

Blekinge Institute of Technology
Department of Industrial Economics

Master Thesis Course IY2578

MBA Programme, Spring 2015



Business Model Innovation in Incumbent Organizations: *Challenges and Success Routes*

Final Thesis

Author: Ahmad Salama

Student ID: 861203-8359

Email: ahmadsalama@hotmail.com

Author: Khawar Parvez

Student ID: 830309-T675

Email: khawar.parvez@yahoo.de

Thesis Supervisor: Dr. Urban Ljunquist

25th of May 2015

Abstract

In this thesis major challenges of creating business models at incumbents within mature industries are identified along with a mitigation plan. Pressure is upon incumbent organizations in order to keep up with the latest rapid technological advancements, the launching of startups that almost cover every field of business and the continuous change in customers' tastes and needs. That along with various factors either forced organizations to continually reevaluate their current business models or miss out on great opportunities.

How some incumbents have dealt and are dealing with business model innovation challenges over the past few years is demonstrated through several cases of incumbents. The sources surveyed include recent scientific articles, books, firsthand accounts with executives in the area of business models, innovation and business development, online sources and contemporary business publications. In order to overcome those challenges, we propose a framework which is derived mainly from the sources mentioned above.

In order to overcome such challenges, thesis propose a framework that can be used to successfully engender new business models and make a transition from current to new business model. By successful business model innovation, firms can increase the extent of their offerings, meet yet unmet market demands and untapped customer segments. Additionally, organizations can create new value propositions and gain highly sustainable competitive position through business model innovation which is not easy to imitate or copy by the competition.

Our findings attest to the fact that business models are highly situational however there are general steps for incumbent organizations that would lead to a successful business model innovation approach. First an organization must have a clear strategy. Establishing separate innovation centers for firms do enhance and foster the mindset of innovation as they take innovation outside the parent organization's logic. Other approaches include open innovation, partnerships and ensuring that resources are constantly allocated to create disruptive innovations internally and is led by the right personalities. Solving customer needs should be the core of any business and finally there are no best practices in business model innovation. The significance of our findings gives insights on how to overcome some challenges in practice for incumbents to create suitable business models and contributes to theory since there were some empirical findings that weren't pronounced in literature.

Keywords

Business model, business model innovation, business development, value proposition, challenges, incumbents, mature industries, competitive advantage

Abbreviations

OEM – Original Equipment Manufacturer

B2B – Business to Business

B2C – Business to Customer

EBIT – Earnings before Interest & Tax

IT – Information Technology

R&D – Research and Development

Acknowledgements

We (the authors) wouldn't have been able to bring this thesis to the light without the help and support received from several individuals and organizations. We hereby want to thank all of those who contributed in the accomplishment of this work in any kind of way.

We would like to thank our thesis tutor Urban Ljunquist at Blekinge Institute of Technology for his guidance, support and endorsement of the topic.

From Volvo Car Corporation we would like to thank our supervisor Sebastian Percival for his utmost support. A big word of thanks to The Vehicle Line Management Special Products Team; Anders H. Gustavsson, Dan Olsson, Marcus Percival for their trust and assistance throughout the whole project and for making sure we are getting the right information. Last but not least, David Green for sharing his valuable expertise and knowledge on business model development.

We would also like to extend our thanks to the organizers of Innovation Roundtable workshop, for inviting one of us to attend, the information gathered at this workshop is priceless.

Finally, the authors would like to extend thanks and gratitude to their respective families and friends.

Table of Contents

List of Figures.....	6
List of Tables.....	7
1 Introduction.....	8
1.1 Background.....	8
1.2 Problem Discussion.....	9
1.3 Problem Formulation.....	10
1.4 Thesis Purpose.....	11
1.5 Delimitation.....	11
1.6 Thesis Structure.....	12
2 Theoretical Framework.....	13
2.1 Business Model.....	13
2.2 Business Models Creation and Design.....	15
2.3 Business Model Innovation.....	19
2.4 Business Model Innovation Process.....	20
2.5 Business Model Innovation Challenges for Incumbent Firms.....	24
2.6 Research Propositions.....	28
3 Methodology.....	31
3.1 Research Method.....	31
3.2 Literature Review.....	33
3.3 Data Collection.....	34
3.4 Data Analysis.....	36
3.5 Evaluation of Research Method.....	37
3.5.1 Validity.....	37
3.5.2 Reliability.....	38
3.5.3 Trustworthiness.....	38
3.5.4 Conclusion.....	39
4 Empirical Findings.....	40
4.1 Firsthand Accounts.....	40
4.1.1 Semi-Structured Interviews.....	40
4.1.2 Group Interviews.....	43
4.2 Automotive Industry.....	48
4.3 Semiconductor Industry.....	50

4.4	Aviation Industry	55
4.5	Pharma and Diagnostics Industry	60
4.6	Luxury Goods Industry.....	63
4.7	Retail Industry.....	63
4.8	Mass Media.....	64
4.9	Personal Services	65
4.10	Summary.....	66
5	Analysis	69
5.1	Challenges of BMI for Incumbent Firms.....	71
5.2	Cases Analysis.....	72
5.3	Factors of Business Model Success.....	85
6	Conclusions and Implications	87
6.1	Limitations	87
6.2	Further Research	87
6.3	Conclusion	88
6.4	Implications.....	90
7	References	93
8	Appendices.....	99
8.1	Appendix A – Business Model Example	99
8.2	Appendix B – Interview Questions “Challenges in business model innovation at Volvo Car Corporation”	100
8.3	Appendix C – Cloud Computing	101

List of Figures

Figure 2-1: Business Model Canvas (Source (Osterwalder et al, 2010, pg.44))	15
Figure 3-1: Research Process (Source (Bryman, 2008))	33
Figure 4-1: Fabless semiconductor company and its ecosystem (Source (Kapoor R., 2010, pg.2))	54
Figure 4-2: Connected Airline Approach to Stakeholders and Information Management	58

List of Tables

Table 1: Different Business Model Innovation Strategies (Source (Markides, 2008, pg.87))25

1 Introduction

1.1 Background

Business Model and Business Model Innovation concepts lack theoretical foundations particularly within economics literature. Perhaps that is due to the misconception that markets solve their own problems automatically, as in inventions or innovations are assumed to naturally create value. There is an increasing amount of scholarly interest in business model and business model innovation but still innovation challenges faced by incumbent firms are far from well understood. However the research work in those topics is getting momentum to build a solid paradigm of knowledge. That knowledge can be abstracted and generalized across various industries to help business leaders make the right decisions. However, firms also need to realize the real customer value proposition and change their belief that whenever a product or service is out, customers will always pay for it if it's good enough. The fact is customers don't just want products rather they want solutions to their needs as Teece (2010) argues.

It is no wonder the leading academics including Clayton Christensen, Michael Porter and the late C.K. Prahalad have discussed the merits of disruption, the value to be created and the fortune to be gained by shifting business models (Clinton L., 2014). One of various reasons is that many executives are reluctant to change their business models due to the currently successful business model. As Clinton (2014) points that many chief executives would not change a business model based on threats or opportunities that have not yet materialized. Furthermore the existing skills, abilities and ways of operating constrain their actions and make it difficult to respond effectively (Leonard-Barton, 1992). Clinton (2014) further explain that changing global trends such as environmental, social, political, technological continue to shift the foundation of our current business model and there is an urgent need for a fundamentally different approach to value creation, capture and delivery.

Moreover scholars point out that business model innovation is an excellent way to renew and transform firms. It is considered as a mechanism that connects the firm's innovative technology to customer needs, placed between the firm's resources and market outcomes (Zott, Amit and Massa, 2011). While from a practical perspective, there is a need for firms to

be flexible in capturing and offering value to customers in this continuously changing world. The impact of the recent Information and Communication Technology is too huge to go unnoticed it disrupted many industries and formed new ones. Mature industries¹ whether offering products or services such as transportation (automotive, aviation and logistics), Pharma and diagnostics are particularly challenged.

As Teece (2010) argues with the surge of communication and information technology revolution many new methods are created to deliver value to a wider range of customers. It swelled the need not only to shrewdly address customer needs but also to capture values from delivering new products and services. Those industries need to be more flexible in coping with all those changes and unlike startups and tech firms they need to be more responsive in changing their deep rooted business models and always look for new opportunities.

1.2 Problem Discussion

Business model innovation among startup companies is considered more common practice, as alteration in the business model is less challenging compared to incumbent ones. Startups often lead the way in business model innovation but incumbent² organizations play their role to enhance the impact of those business models. Well-established companies tend not to be the source of new models, but they can evolve and scale them (Clinton L., 2014). There are research studies which argue that business models of incumbent companies are not endangered by the radical innovation drive of new entrants. Bergeka A. et al. (2013) argue that such studies overestimate the ability of new entrants to destroy and disrupt established industries and underestimate the capacity of incumbents to perceive the potential of new technologies and integrate them with existing capabilities.

¹ Mature industries are the ones that have been operating for rather a long period of time with business models that haven't or slightly been challenged, and are referred to as well-established industries, longstanding industries or incumbents throughout the text.

² Incumbent organizations are already existing firms. They are not affected by entry barriers because they are already in the market, whereas new firms trying to enter the market will be affected.

The true cost of business model innovation value creation results from changes performed in organization structure, not from the cost of new technology, research and development, investments in new ventures. In stressed economy time, the business model innovation offers attractive alternatives to business opportunities.

Even though business model innovation offers various opportunities for lean value creation, however startups and incumbent companies have different set of circumstances to consider before deciding for any new business models. The management of small, medium sized and big companies equally considers innovation and increasing creativity as their strategic goal. Altringer et al. (2013) claim in their current research on innovation models at Harvard in global companies across diverse sectors that business model innovation projects fail between 70% and 90% of the time. They argue that such projects mostly fail due to a very human problem in big organizations. They further summarize a pattern “There are lots of things that *can* be done in large organizations but simply aren’t because nobody has the time or resources.”

On a general level, innovation scholars have argued that discontinuous innovation exposes leading firms to situations where the existing values, norms and structures upon which they traditionally have built a competitive edge, turn into rigidities that limit their ability to innovate (Leonard-Barton, 1992). Looking at the Fortune 500 one notices that almost half of the listed companies in 1999 fell out of it by 2014 (The Economist, 2015). That further proves the fact that business models for incumbent industries can sometimes act as a big prison if firms stick to it when consumer habits and trends change. They must strive to remain flexible and agile, doing more with less.

1.3 Problem Formulation

In light of the sources surveyed we came up with the following research question: What are the challenges faced by incumbent companies within well-established industries in Business Model Innovation? We would also propose a mitigation plan to cope with those challenges. Along the way we cite different examples of how changing a business model can expand the width of offering to customers and increase value to firms.

1.4 Thesis Purpose

The thesis purpose is to identify the major challenges for incumbent organizations seated within mature industries. Many startups are springing in every field with a fresh business model and new perspectives posing a threat to incumbents. On the other hand, incumbents with their usual way-of-doing-things are slow to react and possibly miss out on major value capturing opportunities. It is hard for those organizations to move and react fast to disruptive changes in comparison to start-ups and tech firms.

Second, is to come up with a success route to drive around those challenges, innovate suitable business models and implement them for any current or future venture. Our aim is to have a mitigation plan general enough to be applied generically across those types of incumbent organizations. Putting in mind that business models per se are not generic, they are situational and depend on the firm, industry and time-specific factors (Osterwalder, Pigneur and Smith, 2010).

1.5 Delimitation

One of the focuses in this thesis is the main challenges faced by firms in incumbent industries to implement a new business model. Osterwalder and Pigneur (2010) emphasized that every business model design project is one of a kind, presenting its own challenges, obstacles and is not generic but highly situational. Every organization uses it to address a pressing issue such as to achieve increased growth, react to an external or internal crisis, to bring a new product or technology to the market.

Further in this thesis, we propose an approach to mitigate business model innovation challenges at incumbent organizations. The innovation challenges studied, in this thesis, are delimited to mainly incumbents within few selected mature industries. Meanwhile, challenges faced by small firms and startups in innovating their business models are not in the focus of this research.

This thesis will utilize the case study of a single firm from automotive industry via interviews; getting firsthand accounts of the challenges faced by it and knowing their business model innovation approach. As well as from attending live discussions on business models innovation and disrupting factors with innovation managers from major firms via a one-day workshop. Therefore, the generalizability of findings from the case study is limited. The authors of this research have tried to minimize this limitation by choosing recent cases of incumbent firms from different famous industries to generalize the findings on business model innovations and its challenges. In addition, the thesis will employ primary data collected through interviews, and secondary data collected from various sources.

1.6 Thesis Structure

The thesis is divided into four sections. In theoretical framework section, we start with a brief description of the different business model and business model innovation concepts and ideas gathered from the literature review. In the same section we further present how business model innovation process take place, what are the business model innovation challenges faced by incumbent organizations and how tweaking a current business model expanded the width of offerings. In methodology chapter, we describe the research methods used to review literature and collect data from different resources. In empirical findings section, we present challenges faced by incumbents from different industrial sectors and how they reacted via rethinking their business model innovation, including a special case study of Volvo Car Corporation. In analysis section, we show the results of the analyzed case study and reviewed literature regarding challenges for business model innovation in incumbent firms. Further, we integrate practical evidence and theoretical considerations into one framework to mitigate such business model innovation challenges in incumbent organizations.

