal procedures

1. Can I record the whole interview, in order to save the conversation as audio?
2. Can I transcribe the interview for purposes of analysis?
3. Do you or your company need any form of confidentiality?

Section II: Agenda

The interview will be conducted in two phases. First phase will pose some personal questions about you and your work/company, in order to gain some preliminary context. Whilst the second phase will pose a series of questions related to service innovation and successfully driving innovation in a small to medium-sized firm.

Feel free to answer the questions in the way you feel the most comfortable with, make your own definitions and use examples/digressions when necessary. And, take the time you need in order to explain your thoughts and arguments in the way you want.

Phase 1 – Personal questions

- Can you state your full name, please?
- Which company do you work for?
- What is your role at this company?

Phase 2 – Service innovation questions

Interview note:

Ask for definitions first in order to reflect the views and thoughts of the interviewee.

- How do you define service innovation?
 - Can you give some concrete examples of this definition?
- How do you define value?
 - Can you give some concrete examples of this definition?

Interview note:

Ask open-ended questions and follow the explanations of the interviewee. This means that each sub-question should be derived from the previous explanation. Do not direct the conversation into neither predetermined topics nor desirable answers!

- Which resources of a business are the most important in order for service innovation to succeed?
 - If tangible assets, *ask why it is a driver of service innovation?*
 - If technology, *ask why it is a driver of service innovation?*
 - If financial assets, *ask why it is a driver of service innovation?*
 - If people, *ask why it is a driver of service innovation?*
 - If intangible assets, *ask why it is a driver of service innovation?*
- What makes service innovation successful in your view?
 - If service system, *ask why it is a driver of service innovation?*
 - If business model, *ask why it is a driver of service innovation?*
 - If customer experiences, *ask why it is a driver of service innovation?*
- How is service innovation related to value – and – for whom is value created?

Section III: Closing

Thank you very much for answering all of these questions and as this is the closing of the interview I would like to ask you some ending questions.

1. Anything that we did not cover that you would like to add?
2. May I use the full name of you and your company in my thesis?
3. Can I publish this thesis online as well as in print via the UiA library?
4. Do you want to receive a digital copy of this video/audio interview?
5. Do you want to receive a digital copy of my final thesis, when done?
6. Can I contact you via email for follow-up questions at a later stage?
7. Can I send you my case summary for feedback and comments?

This is the end of my interview – Thank you very much for your sincere cooperation and I am forever grateful for your kind assistance on this master thesis.