2 Theoretical Framework

In this section, we have provided an overview of different theories and concepts related to our field of interest. To pursue our scientific research based on the questions proposed in section 1.3, we have reviewed numerous peer-reviewed scientific papers and structured our theoretical framework in a way to enable sequential reading. We have reviewed contemporary business model researches and cited various business model definitions from different authors. The ingredients required for a successful business model are discussed in following sub-sections. Furthermore, we have defined business model innovation concept and its competitive advantages over classical innovation approaches such as product innovation. The process to create a business model is explained and challenges faced by incumbent organizations to implement it are also presented. How does the business model innovation process look like and what are the success factors of it are explained here. Finally, a research framework is presented based on literature review which would be used to filter the empirical findings and provide a framework base to answer the proposed research questions.

2.1 Business Model

While surveying the topic and reviewing several articles, it was found that there is no clear-cut definition of Business Models or a single statement that is comprehensible enough to define it, echoed in an article by Zott, Amit and Massa (2011). However the following are definitions by prominent scholars in the field.

Baden-Fuller and Morgan (2010) propose that business models help to describe and classify the businesses, operate as sites for scientific investigation, and to act as recipes for creative managers. They further suggest business models are frequently used as taxonomy for describing different kinds of businesses, explaining two different types of models of business, scale model and role model. The scale models present scaled-down version of any real world business, role models are ideal types which are imitated by others. The business models can be used as recipes for managers to innovate and exercise the change in their organization, and to communicate strategic and organizational change. Finally, they conclude

that business models are neither role models nor scale models nor recipes, but often act as all of these simultaneously.

Another business model definition cited by Gambardella and McGahan (2010): “A business model articulates the logic, the data, and other evidence that support a value proposition for the customer, and a viable structure of revenues and costs for the enterprise delivering that value” (Teece, 2010, p.179). They also stated that a business model is an organization’s approach to generate revenue at a reasonable cost and incorporates assumptions about how it will both create and capture value.

While Amit and Zott (2010) defined it as: “A business Concept is a radical innovation that can lead to new customer value and change the rules of the industry” (2010). The business concept is directly related to the business model since the latter is “nothing else than the business concept implemented in practice” (Amit & Zott, 2010).

The purpose of providing divergent definitions from various references is to cover different directions outlined by the term “business model”. Zott et al. (2010) concluded in their paper that “a common conceptual base is still lacking” however they managed to propose a common definition using cross-sectional approach. They define a business model as “a new unit of analysis, a system-level concept, centered on activities, and centering on value”, where the business model is:

1. A new unit of analysis nested between firm and network levels
2. A holistic perspective on how firms do business
3. Emphasized on activities
4. An acknowledgement of the importance of value

Finally, a definition pinned down in the widely used Business Model Generation book (Osterwalder, Pigneur and Smith, 2010) states that: “A business model describes the rationale of how an organization creates, delivers and captures value”.

The authors find the previous definition of business models the most suitable to construct the theoretical framework of this thesis where we would holistically approach business model innovation within different companies and try to identify their challenges. Further on,

we attempt to explain business model creation and innovation processes that builds around that definition.

2.2 Business Models Creation and Design

Osterwalder, Pigneur and Smith (2010) created the business model canvas in their business models generation book that became widely used in many organizations ever since. The canvas have nine building blocks for any given business model as shown.

The Business Model Canvas

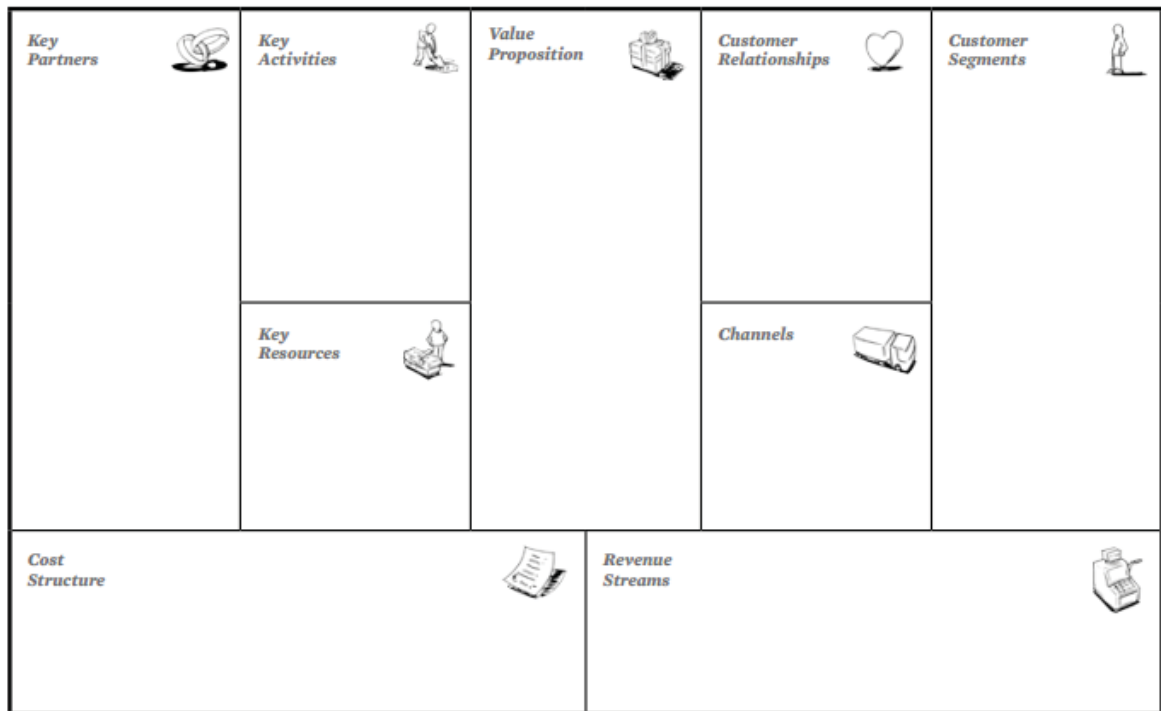


Figure 2-1: Business Model Canvas (Source (Osterwalder et al, 2010, pg.44))

The building blocks are defined as follows:

1. Customer Segments: defines which group of people or organizations the enterprise is aiming at to reach and serve. It could be mass market, niche market segmented etc.
2. Value Proposition: describes the bundle of products or services that create value for the customer segment defined above. Value for customer can range from offering a new solution to customer needs, improving existing products, superior price or design etc.
3. Channels: describes how the enterprise reaches its customer segments in order to deliver the value proposition. It includes salesforce, web sales, partner stores, own stores etc.
4. Customer Relationships: the type of relationship the enterprise set up with the customer segment. It could be direct or non-direct relationship such as personal assistance, self-service or automated services.
5. Revenue Streams: represents the cash-in the enterprise generates from each customer segment. Such as usage fee, asset sale, subscription fees, renting, licensing, advertising etc. It can also include non-monetary value that the company gains such as reputation.
6. Key Resources: the assets required to offer and deliver value. It includes what the enterprise has to create this value. It could be physical (manufacturing facilities, building etc.), intellectual (copyrights, patents, brands etc.), human or financial resources.
7. Key Activities: the most important things an enterprise must do to make its business model work. It include production (designing, making and delivering a product), problem solving (offering new solution to individual customer problems) and platform/network (software's and websites used by companies such as eBay, amazon, Visa).
8. Key Partnerships: describes the network of suppliers and partners that make the business model function. The motivation behind this is to reach optimization in allocating resources and activities as most enterprises outsource some activities to suppliers to finally create their products or services, to reduce risk and uncertainty, or acquisition of particular resources and activities.

9. Cost Structure: describes all costs incurred to operate the business model. Usually business models are situated between cost-driven (minimizing costs whenever possible) or value-driven (maximize value creation). Cost structure can operate with fixed costs, variable costs, economies of scale or economies of scope.

According to Teece (2010) the foundations of business model design are to determine:

1. The technologies selected to be embedded in the product or service.
2. The benefit the customer attains.
3. The market segments to be targeted.
4. Available revenue streams.
5. Mechanisms to capture value.

A good business model is one with a value proposition that lures customers in, achieves advantageous cost and risk structures and enables value capturing by offering products and services. It is critical for the enterprise success to design a business model that fits it and correctly implement and refine it, it also needs superior technology, competent people, good leadership and to be appropriate to the enterprise culture or environment.

Scientific articles and publications on Business Models are still quite infrequent; however scholars have different definitions for it as previously mentioned. On the other hand many scholars agree on several aspects, for instance:

- They assert that all elements within a Business Model are interrelated (including value proposition, value streams, customer relations, cost structure, key activities, key resources etc.).
- That coming up with a good Business Models alone is not enough, the model have to be exclusive for the enterprise and hard to imitate, gaining competitive advantage and leverage over incumbents or newcomers alike.
- Business models are conceptual models rather than financial ones and are not an organizational form.
- Selecting, adjusting and improving business models is a difficult art rather than science and is highly situational, however they facilitate and represent innovations.

Some confusion arises in the distinction between Strategy, Business model and tactics. Casadesus-Masanell and Ricart (2010) set clear definition for each. There is a difference

between business models which refers to the logic of the firm, how it operates, delivers and captures value. It is the embodiment or a reflection of the firm's strategy. While Strategy which is the choice of the business model through which the firm competes in the market place and finally tactics which refers to the remaining choices the firm makes as an advantage by the business model it choose to employ. Every organization has a business model, how it makes choices and handles the consequences, but not necessarily a strategy which is a plan for action for contingencies that might arise includes choices of policy, assets or governance structures. Strategy entails business model design and redesign them when required, while tactics are plans of action but on a more detailed scale. That is strategies are not easily reversible unlike tactics that could be. In short business model is a direct result of strategy but not a strategy per se. By setting clear distinction between business model, strategy and tactics and how they interplay and affect each other firms can come up with better ways to compete, profit and make better progress in the field of business models.

Itami and Nisino (2010) divide business models to two essential parts, a Profit Model and a Business System. Business system is the production and delivery system the firm has, that goes spirals internally and externally beyond its borders to deliver what intended to customers. While the profit Model, which get most attention, is how the firm plan to capture value or its strategic intent to achieve differentiation and competitive advantage among its competitors. In any case a successful profit model won't work unless there a business system backing it based on learning. The article illustrates how Google for example has multisided platform business model, in which they do their own software development and they learn from it to capture upcoming trends or improve current ones. For this reason, it is strongly suggested for firms to develop their own business system as by producing the component in house, even at an extra cost, since they themselves learn during the process. Profit model is important for the short term while business system looks beyond today and have more growth potential from the learning process when taken into consideration.

Finally, there are certain processes that have proven to enhance the creation of business models, going with scenarios and storytelling for instance as asserted by various innovation managers in different industrial sectors. Perhaps the Business Model Generation book offers a number of interesting methods to do so.

2.3 Business Model Innovation

The term business model innovation has not yet achieved its converged definition in academic literature. Scholars have presented different business aspects which are outlined by term business model innovation. The competitive advantages among companies mostly stems from novel resources. George & Bock (2011), and Teece (2010) point toward shifting competition of organizations from product innovation to business model innovation. There are two main phenomena behind organizational move toward business model innovation. First phenomenon is as Casadesus-Masanell & Ricart (2010) suggest the on-going development of modern technology such as the Internet (Perkman & Spicer, 2010) and second organizational efforts to enter new markets in emerging economies (Prahalad & Hart, 2002; Prahalad, 2010). The organizations using new technologies have employed innovative business methods to extend their reach to customers all around the globe and by operating worldwide they have exposed themselves to new competitors. To become successful at international level organizations have to strive for not only traditional innovation approach but their business model innovation.

Zott & Amit (2010) argue that business models bring a new innovation around traditional modes of product, process, and organizational innovation and that may serve as source of superior performance and competitive advantage. This suggests that firms can compete through their business models (Casadesus-Masanell & Ricart, 2007). Chesbrough (2007) proposes that organizations should focus on business model innovation because increasingly expensive technologies are being commoditized at such a fast pace than ever. The business model innovation brings strong competitive advantage which is hard to replicate. According to Chesbrough (2007), the innovation of business models has more important strategic implications than other forms of innovation, as a superior and robust business model will beat a better idea or technology. For sustainable competitive advantage business model innovation seems to be the right approach nowadays.

According to Teece (2010), business model innovation requires creativity, insights and a good deal of customer-competitor and supplier intelligence and information. This

information enables management to mobilize their scarce resources in an efficient way to gain competitive advantage. Opsahl and George (2010) suggest that the organizations flexible with their strategies are more capable of business model innovation. They further propose that organizations have to engage in business model innovation to gain strategic flexibility by increasing their capabilities to respond to environmental changes while decreasing formal design complexity.

A consistent perception about business model innovation is that business model innovation enables the move from one business model to another. Further, it can be said that different researchers point toward the necessity of business model innovation for organizations but does not indicate the exact level and area within organizations where innovation should take place. A recent research (Mashelkar & Prahalad, 2013) emphasizes the need for business model innovation but nothing is said about its components where innovation should take place. However, there are already some efforts going on and we expect research on the area would become more common and focused specially on suggesting the right level for business model innovation to take place.

2.4 Business Model Innovation Process

To get to the core of this study, few scholars narrated on how important it is for firms and leaders to seek innovations in their business models. The following is a literature review regarding business model innovation, to shed some light on its definition, benefits and process.

Amit and Zott (2012) noticed that to increase revenue and achieve growth companies tend to improve process and products via innovation but it is often time consuming and requires a considerable upfront investment, moreover future returns are always uncertain. A contemporary-alternative approach is via business model innovation. Business model within organizations often goes unchallenged and unchanged for a long time, missing out on many business opportunities. Business model innovation includes adding a new activity, linking activities in novel fresh way or changing the party that performs the activity. According to a

study companies that have adopted business model innovation led them to grow faster than using traditional product or process development, as it opens areas of future value, second it takes companies a step ahead, making it difficult for competitors to replicate a novel activity. Moreover when designed well it transforms into a sustainable performance advantage.

Innovations in business model can occur either by adding novel activities through backward or forward integration, by linking activities in innovative fresh ways or by changing one or more parties that perform any of the activities (ibid). But first six questions must be answered before business model innovation:

1. What customer needs will the new business model address?
2. What novel activities could help satisfy those needs?
3. How those activities can be linked in a novel ways?
4. Who should perform those activities?
5. How will value be created to each stakeholder?
6. What revenue models can be used to complement the business model?

The authors found four major business model interlinked value drivers. Novelty as it captures the degree of business model innovation, Lock-in as in creating switching costs or enhanced incentives by inciting customers to be locked-in similar to business models of Nespresso, Gillette razor blades and Apple's iTunes in which customers have to buy their coffee, blades, mobile phone to have full usage of their espresso machines, razors, apps. Complementarities, in which a firm seeks a value enhancing effect to, improve its business, such as eBay acquiring Paypal to help facilitating transactions between buyers and sellers. And finally efficiency through cost saving, citing Wal-Mart is a spot on example for designing its cost efficient system to help cater its low-price strategy.

It is necessary for technological innovation to be coupled with a commercialization strategy. Two common models for innovators to capture value from innovation, either by being responsible from the whole supply chain of the product from manufacturing to distribution or by outsourcing almost all aspects by following the licensing model. In fact the hybrid model of both is the most common which requires strong selection and orchestration of service providers and suppliers to attain highest returns. Capturing value from technological

innovation framework such as new discoveries or inventions involves embedding it in the product and revenues are created by the consumer buying the product. Bottom line is firms need to always seek and strive for improvements in their business models that would capture more value and add value to customers, putting in mind creating ones that are hard to imitate. Better the change to come from within than be forced by external competition. Economic value of a technology remains concealed until it is commercialized via a business model. Companies with new ideas and technologies seek to do so via business model.

According to Chesbrough (2010), there are three important processes to transition from the old to new business models namely experimentation, effectuation, and organizational leadership. Experimentation: Prototyping of any new product idea is not new in engineering field but in business world application of similar concept is relatively new approach. The author thinks experimentation is the only way to identify and validate new business models and business model innovation also requires trial and error, experimentation and adaption.

Experimentation can follow Osterwalder's Business model generation canvas, since it provides learning which is one of the most important assets in business model innovation. But it's not enough as organization need to have the mindset of change, and conform to the possibility to leave their comfort zones. A new business model doesn't necessarily need to eradicate and replace older ones but a tactful balance of co-existence should be possible at first, then shifting to the new business model and allocating resources for it comes after. In any case experiments in business model even if they fail provide more knowledge and understanding for a better business model formulation.

Chesbrough emphasizes on need of thorough and exhaustive market analysis to get relevant data for new business model generation or as the author calls it effectuation. Therefore management needs to put efforts in practically observing markets in order to generate data which is of high value for the success of business model.

Organizational leadership plays a vital role to execute business model transition from current to alternative one. Therefore it requires a strong organizational leadership culture to succeed (Chesbrough, 2010) because individuals often are accounted for change impact in both

success and failure cases. Many researchers have backed this suggestion about organizational leadership. The influence and role of top management is also supported by IBM Global CEO survey, they summarized it as myth that innovation management can be delegated and that top management should orchestrate innovation. The role of leadership is vital in fostering innovation culture as well as taking part in innovation process.

Chesbrough (2010) contemplates the fact that most companies while having the ability to create and come up with new business ideas fail with innovation of appropriate business models for them in order to take them to market. Mediocre technology when exploited with the right business model can be more valuable than a great one without the proper business model. Same technology with two different models can yield two different returns. The author have noticed that while working with Xerox in the 1980s, many excellent innovations sprang from R&D division, but the problem was Xerox focused on innovation that are only related to its current business model of making return via selling consumables (that is the razor-blade/lock-in business model discussed earlier) and in turn discarded many other ideas. The author noted that many of those ideas flourished as they were taken out externally for instance development of the Ethernet was a Xerox invention from the start but failed internally and turned out to be of huge value as an independent product. The upshot is, companies have the ability to innovate within technologies but they need to develop the capability to innovate in their business model as well.

Wirtz, Schilke and Ullrich (2010) had pointed out that the wave of web 2.0 brought drastic changes to competitiveness, how business models are designed and how value is created and captured. The article suggests that for firms to keep up with this they always have to put customers at the core, they are the source of improvements and helps firms understand technological changes as in applying the concept of open innovation by involving customers in the innovation process. After keeping track and deep knowledge of market trends, managers can then implement changes to their current business model. They need to act as agents of change and positive attitude, helping and motivating employees towards the desired change.

As well as conforming to the cited article “Creating Value through Business Model Innovation” in barriers to business model innovation within firms, the author disagrees with the assumptions that managers know the right business model but they don’t implement due to the strong presence of the firm’s logic or “the usual way of doing things” while in fact nobody knows which is the right business model. As the author asserts it can only come via commitment to experimentation and that following the dominant logic alone will lead the firm to miss out on potential valuable uses of technology that from the first glance doesn’t fit their current business model. We have discussed about different approaches which can help firms to engender business model, make smooth transition from old to new business model, tailor the new business model based on the market effectuation data, and align the new business model to the customer’s demands. The discussions of business model innovation processes in this section provide solid platform to advance our theory into the real research question of this thesis on business model innovation challenges for incumbent firms. In the next section challenges for incumbents are presented by a number of scholars.

2.5 Business Model Innovation Challenges for Incumbent Firms

Normally, organizations devote sums of their resources to optimize their current business models especially by gradually applying and expanding their existing capabilities. We will discuss some business model innovation challenges in this section as extracted from an array of scientific articles.

Companies utilize different approaches to implement innovation in their business models. Few companies choose to implement new business model at a very small scale in beginning and later on scale it up. Many researchers have cited Michael Porter for his positioning approach to strategy. Porter argues that companies that follow multiple positioning strategies simultaneously often are stuck in the middle hampering their performance (Porter, 1996). As Christensen and Raynor (2003) argue that companies should develop disruptive innovation in a separate entity and organization to avoid potential conflicts. The underlying logic of this

argument suggests procedures of parent company, culture, and systems will inhibit new innovation which would enable business model development to its full potential.

Markides (2008) points to the fact that companies going along integration approach have succeeded and companies choosing the separation strategies have failed. However Markides (2008) argues that the questions should be formulated from “to separate or not” to “when to separate and when to integrate”. Different integration strategies are recommended for different scenarios, presented in table 1. In A – separation strategy the new business models are innovated in entirely separate entity with no foreseeable merge plan into old business. In B – Phased integration strategy the business model innovation takes place in a new entity with plan to reintegrate the new entity into the old business. C – Integration strategy enables new business model to grow within the organization alongside the old business model, with no spinoff plan on the roadmap. D – Phased separation strategy develops new business model within the same organization and with time spins it out.

Nature of conflicts between the established business and the innovation	Serious	A Separation strategy	B Phased integration strategy
	Minor	C Integration strategy	D Phased separation strategy
		Low strategic relatedness (different markets)	High strategic relatedness (similar markets)
Similarity between the established business and the innovation			

Table 1: Different Business Model Innovation Strategies (Source (Markides, 2008, pg.87))

The important aspects of business model innovation process according to the figure above are management decisions on if and how a new business model should be managed and adopted. Analyzing business model relationships as shown offers strategic knowledge as where to initiate the innovation.

Incumbent enterprises within well-established industries have great difficulty crossing the chasm created by a radical innovation, while new entrants rise to market dominance (Hill and Rothaermel, 2003). Literature has various opinions about the failure of incumbents to extract value from new business model. Incumbents have difficulty to adopt new business models mainly due to their previous commitment with existing models. The transition towards a new business model potentially renders existing investments obsolete (Chandy and Tellis, 1998), and magnifies switching costs (Barnett and Burgelman, 1996). Moreover, the transition to new business model is associated with huge cost for big firms which management prefers to mitigate. In this way, a firm's previous investments and its repertoire of routines that is attached to them constrain the firm's future behavior (Teece et al., 1997).

Otterloo (2013) discuss Osterwalder's visit to Netherland in 2013 during a panel titled 'Business Model Canvas'. In his keynote speech, he mentioned a key challenge in large corporations is to create the right environment for entrepreneurs and innovators inside the organizations. Pointing that in big companies employees and innovators are measured in the same way, since innovation experiments are not predictable they often fail to reach targets. In response innovators would leave the company and start their own business as their career options within the organization could become slim.

The other prominent barrier to business model innovation is related to the competency and Know-How which incumbents accumulate over years and do not want to give it away. As Foster (1986) mentioned, the attained knowledge encourages incumbents to maintain a focus on current business and competencies (Foster, 1986). That influence management's perception about the new strategic opportunities and their actions. Other researchers argue that the organizational filters of incumbents make them less effective at radical innovation (Chandy and Tellis, 2000; Hannan and Freeman, 1984; Henderson and Clark, 1990).

Sometimes the benefit of leverage from legacy business models or processes makes firm's behavior towards innovation slightly passive whereas new entrants are very active to any new

opportunity. Incumbents have developed organizational routines or procedures to carry out repetitive tasks related to a current product or business efficiently (Chandy and Tellis, 2000; Henderson and Clark, 1990; Hannan and Freeman, 1984). The leverage and reuse benefits of proved business models are very high, in such situation to convince management does not remain a trivial task. As Heffernan (2003) suggest the strategists emphasize on existing routines or processes and expectations are formed around them, making them costly to change.

2.6 Research Propositions

First it's worth noting that we selected Osterwalder, Pigneur and Smith (2010) definition of business models since it is the most understandable, comprehensible and adaptable within incumbent firms' thinking rhetoric. Moreover, our firsthand accounts affirm to using the referenced author canvas as the preferred method for business model generation. Hence the definition of business model in the context of this thesis is describes the rationale of how an organization creates, delivers and captures value.

In this section we have gathered the following points from the reviewed scientific articles and built up the following framework in our pursuit to identify business model innovation challenges and the best ways to overcome them. However other points were noticed from analyzing the cases as it turned out. From the aforementioned literature excerpts we proposed the following framework.

Proposition 1: *Business models are not strategies, but rather a depiction of them.*

Casadesus-Masanell and Ricart (2010) argue that organizations must first know where they stand and define their strategy before innovating in business models. Since it is possible for the same organization to hold a certain strategy and several business models or in that case several schemes of value capturing with different tactics or the way of doing things for each. Moreover, organization must be flexible with their strategies in facing changes around them to produce strong competent business models (Opsahl and George, 2010).

Proposition 2: *Open innovation brings out the most suitable business model, strategic alliances are inevitable.*

Writz, Schikle and Ullrich (2010) identified the open innovation approach as an excellent way to find the most suitable business model. Besides, capturing value from innovation requires careful and artful selection and orchestration of what a firm can do for itself and what can to be outsourced. As Amit & Zott (2012) suggests, partnerships and seeking outside expertise are important, but after utilizing all internal resources.

Proposition 3: *Foresighting, trends spotting and market analysis then experimentation are the right steps for Business Model Innovation.*

An old to new business model transition requires three necessary steps experimentation which is trying out the business model on a smaller scale, effectuation, that is a thorough and exhaustive market analysis of customers and competitors alike, and finally the right organizational leadership to foster innovation culture (Chesbrough, 2010). Teece (2010) also states that business model innovation requires creativity and knowledge of customers and competitors, which can be achieved by extensive market analysis and trend spotting.

Proposition 4: *Separating Innovation centers from the parent organization.*

The organization's previous investments constrain its future behavior and the ability to extract value from new business model as echoed by several articles. The commitment to existing models is a major challenge for incumbent firms (Hill and Rothaermel, 2003). Foster (1986) mentioned that existing routines, competencies and accumulated know-how of firms could possibly work as a significant challenge to adopt new business models.

While Christensen and Raynor (2013) recommended that organizations should develop their disruptive innovation in a separate entity away from their own logic and then decide when to separate and when to integrate depending on the business demand (Markides, 2008).

Proposition 5: *Solving customers' needs should be the priority of any business model, involve them in business model innovation process.*

Writz, Schikle and Ullrich (2010) stressed that firms should put customers at the heart of any business model innovation process. They are the source of improvement which helps firms understand technological changes and keep track of market trends.

Moreover, the competition is shifting from product innovation to business model innovation as (Teece, 2010) putting higher pressure on improving what the organization already has at hand before seeking out a new business area. That is complemented by the fact that a superior robust business model will beat a better idea or technology (Chesbrough, 2007).

But in some cases a technological change or an emerging new market (Parhaland and Hart, 2010) becomes overwhelming that a firm cannot fight the drives for business model innovation (Casadesus-Masanell and Ricart, 2010) and hence a rethinking of the firm's logic in offering and capturing value is a must. As Chesbrough (2007) puts it modern and expensive technologies are being commoditized at a very fast pace changing customers' trends and tastes along the way.

Proposition 6: *When it comes to business model innovation leadership is not just a role.*

Writz, Schikle and Ullrich (2010) mentioned that leadership is important in business models innovation as managers must have the mind set for change. To prosper and grow the organizations must develop individuals that have self-leadership skills and networks that enable individuals to create, transfer, and institutionalize innovative knowledge (Shipton, Fay, West, Patterson, & Birdi, 2005). The organizations must build a workforce that consists of self-leaders who are able to refine, further develop, and implement novel ideas. Companies where only leaders are seen as the innovators will have a difficult time to sustain innovation for longer time (Hunter & Cushenbery, 2011). Chesbrough (2010) also added that the right organizational leadership is of crucial importance to foster an innovation culture and brings about change to the organization and the mindset of stakeholders.

Proposition 7: *In business model innovation there is no “best practices”.*

A novel business model is to capture value, lock-in customers and create switching costs, acquiring complementarities such other operations of businesses to enhance value of its current business, and finally through efficiency by cost saving (Amit & Zott, 2012). Furthermore, a new business model has to be exclusive and hard to imitate, giving competitive advantage to the firm. Chesbrough (2010) explicated that a mediocre technology when exploited with the right business model can be more valuable than a superior technology without a proper business model. In addition, business models as defined earlier are situational, making a “best practice” only valid for a certain time, place and under certain conditions.

3 Methodology

This chapter explains the research methodology and research design that was deployed to investigate the underlying thesis research question. The main thesis topic, business model innovation is discussed in academia, but the lack of profound references to the problems and challenges faced by incumbent organizations in mature industries intrigued us to investigate and dig deep, looking through a business practitioner's lens. The standard research methods are used to collect the empirical data that is analyzed and later linked with theory.

3.1 Research Method

In order to conduct academic research, there are two different types of research strategies, the quantitative research and qualitative research. According to Bryman and Bell (2007) a qualitative research method approach as a research strategy is analogous to quantitative research method approach in the context of comparison but unit of comparison differs in both cases. In qualitative research method, data analyzed consists of words (e.g. interviews, diagrams, artefacts, etc.) whereas quantitative research method involves analysis of numerical data. In general qualitative research aims to answer "how" and "why" question, on the other hand quantitative research tells "what" is happening. These methods have their advantages and pitfalls and their usage depends on the nature of the research.

The qualitative methods aim to understand the experience and attitude of community and relate to understanding of some aspects of social life. This thesis deals with understanding experience of different firms towards business model innovation and try to draw conclusion on common innovation challenges which makes qualitative strategy a suitable method for our empirical research. Additionally, qualitative research is effective in identifying intangible factors (e.g. such as social norms, socioeconomic status, etc.) and often contradictory behaviors, beliefs, opinions, and emotions which makes it perfectly suitable to our research type.

The case studies are the preferred strategy to investigate our explorative, "how" and "why" type research questions and when the phenomenon is of contemporary character (Yin, 2003). That is also echoed by Cuervo-Cazurro (2007), to research and analyze a business model, case study approach is a suitable option. Further, case study method offers flexibility to researcher to use multiple data collection methods (Yin, 1989). That is one of the main reasons we have chosen case study method, so that we can use different data collection methods. Robson (1993) puts this way flexibility is the main strength of the case study strategy in terms of interpretation and getting access to the specified places, or firms. A qualitative, case study-based methodology with multiple embedded cases (Eisenhardt, 1989; Yin, 2003) was an ultimate method of choice for this thesis.

This thesis report endeavors to propose novel framework that can help incumbent firms successfully deal with business model innovation challenges. A case study based approach features a high likelihood of developing novel theory and permits for later testing of identified constructs (Eisenhardt, 1989). However, it should be clear, that case study method does not answers the research questions entirely but enables researchers to collect information and correlate it to theory which might open up new research fronts. We have realized that business model innovation as a topic doesn't have converging practical implications that might lead to inconsistent answers to our research questions. Since a case study does not have hypotheses to prove, that makes it suitable method for our research with open ended questions.

The research process shown in Figure 3-1 resembles with classical qualitative research process presented by Bryman (2008). It describes our overall research design which starts with formulation of general research question. The literature review step brought many different theoretical concepts and beliefs from different schools of thoughts into the focus which ultimately helped us to refine our research question. At the end of literature review, we have identified research framework that further guided our research and empirical finding process. The proposed theoretical framework was used to analyze the business model innovation concepts, processes, and challenges in incumbent firms from well-established industries. In data collection and interviews step, data was collected from different resources and was correlated to the already identified research constructs in analysis phase. Lastly, the

conclusion was drawn by considering the theoretical and empirical evidences available at hand.

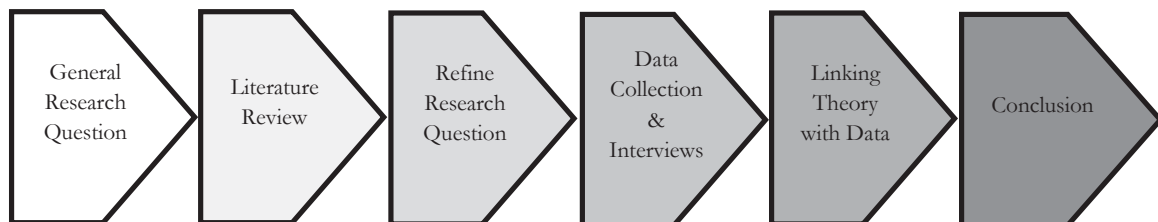


Figure 3-1: Research Process (Source (Bryman, 2008))

3.2 Literature Review

In order to capture the vast concepts on business model and business model innovation, an extensive literature review was conducted. We have chosen narrative approach to review the literature in order to develop a deeper understanding of the topic through different literature resources. In order to bridge the gap between theory and practice, and propose a new relevant theory, authors have reviewed available literature on the subject and applied understanding of relevant concepts to the insights from business practitioners. After analyzing a number of peer reviewed research papers, we have to admit that at the moment the diverse literature on business model concepts are still unable to build up knowledge paradigm which can synthesize the current affairs on business model innovation. Several research papers from Long Range Planning edition on business models were used. Special focus was on business model innovation concepts presented in this special edition on and used the cited papers to further search for relevant literature on the subject. Based on the findings of the literature review, we have fine-tuned the research questions to narrow down the focus of this thesis.

3.3 Data Collection

In principle each case study should use multiple data sources that might be direct or participant observations, surveys, experimental designs, focused interviews, open-ended interviews, archival records, documents, and scientific data from field (Yin, 2003). The source and type of data depends on the nature of case. In our case study, direct and participant observations, documents, archival records, real world business models, and open-ended interviews are used as main information sources to provide both, the maximum variation sampling and convenience sampling. Yin (2009) states “without multiple sources, an invaluable advantage of case study strategy will have been lost”.

The business model innovation challenges of selected incumbent firms from Automotive, Semiconductor, Aviation, and Pharma industries are studied, how firms conceive business model innovation concepts, what the business model innovation challenges are, and how these companies approach the topic. We have also used several other incumbent organizations from different sectors to discuss their business model innovation approach in order to provide diversity to the data. These firms were chosen mainly because they have experimented business model innovation and competes internationally but not directly against each other.

Volvo Car Corporation³ was selected as a company case representing an incumbent within a mature industry (automotive sector) in a fast changing environment fitting the research criteria. Volvo Car Corporation is active internationally and is our source of direct interviews due to the ease of access of officials there where one of the authors is employed. The interviews were carried out in order to understand Volvo’s approach towards business model innovation. Interviews were conducted with several representatives from the Special Products Dept which endorsed this thesis. This department is responsible for issuing special edition vehicles that always come in rather limited numbers. For this reason it is highly flexible in dealing with changes in car line-ups in contrast with the other mainstream production line which depends on the economies of scale.

³ Volvo Car Corporation www.volvocars.com/

The interviews were performed in a semi-structured fashion. The interview guide (attached at the appendix) was distributed to all interviewees. The interview questions were derived mainly from the research questions, research constructs identified through literature review, and from previous successful works from the same field such as “Business Model Design: An Activity System Perspective” by Zott C. and Amit R. The interviews were conducted face-to-face as opposed to telephonic interviews. Bryman (2008) points out that telephone interviews differ little from face-to-face interviews when it comes to responses but telephonic interviews might be cut short since it is easier to break up a telephone call than a personal meeting. On the other hand clarification level in face-to-face interview is much higher than telephonic interview. In order to enrich the collected interview data, we used secondary data such as articles in business publications and firsthand accounts from a workshop on business model innovation.

First-hand accounts were also gathered from attending a workshop on Building New Business Platforms held at the Danish Ministry of Foreign Affairs on March the 17th 2015 and organized by Innovation Roundtable⁴. In this workshop participants from major global firms were present and keynote speakers from DSM, DHL and Volvo Group pondered upon topics such as disruptive innovations, spotting trends and creating value via business model innovation. This information extraction method can be closely related to group interviews, where informal discussion, spontaneous chats occurs on meeting or social work shops as it is the most convenient way to interview a number of managers responsible for innovation in a one-day event.

Further authors utilize their direct observations from two of several industries studied, namely semiconductor and automotive industries. The data collected is descriptive so the readers can understand what happened and how it happened. Observational data is very useful in overcoming discrepancies between what people say and what people actually do and also might help observer to uncover the behavior which was not known before. The rationale behind selecting these two industries is having first-hand experience, subject

⁴ Innovation Roundtable is a leading network in Europe for innovation practitioners in large firms. Holding several events every year for innovation managers from different industries to network, build relationships, learn and share best practices. <http://www.innovationroundtable.com/>

relevance, and sampling convenience, as one of the author works for Advantest⁵ Company (semiconductor industry) and the other is employed at Volvo Car Corporation (automotive industry). Business model innovations challenges in these both industries are quite similar to many other business sectors, empirical findings from these both industries provide solid evidence to the constructs identified in our theoretical framework. The innovation solutions used in these industries are also backed by eminent researchers from business innovation discipline. However to make these solutions abstract for other industries, we need to study their structural similarities and their very individual challenges first. In empirical findings, we do not focus to very specific business model innovation challenges related to certain industries but to more common challenges which have been discussed in theoretical framework.

Regarding the choice of cases, there was no way possible to include all organizations within all industrial sectors unfortunately. In turn we choose industries that were most relevant to us as well as the ones facing major challenges, selecting organizations from those industrial sectors to attain a diverse array of data.

Finally, we have acquired data through reading articles from contemporary publications that cover our topic such as “The Economist” were also included to widen the practical perspective and make the research data as recent as possible. We have used various sources in order to increase the quality of collected data: ‘any case study finding or conclusion is likely to be more convincing and accurate if it is based on several different sources of information, following a corroboratory mode’ (Yin, 2009, p. 116).

3.4 Data Analysis

The analysis of qualitative data is often considered as the most difficult part of the whole research. Yet it is interesting to see patterns emerge and be able to draw out some meaningful conclusions from all discussions.

⁵ Advantest is a global market leader in semiconductor test solution industry www.advantest.com

The data analysis method deployed in this thesis comprised of various techniques. First, we have counted the number of occurrences of similar business model innovation challenges faced by incumbent firms across different business sectors. Second, at the same time we did in-depth within and across analysis of business model innovation challenges of our case companies to correlate the constructs that we identified in theoretical framework and its relation to proposed framework to overcome such challenges in different cases. We analyzed the interviews from Volvo Car Corporation and group interviews to identify the constructs and the relationship we previously identified theoretically in the literature and case studies. We in one way matched the patterns (words) in the literature with the words of the interview as its called pattern matching in case study approach. We reviewed different books and article and literature in order to build our proposed framework, which was the secondary objective of this thesis.

3.5 Evaluation of Research Method

3.5.1 Validity

Validity of the research is very important to build acceptance of proposed concepts. According to Bryman & Bell (2007) validity is related to the issue whether or not the devised research framework answers the proposed research questions. Eisenhardt (1989) goes on to say that literature presents two distinct view of validity concept of study internal validity and external validity. In our research we gave importance to both internal and external validity.

Internal validity explores cause-and-effect relationships between different variables within the research. In our case we have identified the common challenges faced by different incumbent companies in business model innovation and these challenges are generalized across various industries globally. Further, we suggest a framework which can be utilized by incumbent companies to overcome such business model innovation challenges to possibly broaden the range of product offering in an innovative way.

The external validity deals with the concept of generalizability of the proposed framework which can be applied to general cases outside the context of research. We have mentioned business model innovation challenges faced by incumbent companies from different

industries and propose mitigation framework to overcome business model innovation challenges which can be generalized for various industries.

3.5.2 Reliability

Reliability is the extent to which measuring procedures produce the same results consistently (Neuendorf, 2002). To produce consistent results, the clarity and quality of questions can be related with reliability. We have formulated the questions clearly and concisely to impact the quality of responses from participants. All the interviews are documented in order to elaborate and synthesize each statement internally and confirm it with respondent's real intent on the asked question. The questionnaire was not formulated by a standard interview schedule thus not driving toward identical findings. However, the underlying research questions and propositions were devised precisely from literature review to increase the reliability of the research. All the interviewees received the same questionnaire with open-ended questions. Ultimately, the communicated purpose and aim of the research, as well as the interview guideline, was the same for all interviewees. Furthermore, the same researcher conducted all interviews and all interviews were transcribed using the same person.

3.5.3 Trustworthiness

Authors have put great effort to ensure that trustworthiness of our findings is maximized. For this purpose "Triangulation" method is used to increase the validity of our findings by deliberately using evidences from a wide range of resources and comparing findings from those different resources. Our evidences stems from sources like, semi-structured interviews, group interviews, direct observations, archival records, and online contemporary documents. "Triangulation is a means of checking the integrity of the inferences one draws. It can involve the use of multiple data sources, multiple investigators, multiple theoretical perspectives, and/or multiple methods." (Schwandt A.,2007, p. 298). "The strategy of triangulation is often wedded to the assumption that data from different sources or methods must necessarily converge or be aggregated to reveal the truth." (ibid).

We have also utilized “member checking” validation strategy to further enhance validity of our findings. In this method, we have fed our analysis back to the participants of semi-structured interviews to let them assess how far they consider them to reflect the business model innovation challenges from their perspectives. We have applied two different validation strategies to increase the trustworthiness of our study but due to time constraint and utilization of wide range of resources the information depth level is not achieved as deep as authors have desired.

The primary information source in our case study is based on interviews within Volvo Car Corporation which might not reflect the findings across the automotive industry in general. It implies to increase the transferability of the study further automotive companies should be studied to generalize the findings of single case study. In this thesis report, we might not be able to attach interview transcripts or recordings due to information confidentiality issues which would put challenge to dependability of information. However, to make our information more reliable, we plan to share original interview information with our thesis supervisor and discuss details about interview. That would increase the information dependability by certain extent.

3.5.4 Conclusion

This chapter described the chosen research methodology, which is deployed to investigate the business model innovation challenges faced by incumbent firms from different industries. For this purpose, incumbent firms have been selected according to relevance of their business models to research criteria. To follow a qualitative research approach, a case study methodology has been applied through extensive literature review, semi-structured & group interviews, direct observations, archival records, documents, and research of real world business model examples. The information elicited from diverse sources was used to make research comprehensive and detailed.

4 Empirical Findings

While surveying literature review, it brought about many interesting real-life Business Model examples that were both radical to their industries and innovative game-changers. As Teece (2010) stated: the way enterprises make money and capture value using the prevailing concept of the industrial era using volume and economies of scale is in many cases becoming outdated. Customer power has increased significantly, having more access to information and alternatives with the rise of the internet as a new channel of shopping and distribution.

In this chapter some recent examples of innovations in business models are shown. These examples demonstrate challenges for incumbents in different sectors and show how a new thinking or a simple tweak in a business model for a well-established business could expand its width of offerings and increase the firm's value in monetary and non-monetary terms (increase revenue stream or attain better reputation). We tried as we could to diversify our approach selecting contemporary business models innovations from different industrial sectors using a wide array of diverse sources.

4.1 Firsthand Accounts

In our attempt to collect as much relevant and current data regarding our thesis questions one of the authors have interviewed a Commercial Manager and a Market Development Director at Volvo Car Corporation to demonstrate how business model innovation is perceived and managed within a traditional industry. In addition, firsthand data were collected in the form of group interviews with innovation managers from a one-day workshop on disruptive innovation, foresighting and business model creation.

4.1.1 Semi-Structured Interviews

Volvo Cars follows the conventional business model as other automotive OEMs, where the main revenue stream comes from selling vehicles and spare parts. However the company's

strategy is to solve customers' needs in general with cars serving as a mean for that. In turn the necessity of offering new services and consequently new approaches in business model is inescapable. For example, Volvo is exploring novel unconventional ways in innovating business models for new services and technologies apart from Volvo's own car sharing company Sunfleet⁶. Volvo Cars started an experiment of delivering groceries using Linas Matkasse⁷ called Volvo Roam Delivery. In which the grocery delivery person -upon order- receives the car coordinates and leaves the groceries using a one-time access in the car trunk⁸.

Another is an ambitious helmet concept done in cooperation with Ericsson and cyclist helmet maker POC, which is a helmet equipped with real-time two-way communication between cyclists and car drivers, warning them of impending collisions. With this, Volvo is not just into the car making business but also getting into delivering services⁹. In any case business model canvas are the tool used for business models generation and it is mostly the incremental approach when it comes to adopting new innovations but not before the new business model is thoroughly analyzed then experimented.

Being a traditional mature industry, Volvo Cars suffers from problems such as difficulty to move and apply new concepts and innovations in business models. However the current technology rush is a hot topic within the company and work is underway to make the organization more nimble. For instance, Volvo Cars have several innovation offices in IT, R&D and Product Strategy Departments. For this the market is first analyzed mainly by a trend report center which is driven by the Marketing Department doing all the necessary consumer insights to spot trends as well as explorative researches contribution from different parts of the organization.

When it comes to leadership influence in transitions, personalities and mutual understanding makes a huge difference in driving innovation whether in business models or any transition

⁶ <https://www.sunfleet.com>

⁷ A local Swedish home-kitchen that prepares and delivers grocery bags with recipes to households on periodic basis

⁸ Further reading <http://www.cnet.com/news/volvos-concept-roam-delivery-service-brings-your-groceries-right-to-the-trunk-of-your-car/>

⁹ Further reading <http://www.bikeradar.com/road/news/article/poc-volvo-and-ericsson-introduce-groundbreaking-cyclist-safety-concept-43355/>

for that matter, it is not just “roles”. It takes certain traits with the right energy to change the mindset towards innovation and to convey the message to the rest of the company. In many ways skunk work even seems to enhance innovation as well as to foolproof new concepts. Apart from that, there is an internal Innovation Committee responsible for steering new developments.

To try out new business models, business units are usually within the responsible department and hence are not separated. The above mentioned Roam Delivery is a product of collaboration between the IT and Marketing departments. Later if concept turned out to be a success it is integrated within the organization. However, another interviewee mentioned that historically a number of innovations were developed in-house, piloted and grew bigger outside the company as they were separated. Citing examples like the invention of the seat-belt which is a Volvo invention and the carsharing scheme first started at Volvo in 1996, over 10 years before any other OEM started it but unfortunately didn't have room to breathe inside the company. This was attributed to the mindset of many middle managers at that time.

Organizational challenges mainly include the old approach of just building cars which have long lead times and to make an old slow industry such as automotive quick and adaptive without losing focus. Another view is that there are large layers of middle managers in a flat hierarchal organization such as Volvo in which one would have to go through to convince and get a new idea adopted and nurtured. Not to mention the “silo effect” in which some departments or groups are isolated from each other within the same company and the requirement of obtaining consensus for each and every step.

While currently Volvo is exploring new business model ideas, for example Volvo's new XC90 first edition cars were sold exclusively online. Moreover Volvo had pulled out of major motor shows to focus on digital presence and an annual product briefing day¹⁰.

¹⁰ Further reading <http://www.motoringresearch.com/car-news/volvo-pull-key-motor-shows-1215959122>

4.1.2 Group Interviews

In group interviews valuable firsthand accounts were collected at an annual workshop titled Building New Business Platforms, Foresight and Organizing for New Business Creation, in which business model innovation was a main theme. The workshop was organized by Innovation Roundtable¹¹ and attended by one of the authors. What makes this event particularly of interest is that many participants from major global firms working with innovation were present; one of the authors had the chance to interview and attended some presentations thus gaining insight on how some firms handle disruption and innovation in business models. Although firms present were diverse, global and included many different sectors such as energy, chemicals, transport and logistics, consumer products etc., interviews were informal in which some representatives gave presentations and were asked by the author on some topics.

Although all industries are subjected to disruptions, firms handle innovative thinking differently some prefer disruptions to come from within and consequently prepare for the suitable business model. Volvo Group¹² for instance uses foresight as a method to innovate. It projects on how mobility would be in 80 years, and on how to deliver solutions to different customers knowing for a fact that each metropolitan area has its own priorities in trucks in terms of noise, speed, congestion and safety. On a question on how their innovative thinking works, they start with supply then create demand creating both is a huge plus, inviting risks in the process and to make this happen they chose personalities not just roles. Before venturing a new business model they make sure that they understand competition. But first a strategy is made for projected number of years in which the company's desired position and values are included.

¹¹ The mentioned event was hosted at Innovation Center Denmark, Danish Ministry of Foreign Affairs on March the 17th 2015. Innovation managers from a wide array of industries and global firms such as HP, Volvo Group, DSM, DHL, Shell, Carlsberg, IKEA, E.ON, Bayer Material Science, Deutsch Bahn, DuPont, Evonik, Hitachi, Nike, ING, A.P. Moller-Maersk, Sony Mobile, SAAB, Tetra Pak among many others were present. <http://www.innovationroundtable.com/>

¹² The Volvo Group comprises Volvo Trucks, Volvo Construction Equipment, and Volvo Financial Services among others and is a separate entity of Volvo Car Corporation. The presentation was conducted by Thomas Hordern Business Innovation Leader at Volvo Group.

There is always a problem with transferring foresighting to the management, to fix that it is better to start with inviting stakeholders as early as possible and make them involved and committed, utilizing momentum around today's strategic objectives, with an extreme focus on the outcomes not just the reasoning of it. For instance focus on understanding usage not the technology per se using human behavior as indicative of what is needed. Filling the gaps of acquiring missing expertise by business intelligence of other suppliers or firms, always make sure to find the ones externally that would help you internally.

A firm in a completely different sector namely DSM¹³ proud itself in having decades of experience in disruptive innovation. The presenter stressed not to believe in best practices, as they never work in the same way in different places or times. Internally at DSM, new ideas are depicted as a molecule then are dissected into small atoms. But first they must know exactly what they are aiming to achieve and determine sustainable metrics to measure progress; those metrics are measured along people, planet and profit or 3Ps creating value along those three dimensions is a must. DSM allocates \$1 billion for disruptive innovations annually. In fact disruptive innovation has been going for so long that employees and board members speak their own "innovation language" using special terms and terminologies. Always looking for emerging business areas and establishing or acquiring business developers, enablers or accelerators but avoid allocating innovations to specific board members; it gets to a point where it is impossible to stop even when all indications showing that the project is a waste, as members tend to treat those ideas as their own offspring and thus a project might become impossible to detach due to personal associations.

Moreover it is very important to continue on a chosen course, for instance if a project is taking 10 years one should continue with it whatever the circumstances are, for instance DSM continued working on disruptive innovations even during the crisis of 2008-9 although costs had to be brought down but innovation efforts were not cancelled altogether and now

¹³ DSM is a multinational firm is a global Life Sciences and Materials Sciences company active in health, nutrition and materials, technology driven company mostly B2B and occupies a top position in sustainability index. DSM delivers innovative solutions that nourish, protect and improve performance in global markets such as food and dietary supplements, personal care, feed, medical devices, automotive, paints, electrical & electronics, life protection, alternative energy and bio-based materials diverse both in products and markets. It has annual sales over €9 billion, EBIT of €1.2 billion and over 21,000 employees worldwide. The presentation was conducted by Herman Worries, VP Global Business Incubator.

they are reaping the gains. They recommend using the open innovation approach; always discuss new business models, creating partnerships as every new business areas by default will need a new business model. Always build a strategic plan to convince top management about new innovation and a plan on how to execute it.

In business model creation ING Group a Dutch multinational banking and financial services corporation uses extreme scenarios in terms of customer financing needs and with the help of cross functional groups from across the corporation to come up with new business models using the canvas explained earlier, they also stress that leadership is needed not just management. PSA Peugeot Citroen (an automotive manufacturing giant) uses the same extreme scenarios approach as well.

DHL¹⁴ delivered one interesting presentation on how trend research helps in developing new business areas and new business models accordingly. First they know where they stand as they identify themselves as service provider and they don't try to come up with new technologies, and thus DHL only utilizes what is already available in terms of technology. Using scenarios for the next 5 years, they identify trends by dividing them into four categories Mega trends (globalization, sharing economy, internet of things, foresight companies), micro trends and start-ups, partners such as educational institutes (Fraunhofer Institute, MIT etc.) and companies (Oracle, Cisco etc.) and finally via direct contact with customers (5000 customer visiting DHL innovation center each year), then filter and eventually categorize them into social, business or technology trends. This system has been working for the last two years and the results are quite promising.

After the trends are filtered out and reported, they are exhibited, experimented and tried out innovating their own business model in the process. Using the open innovation approach; all the trends found and spotted are published publicly online, as the presenter explained spotting a trend and communicate it to everybody gives a leverage over other service providers, get a better connectivity to partners and eventually makes you a market leader. DHL gave some successful examples of how value is added this way. In the last few months

¹⁴ DHL is a global express logistics company, with a revenue of € 55.1bn and 480.000 employees according to 2013 figures. Presentation was delivered by Markus Kuckelhaus VP Innovation and Trend Research.

they have filtered out trends such as crowd logistics, 3D printing, augmented reality, autonomous logistics and big data.

DHL spotted the crowd logistics trend, and they thought of bringing the “Uber” concept¹⁵ to logistics. They came up with a mobile app named “My Ways”, offering a platform for customers to deliver services themselves to other customers. The deliverers can then get a credit transfer which can be converted to cash at any time and a small amount is deducted to maintain the app platform. The idea is social, flexible, and environment friendly. They first used it as a pilot in Stockholm, Sweden in which customers always have to visit a local store themselves to pick up their parcels. The business model proved to be very successful and showed a new social integration side, users of the app told stories that they were always invited for coffee when they delivered something for instance, moreover, it served as a platform for people who share similar interests to know each other. The plan for the app concept to be used in Asian congested cities and places where DHL doesn’t have their own man delivery system.

Another spotting is 3D printing. The idea that anything can be produced and replicated anywhere threatens the need for global logistics in the first place. DHL wanted to capture value from this possible reality. So they got to work and found out that only 2-4% of all current shipments have a risk of being replaced by 3D printing, highly customizable parts such as medical implants will be particularly disrupted. DHL established a 3D printing shop B2C concept, using their very own postal outlets, with this pilot they found out that 80% of the shipped parts cannot be replicated mainly due to issues with quality, cost liability barriers and intellectual property and only 1% of customers offered to pay for this service.

Another trend that gained some excitement recently is the augmented reality just after google introduced its Google Glass, the idea is that one can put a digital layer on top of reality, apps that translate texts in real-time already exists which is helpful for reading signs and menus in foreign languages or arrange furniture in an empty apartment for instance. DHL saw an opportunity by using this technology internally by using augmented warehouse, in which a picker gets the right navigation and visual guidance via glasses to pick, arrange, transport,

¹⁵ Uber a mobile-app based transportation network. Valued \$40 billion as of 2014 (The Economist, 2014).

assemble, repair and deliver items. That would reduce inventory costs and increase efficiency considerably. DHL started a tryout at a RICOH¹⁶ warehouse. Pickers were guided to what needs to go where, the results were a huge reduction in paperwork and increased efficiency gains by a staggering 25%. Furthermore, they got very good feedback from pickers however the pilot tryout will be prolonged to include other warehouses.

DHL also looked into autonomous logistics, ever since Google and Amazon announced to deliver their future services via drones. DHL started collaborating with drone suppliers and looked into the regulatory framework and found out that it has a potential usage in surveillance (more of a stationary or limited moving type of drone) and intra-logistics (delivering items within a factory setting for example). However, the real potential lies in urban and rural delivery. They found out that urban delivery will not work as speculated at least for the next 10 years mainly due to the lack of social acceptance, the yet unavailable technology and the necessary regulatory framework. While in rural delivery where there is no logistic infrastructure it had an even greater potential. A pilot in 2013 to deliver medicine to Juist Island¹⁷ where the drone had to fly outside the line of sight of the operator, the pilot proved to be a success.

Finally, DHL demonstrated how they can make use of Big Data in the logistics business. Every day, millions of shipments are tracked, creating vast data sets that logistics providers have to manage. It offered great help in parcel volume prediction as an analytic tool to analyze historical and real time data to detect forecasting gaps, correlating relevant external events e.g. strike situation, product launches, weather conditions to internal data, modeled algorithm proofs correlating strong related data improves prediction significantly. For instance this tool proved of great use to secure the right number of cargo planes or manpower needed during peak times such as around holidays. Big data became such a successful concept model that takes all events and predication models and react immediately that DHL formed its own business division around it.

¹⁶ RICOH is images and electronics multinational Company.

¹⁷ Juist Island is an island off the coast of northern Germany in which the use of civilian motor vehicles is forbidden.

4.2 Automotive Industry

Few changes have occurred or forced upon carmakers regarding their business models for many years. The traditional business model is quite simple, OEMs manufacture vehicles and automotive parts and sell them, that is in most cases only having a one-time value stream and in turn only appeal to customers who appeal to car ownership. But recently some challenges have surfaced such as declining sales, changing customer's needs, and stringent environmental standards. Some carmakers became aware of this fact and started in the last few years to innovate new business models. Such as the car sharing scheme directed to city dwellers with the help Internet Of Things or IOT as more and more devices became connected¹⁸, environmentally aware customers and due to the massive ongoing urbanization.

Roland (2013) has described the business model of BMW AG in one of his articles for "Business Models Inc" online blog. He explained how BMW found new customer value proposition in the form of novel DriveNow business model. The customer only pays usage fees per minute or day that discovered a new customer segment, the one that is not interested in car ownership. Having discovered new business idea is one thing but effectively implementing that idea to gain desired business objectives is another. BMW's DriveNow business model first focused on development of applications to guide customers about the location of their DriveNow stations and cars availability close to them. Second, DriveNow regularly asked customers to provide their feedback to improve the service. Third, DriveNow engaged multiple partners to effectively provide the value offered.

The more salient features of this business model include no ownership, multi-way mobility, partnerships, business model validation and organization of business unit as startup. People who did not want to own a car but still want to be flexible with their mobility benefited from this business model. BMW established good relationships with other key partners to create win-win situation for both parties. At the same time BMW had validated one of the biggest business models in the shape of DriveNow. To successfully innovate and organize DriveNow business model, BMW had setup a separate business unit for this. It clearly

¹⁸ Gartner a research firm predicts that 25 billion devices from washing machines to heart-monitoring implants will be linked to the internet by 2020 (The Economist, 2015).

suggests how important is to carefully organize the corporate innovation and entrepreneurship. DriveNow business model according to Osterwalder's canvas is attached in the Appendix A.

Daimler AG was the first to innovate such business model breakthrough in 2008 and brought it to the market under the name Car2Go. It is currently implemented in many cities around the world and operates as a separate subsidiary of Daimler offering mainly Smart Fortwo vehicles (Daimler's smallest and lowest-priced vehicle brand) running on gasoline and electric batteries (Osterwalder, Pigneur and Smith, 2010).

In addition to BMW, Daimler and Volvo Cars, Audi AG have three new business innovations in this area which are still in pilot phases. The first is called "Audi on demand" in which the business model works more or less similar to the examples mentioned above with the addition of delivering the chosen car to the customer's doorstep currently only available in San Francisco, California. The other business model is called "Audi unite" which is a sort of automotive time share between friends or colleagues and up to five persons splitting a monthly fee and a mileage limit using an app to arrange driving turns. This service is only available in Stockholm, Sweden. Finally, the third is called "Audi Select" available in Berlin, Germany in which a customer can change for up to three Audi cars over the course of a year under a single lease contract (Beene, 2015).

Being the first to innovate such a business model, Daimler currently enjoys the largest market share in the car-sharing business (Dryden, 2015). While the concept resembles popular cars sharing such as Zipcar, the previously mentioned OEMs make use of their available expertise in manufacturing, selling, distributing and naturally their car fleet. Availability, maintaining the service (which includes the app, car fleet availability, service stations, etc.) and customer loyalty remains an important factor for differentiation and choice between different car-sharing companies.

4.3 Semiconductor Industry

In modern era digital chips are the essential element of modern electronic equipment. Chips can be found in mobile phones, computers, televisions, medical electronics, aerospace electronics, military, sophisticated cars, aircrafts, and many more low-end consumer electronics. The development processes continues to move ahead. Gordon Moore, the co-founder of Intel is well-known for his prediction on number of transistors that can be placed in a chip. Moore's law states "the numbers of transistors that can be placed on a standard processor will double every 18 to 24 months. This law remains valid today and helps to explain the tremendous pace of innovation. This also implies numbers of semiconductor components and applications are constantly growing which is assertive that semiconductor industry is experiencing a golden era. However, despite the increasing demand for chips, semiconductor industry is also facing various business model innovation challenges like other industries.

The semiconductor manufacturers use various business models which can be classified as Integrated Device Manufacturer IDM, Fabless, Licensing, Foundry and back-end processes (assembly and test, packaging). Tseng B. (2009) elaborates on most dominant business model of semiconductor companies namely Integrated Device Manufacture IDM model. IDM model was used for several years to both design and manufacture semiconductor devices. However manufacturing semiconductor chips require highly sophisticated and specialized processes, chemicals, and equipment. All of these elements put strong barriers for small and medium scale companies to manufacture semiconductor by themselves hence a novel business model was discovered to cope with this challenge. In 1990 a new semiconductor business model emerged – the fabless model. In fabless model, the companies do not own their own semiconductor companies and outsource their chip manufacturing to IDMs with extra manufacturing capacity or dedicated contract manufacturers called foundries.

In the early years the fabless companies were at first unable to catch up with technological standards but had significant cost advantage and strategic advantage as management could use their resources to improve the manufacturing quality. As a result, Fabless companies like

Xilinx¹⁹, NVIDIA²⁰, Qualcomm²¹, and Broadcom²² took the semiconductor industry by storm, growing rapidly and bringing their allies, the foundries, along with them to achieve technological parity with the leading IDMs (Tseng B., 2009).

From the semiconductor IDMs only few niche players like Intel and Samsung are still manufacturing their chips in their own foundries but rest of semiconductor companies have shifted to fabless model. The TSMC Company is the world's largest foundry (Tseng B., 2009) and it is serving top five sales leaders of fabless semiconductor companies like Qualcomm, Broadcom, AMD, Mediatek, and NVidia (Manners, 2014). At first glance, one might conclude that fabless players create value because they require less capital investment. However, we find these companies win by establishing dominance in specific applications rather than across applications (Naehar U. et al, 2011).

There are three distinct business models in the fabless space which have been successful namely innovators, fast followers, and mature-market attackers. The first innovator model is used by leading players such as Qualcomm these companies invest in continuous innovation for new applications, and constantly expand their core intellectual property components (Naehar U. et al, 2011). These companies tap unmet needs in the marketplace that come with large potential demand, and their explicit aim is to provide targeted semiconductors at the scale required to recoup R&D costs. The second model is fast follower, which is used by Broadcom Company. Unlike innovators who tap unmet needs of market based on forecasting, fast followers pick large, rapidly growing markets and quickly develop intellectual property to enter certain segments. They compete against market leaders in terms of cost, and price with a streamlined business structure. The third model, the mature-market attacker, is best illustrated by MediaTek Company. It has similarity to fast-follower but the companies using this model wait until an application area has reached certain threshold and then jump into the business. At that point, they attack the market with a simplified value-for-money product offering. This category includes companies namely Monolithic Power

¹⁹ Xilinx www.xilinx.com

²⁰ NVidia www.nvidia.com

²¹ Qualcomm www.qualcomm.com

²² Broadcom www.broadcom.com

Systems, Richtek Technology, MStar Semiconductor, and RDA Microelectronics (Nacher U. et al, 2011).

The semiconductor industry has been gone through many changes in recent decades mainly due to the consumerization²³ of technology, the rise of mobile ecosystems, and the paradigm shift from power to portability in computing and connectivity (Jung P. & Gilliland G., 2012). The changing consumer and enterprise needs have played important role in reshaping semiconductor industry. The consumer device market is putting great challenge to semiconductor sector by shifting from improving speed and processing power to reducing power consumption. The ability of semiconductor companies to meet such demands and manufacturing for a fragmenting universe of products and devices that often have shorter product life cycles are among main challenges. The customers of semiconductor industry are main drivers behind different business models used in this sector. The product time to market is very important constraint in this industry, the competitor who wins to enters first in the market gains more benefit by serving customers. In order to be the first in the market, companies often chose different business model for their immature products by reducing the features at first stage and later offer product with full features.

Semiconductor companies are not solo players to create value from its own products or services for its customers. These companies are embedded in a business ecosystem comprised of suppliers, customers and complementors²⁴ such as providers of complementary products (Kapoor R., 2010). Each of these ecosystem firms exerts an important influence on the ability of the semiconductor company to create value from its products and technologies. Many companies acknowledging this interdependence are pursuing collaborative innovation models in which value is created not only within the

²³ Consumerization is the specific impact that consumer-originated technologies can have on enterprises. It reflects how enterprises will be affected by, and can take advantage of, new technologies and models that originate and develop in the consumer space, rather than in the enterprise IT sector. Consumerization is not a strategy or something to be “adopted.” Consumerization can be embraced and it must be dealt with, but it cannot be stopped.

<http://www.gartner.com/it-glossary/consumerization>

²⁴ Complementors (made famous by Professor Cummings of Loyola University Maryland) are businesses that directly sell a product (or products) or service (or services) that complement the product or service of another company by adding value to mutual customers; for example, [Intel](#) and [Microsoft \(Pentium\)](#)processors and [Windows](#), or Microsoft and [McAfee](#) (Microsoft Windows & McAfee anti-virus).

<http://en.wikipedia.org/wiki/Complementors>

company but at collaborative interface between the company and its diverse partners. However, the success of such collaborative innovation models is often constrained by the technological and organizational challenges that companies face due to increasing complexity, greater competition and the quickening pace of change.

In 2010 Wharton-GSA Semiconductor Ecosystem Survey was conducted to provide a systematic analysis of the nature of challenges and opportunities faced by fabless semiconductor companies within their ecosystem. First, the patterns of collaboration between semiconductor companies and key partners in their ecosystem are discussed in survey report. These partners include foundry and assembly and test (A/T) suppliers, original equipment manufacturing (OEM) customers, and providers of complementary products. This would allow semiconductor companies to benchmark their collaborative innovation models and take steps to maximize the value that they can derive from their ecosystem. Second, it is emphasized that the success of developing and commercializing innovation is shaped not only through collaboration with external partners but also through collaboration between internal functional groups which link the company's internal activities with those of its upstream and downstream partners. The findings from the survey provide a comprehensive account of the patterns of cross-functional interaction that exist between the marketing, engineering and supply chain management functions within a semiconductor company.

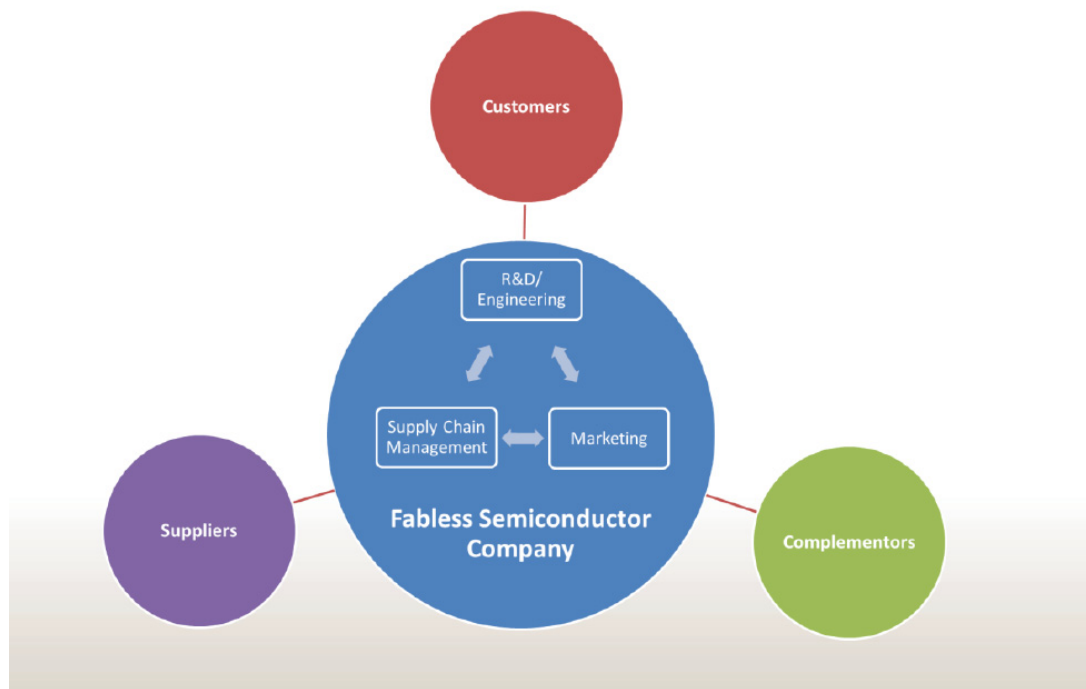


Figure 4-1: Fabless semiconductor company and its ecosystem (Source (Kapoor R., 2010, pg.2))

Kapoor R. (2010) describes the key findings of survey based on responses received from senior engineering, marketing and supply chain executives from 37 publically-listed and 25 private fabless semiconductor companies. Product Differentiation, IP Reuse, Source of IP, and Time-to-market are the main value drivers within the fabless companies. The collaboration with external partners including suppliers, customers, and complementors are very important to achieve the value proposition. A vast majority of semiconductor companies identified other semiconductor companies as their complementors. Complementors also included companies developing application software, programming software and operating systems.

The collaboration with these partners consists of various activities which are listed below.

- Extensively sharing information on existing production, future technology development and capacity expansion.
- Involvement in activities to reduce cost reduction and technology road mapping.

- Customers of semiconductor companies share information on volume projections and product development status but less on overall business strategies.
- Semiconductor companies seem on average to be most involved in their customer's cost reduction and long-term technology road mapping activities and less involved in short-term activities
- Customer relationships that are characterized by a high degree of semiconductor company involvement in customers' activities are also characterized by a high degree of information sharing by customers.
- Semiconductor companies extensively share information on specific market applications and technology roadmaps with their complementors. They also interact through joint product development and customizing products to complementors. Companies report less interaction through standard setting and licensing, and least through making investments in their complementors.

The greatest benefits from working with complementors include improvement in the performance of products followed by increasing sales to existing customers. The new emerging technology platforms like cloud computing are used as business model innovation enablers. More information on cloud computing can be found in appendix C.

4.4 Aviation Industry

Not only do most entities within the aviation industry require huge upfront investments, it is also a volatile industry, one that can dramatically be affected by concurrent events. However, some incumbents within the industry have carefully crafted business models around their products and services to maximize value capturing. Here we cite three examples: partial ownership, no-frills airlines and jet engines.

Like many other industries, aviation industry operates in a competitive and dynamic environment. Due to intense competition among few of giant airlines companies, the new business models are continuously evolving which potentially might change the landscape of the air transport business. Many big airline companies are using innovative business models

such as dual brand strategy, one full service and second a low cost model in the same airline group. Competition has gone so intense that many other players from aviation industry have started to offer similar kind of services at almost similar prices. This situation has magnified the importance of business model innovation more than ever.

The new entrant threat to incumbent firms is present in aviation industry just like other industries. Emerging players are very active to target the unmet demands in the market and enter into the game with very unique and novel business models. The new entrants are mostly targeting low cost segment of the business which is actual demand of the customers. Firms use low fair strategy to offer cheap travel tickets, also known as no-frills model. Whereas traditional airlines offer extensive meals, entertainment options, luxurious seats, and other facilities at higher ticket price. The acceptance of low price model is evident from the fact that in European airline industry the low cost airlines have almost ten percent of European market. According to Jubak (2004) during last eight years low-cost airlines have grown at 38 percent per year. Incumbent airlines like British Airways, Lufthansa, and KLM are forced to lower their fares.

The realization that a significant segment of customers want cheap, reliable direct flights with adequate customer service brought up the “no-frills” business model. Though customers only pay for what they need, unlike traditional airlines, customers have to pay for luggage, leg space, meals on board, seat selection, etc. Southwest airlines, Ryan air and EasyJet among other airlines became highly successful with this model (Teece, 2010). The one question arises here why then incumbent have not appropriately target the low fair segment of the market. The answer to this question is not straight forward as there are various challenges including organizational inertia. The organizational inertia points to the fact when management of an organizational is not flexible to adopt and invest into new business models. As pointed in proposed theoretical framework, incumbent are often reluctant to adopt new business model due to their commitment with current business model. On the other hand new entrants could expand without the need to consider effects on existing business model as they start with brand new business model. In fact new entrants benefit from the fact that incumbents have great concern of cannibalizing their investment.

An incumbent firm like Lufthansa has introduced a low-cost business model in parallel to its full service model. Lufthansa set up an autonomous entity called GermanWings to extract value from low-cost segment of aviation industry and so far it proved successful. However, there are few examples of incumbents who failed to succeed in low-cost initiatives such as British Airways with its GoFly and KLM with its Buzz. Certainly, there are different aspects to consider when we observe different results from similar strategy like organizational structure and level of independence from parent organization among others.

Like many other industries, in aviation industry customers are at center stage and their satisfaction is one of the best studied areas in marketing. “Customer is always right” highlights a high priority and the importance of customer satisfaction (Fecikova, 2004). Despite a great leap ahead in last decade by improving customer relationship, reducing costs, and increasing profit margins still rules of game keep changing in aviation industry. That is mainly due to competing incumbents, entry of new competitors, and overall tense emerging markets. Customers are becoming more knowledgeable than ever before due to emergence of various internet resources which enable them to compare prices of online offers, get access to more vendors, and ultimately can choose for service quality worth for price offered. To cope with all these new challenges airline industry has made big strides to develop a common framework to integrate different technological advances to achieve a game changing way. The more recent developments in the fields of networking, mobile communication are now converging to engender the new concept called connected airline (Kletzel J. et al, 2013).

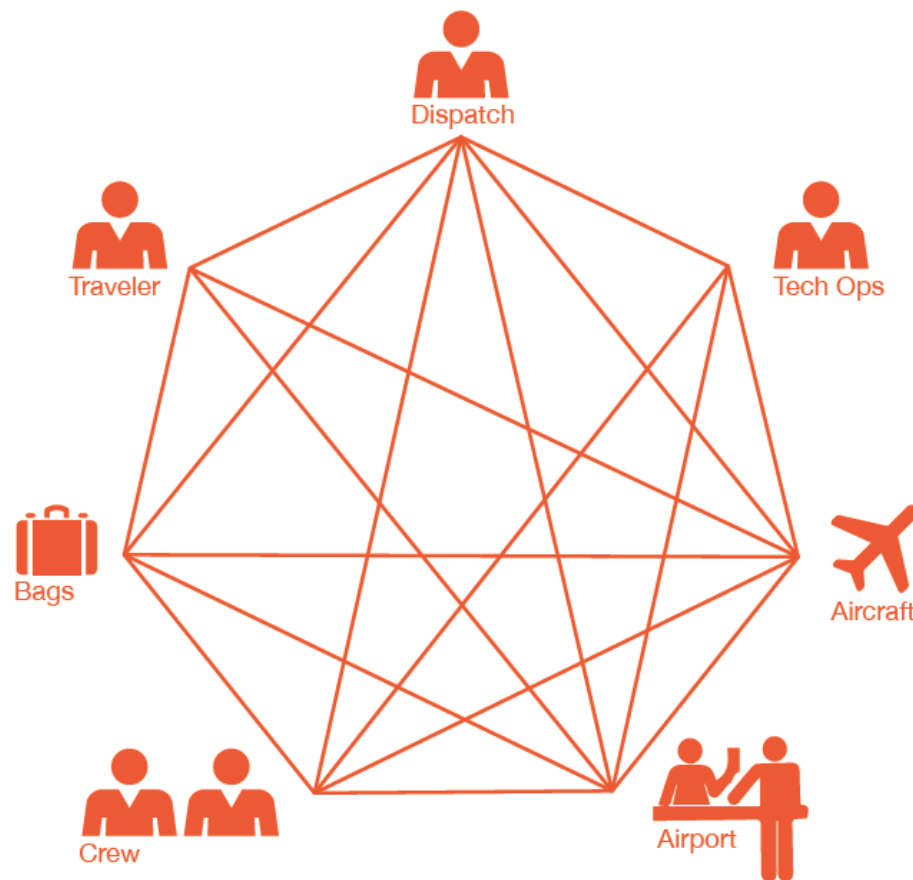


Figure 4-2: Connected Airline Approach to Stakeholders and Information Management
(Source (Kletzel J. et al, 2013, pg.9))

As shown in connected airline approach each major stakeholder can access and manage data independently and prioritize investment, doing so relevant information flow to relevant places at right time can significantly help airline business to improve its results. For example air and land operational coordination to optimally utilize airport assets, prediction and preparation for maintenance event, by taking holistic approach management (crew, network, fleet, passenger's data and inputs), airlines can accelerate decision-making to minimize the disruption to customers and the operation.

Opportunity of innovation exists at every juncture of system which innovator can easily identify and exploit it efficiently. Here is a very interesting example of business model

innovation from private aviation industry. NetJets ²⁵Inc. offers fractional jet ownership as alternative to buying multimillion-dollar plane. It was the first private business jet charter and aircraft management company in the world. NetJets sells part ownership or shares (called fractional ownership) in aircraft; this gives the fractional owner a share in the use of the aircraft. NetJets Company uses an innovative business model to provide access to private jets, to its individuals and corporations which were previously not affordable.

The NetJets fleet is placed second in commercial airlines. The owners are given access to aircrafts from 50-400 hours annually depending on the amount of shares in the company. The ownership program of NetJets is very flexible and customizable in terms of flight hours and type of aircraft. The owner gets the access to entire fleet. For a particular trip, any other type of aircraft in NetJets fleet can be chosen when your own aircraft does not suit you for that trip. Moreover, an aircraft's availability notice can be received with as little as 4 to 6 hours so shareholders can travel on their own terms. There is no stress on fly schedule and more options of airports are available. Finally, fractional ownership is same like full ownership from a tax and legal standpoint which implies buying NetJets Share offers you all the financial benefits of a capital investment. The payment structure includes onetime acquisition fee, monthly management fee and occupied hourly fee.

Rolls-Royce Holdings which manufactures jet engines uses an interesting business model; they realized that their operations always go through extreme highs and lows. Times of high demand and times where there is none add to that the jet engines normally live on for many years. Rolls-Royce prices their engines at low prices but with a lifelong charge for services and maintenance as long as the engines is operating. This way they managed to extract a continuous value stream. This business model actually follows the classic blade-razor model (also named consumables model, Bait & Hook or lock-in model). First applied in razors by Gillette and have been applied to many other industries. Razors are priced inexpensively only to be completed with rather highly priced consumable blades, that explains why Gillette have patented each and every part of the blade to avoid any sort of product imitation.

²⁵ NetJets is the world leader in private aviation founded in 1986, with a portfolio of services that includes fractional ownership, jet cards, aircraft management and charter. www.netjets.com

4.5 Pharma and Diagnostics Industry

Pharmaceutical firms spend heaps of money on developing new drugs and usually have the right to exclusively market them for a certain number of years, after that it is open to others to replicate generically. Not to mention the huge investment needed to operate labs and testing drugs. Bringing the problems of disappearing cash cows with high fixed operating costs, to solve this; big firms first started to focus on certain ailments or blockbuster drugs, and second decided to rent out their idle facilities and labs to smaller non-competing drug companies. This way less-studied or rare-occurring disease gets a chance to be researched via a patent pool. Patent pool combines intellectual property from different rights holders and consecutively is not blocked by a single rights-holder (Osterwalder, Pigneur and Smith, 2010).

The business model innovation across industries is increasingly utilizing the technology but still plenty of innovation in healthcare is happening by delivering price differentiated services to low-income customers in developing countries. Sometime customers are not able to pay as much as others for the same product or service. Many companies realize this situation and subsidize those who can't afford to pay by charging others higher prices. Airline industry has utilized this model for years by selling different class air tickets. A similar case is found in health industry.

Narayana Hrudayalaya²⁶ hospitals has innovated its business model to bring medical care to masses. It has shaped pricing model that is focused to subsidize the cost of high quality treatment of poor patients by the cost of treatment of rich patients. This chain consists of 14 hospitals located in India. Other hospitals in India and other developing nations have their business model that focus on the treatment of rich people, while the poor won't be able to afford. Additional to that, the telemedicine practice, in which surgeons on Skype extends to 100 facilities throughout India and more than 50 in Africa (Salter C., 2012). The hospital system was designed to service the poor from start who pay discounted prices for services

²⁶ Narayana Hrudayalaya. Narayana Health, headquartered in Bengaluru is one of India's largest and world's most economical healthcare service provider. <http://www.narayanahealth.org>

like surgery. The company also saves its costs through directly purchasing from suppliers and cutting out middlemen.

In healthcare sectors, firms are pursuing the initiative of bringing new value to healthcare system opposed to focusing on cost savings in the past (LexisNexis, 2014). In different countries around the world, government is prioritizing the increase of the effectiveness of their health systems. Earlier primary focus of healthcare system was to contain the cost to population health. The traditional business model 'Pharma1.0' focused on pricing and regulatory challenges is now under tremendous pressure. More collaboration, innovation, diversification, and globalization are main driving forces behind business transformations along 'Pharma2.0' (ibid). Pharmaceutical firms are still in the process of making business model transitions to Pharma2.0 and further changes in ecosystem of healthcare system, sustainable value proposition, and health outcomes demand even further business models to focus on health outcomes. These health outcomes are majorly based on information technology which enables digitizing health data, electronic health records and other associated platforms are enhanced, secured, and cost efficient.

We have discussed the changing dynamics and priorities of pharmaceutical firms in previous section which demand for the new business models. The referenced report contains information from executive's interviews which were conducted to find out main challenges to adopt new business models. The company's management thinks their current business model is working and delivering high margin and solid growth in its current configuration and expected to do so. However, companies are ignoring the fact of the changing ecosystem, evolving business environment, and appearance of new technologies.

Some pharmaceutical firms are facing challenges to find efficient and effective way of managing processes, while maintaining control of manufacturing activities and their supply chains. To combat these challenges, pharmaceutical firms have started to modify their business models in order to develop a network of different companies along their value creation chain. The main goal of such business model changes is to rectify the effects of mergers and acquisition across pharmaceutical and biotechnological industry which had made many plants redundant.

In a case study Capo F. et al (2014) have analyzed four Italian firms which were active at different stages of the pharmaceutical supply chain which had established a network in order to foster the competitiveness and to facilitate economic and technological development. This network was formally known as 'Pharma Innovazione'²⁷, aimed to adequately respond to the evolution that the market has experienced. These challenges were the need to share resources, tangible and intangible, to put together the knowledge and heritage of the key assets to constitute a partnership able to meet the growing needs of the demand, the saturation of the supply, as well as the cracks that the crisis has opened up (Capo F. et al, 2014). These collaborating companies network was aiming to increase competitiveness of the participating firms and contribute to make positive economic impact on the entire region which would create addition value for the open system partnership or open innovation. The network model enables firms to compete at global level, relying on partners that are not part of national context, the network Pharma Innovazione allows its firms seizing opportunities and overcoming challenges together. The case study clearly emphasizes on the need of collaboration within industry in order to offer solutions to unmet medical needs. Further it argues that continuous innovation is solution to different crisis surrounding pharmaceutical industry which can be built with a little help from their network partners.

Arlington S. & Davies N. (2013) conducted a survey to examine how leading companies are making innovation work for their organizations. According to the report, various approaches to manage innovation are being applied across a wide range of industries. Open innovation stood out as the innovation process that executives felt was most likely to drive growth. Collaboration with external partners on licensing agreements, investing in a start-up exploring new therapeutic ideas or working together with others in the healthcare ecosystem, partnering will be absolutely essential. Around 96% of pharma executives say their companies have plans to collaborate with strategic partners over the next three years. Almost a third of pharma correspondents 29% say their innovative products and services are co-created with external partners, more than the overall average across industry (Arlington S. & Davies N., 2013). According to pharma executives 22% of their products and services are created by involving their customers. It clearly shows that customers are at core of the

²⁷ Italian word means Pharma Innovation

pharmaceutical industry innovation process. Report further suggests that pharma companies need to make sure that they also pay to fostering innovation in areas like business models, products, customer experience and supply chain.

4.6 Luxury Goods Industry

Many personal luxury-goods companies²⁸ changed their business models to keep up with the technological changes that are disrupting the “business as usual”. Since technology is narrowing the distances between designers and consumers. Instagram, Pinterest, YouTube, WeChat had completely changed the way companies communicate with their consumers. For instance, many brands became retailers in their own right, giving those better margins and a better presentation of their goods.

An interesting example is from the fashion industry. Big names in fashion are losing ground for many reasons one might be that in Europe for example young people they are becoming less keen on owning and more keen on experiencing things. Add to that by 2026 the main consumers of luxury brands will be millennials or generation Y (The Economist, 2014). Few brands started to win this age group including Burberry (the British luxury fashion house as it changed its business model and was one of the first to spot millennials potential. It altered the way it dealt with ordinary customers by expanding its online stores and giving them some individual attention that they used to bestow only upon the biggest-spending ones. For instance, Burberry released a perfume in which customers could inscribe their initials both in shops and online. And it pays off! Revenues are steadily on the rise. Moreover they transformed internally as well, having two thirds of the staff under 30 and they almost exclusively use social media to communicate internally as well as externally with customers.

4.7 Retail Industry

Big chains in retail & grocery business are either pulling out of markets or unsuccessfully trying to conquer new ones. Carrefour the French retail chain had to pull out of 19 markets

²⁸ Luxury-goods market amounted for \$1.1 trillion in 2014 (The Economist, 2014).

in the last 20 years, Wal-Mart abandoned a couple of markets and Tesco of Britain spent billions of dollars in vain trying to enter the American market and abandoned the whole plan in 2013 (The Economist, 2015). While other retail chains, such as Aldi and Lidl are becoming success stories as they continue to expand internationally with the help of a new approach in their business model, fostering them as deep-discount chains. The two names mostly offer their own brands and almost no premium priced products. They both continue to eat up market share especially across Europe²⁹ while retaining a strong position in their home country Germany with over 25% combined market share. Incumbents in the business such as the ones mentioned above are fighting back with selling non-food items and heavily investing in internet sales channels.

One reason for their success is attributed to the fact that both are extremely picky when investing abroad, seeking markets where returns on groceries are significantly higher than the global average and they don't enter countries where corruption is widespread. Second both are family owned companies with no need to impress external investors. Hence they grow slowly and steadily. Third, both are stretching their business models by adding upmarket products not usually found in discount groceries. That in part helps to retain customers gained post the 2008 slump.

4.8 Mass Media

The quantity and variety of mass media production nowadays is enormous with the emergence of on-demand streaming and per view, it is getting harder for giant networks to survive and retain their own customers. Cable-TV viewing as a whole has significantly fallen and continues to, a quick look on the average daily audience now and in 2010 shows that it has fallen 30% (The Economist, 2015). Cable-TV network giants such as Viacom³⁰ and CBS shares' have fallen by 21% and 4% respectively in the last year alone. All due to technology and shifting customer trends, Viacom for instance cater to younger viewers, who are less

²⁹ Aldi plans to increase its stores in Britain from 600 to 1000 by 2022.

³⁰ Viacom the cable-TV giant, that owns networks such as MTV, VH1, Nickelodeon, Comedy Central as well as Paramount film studio.

keen on watching television and more attracted to online streaming of video clips on smartphones and the like. Unlike the previous generations, they are also repelled by sitting through endless repeats of TV shows and worn out ad-filled programs.

Apart from subscription fees, advertisements are one of the main revenue streams for networks like these. The model goes as follows: Networks promise advertisers that their ads would reach a certain number of viewers, if that didn't happen then they have to rerun commercials at no extra cost, losing airtime and risking viewers to reach for the remote control in the process. Viacom for instance increased ads in primetime by 5% quite a big increase compared to other networks.

On the other hand new entrants to the pay-tv market which may soon include Apple and some of the incumbents such as HBO are shaping their business models around customer trends and are beginning to offer light bundles of channels instead of charging subscribers a fortune for a number of channels they rarely have the time to watch. The customer then can select a cheaper customizable set of channels or shows and if that becomes the norm, giant networks must then struggle to have their channels included otherwise they are doomed to fail.

4.9 Personal Services

Law firms have been operating for long using the same business model. As they insist on working with the "billable hour" the business model in which lawyers are paid by the hour regardless of the outcomes. Moreover they don't tend to use any of the recent technologies out there in their business. Clients started to use alternative methods by sending basic legal work to offshore processing centers and avoid being charged with senior lawyer rates for work done by juniors.

But another incumbent entered the business. The four accounting networks known as the big four (Deloitte, KPMG, PWC and Ernest & Young) whose combine annual revenue of \$120 billion exceeds the \$89 billion generated by the 100 largest law firms combined (The Economist, 2015).

During the last decade the big four have been building their own legal services divisions, growing in size that surpassed most legal firms. PWC's for instance is the 10th biggest globally. And all four are ranked in the top 40 by now. However their business model doesn't focus on the big deals and law-suits that law firms hunt, or tax litigation for fear that they might sue potential clients neither do they focus on the beefy capital markets transactions or mergers and acquisitions deals. But rather on serving mid-tier oriented work. They saw it as an opportunity to expand their business using their expertise in issues that complement their original accounting work and issues such as expatriates tax work, labor, human resources consulting, compliance, commercial contracts and due diligence etc. Most of the law firms have been slow, without some creative destruction they will be the more vulnerable losing customer and eventually go out of business.

4.10 Summary

Data sources from semi-structured and group interviews on one hand along with the other cases showed some similarities and differences that incumbents face regardless of which industry they belong to. We tried to diversify the cases as time permitted, choosing only incumbents within well-established industries including the following sectors: Automotive, Semiconductor, Aviation, Logistics, Pharma and Diagnostics, Chemicals, Luxury Goods, Mass Media, Retail and Personal Services industries. We selected only relevant and recent cases from organizations regarding each industry, showing that even in mature industries were businesses always go "as usual" simple ideas can disrupt.

An interesting fact that most incumbents hold on to their old business models while being aware there is a need for finding other means to capture value. Incumbents prefer to come up with disruptions from within using foresighting with customers as real indicators. The common challenges faced by incumbent firms include the organization's dominant logic, changing customer trends, new entrant threats, changing business dynamics, and commitment to their previous investments almost all cases demonstrate this fact. Some industries indicated high sensitivity to changes which are in most cases attributed to shifting customer tastes as in the cases of Luxury Goods and Mass Media as it is indicated on their

balance sheets; those industries tend to be more agile and highly adaptive to changes than other covered industries. Aviation, Pharma and Diagnostics and Automotive generally demonstrate sensitivity to the customers' economic situation whereas Semiconductor industry considers the customers' current requirements. Incumbents also sought to extend their offerings to untapped customer segments as with Aviation, Automotive, Semiconductor, Pharma and Diagnostics, Personal Services and Luxury Goods using different business models than the existing ones.

Other incumbents had to change internally to cope with a new business model. DHL formed its own innovation center, while Burberry changed the dominant age group of employees to have communication with customers while carmakers had to spin-off their cars-haring businesses. Incumbents also realized that cutting middlemen and distributors is a way to increase growth and capture more value managing new business models in the process.

From the above cases there seem to be a pattern before innovating a new business model:

1. Incumbents should know what they want to achieve and where they stand, determine strategy for a projected number of years before thinking of any new business models
2. Foresighting, trend spotting and filtering is an excellent way to figure out where to go and how to invest
3. Disruptive innovations whether in technology or service always brings a need to rethink the current business model and is a main drive for innovation in business models.
4. Disruptive innovations goes hand in hand with business model innovation for instance as the workshop showed, many firms prefer to come up with disruptions from within rather than wait for an imminent attack from competitors or new comers.
5. Open innovation when bringing up a new service or technology to the market is very rewarding, it's a win-win for incumbents and partners alike as they both learn from the process of attaining the best suitable business model and eventually become market leaders.

6. Experimenting is a proven way to test business models
7. Strategic alliances have enabled firms across many industries to gain strong competitive advantages which are difficult to acquire alone.

We tried not to be pedantic and to achieve a balance between theories presented in literature and practical information from organizations' representatives and current news. As it turned out there is a gap between both, as those challenges collected from literature are still valid for firms, there are other challenges that the authors feel that are underrepresented. For instance allocating resources to internal disruptive innovation and convincing top and middle management of a new business model for a new disruptive innovation is considered a major challenge by many incumbents.

As the cases showed, it is not necessary to come with a completely novel business model, in fact many incumbents within some industries used already tried business models but with a twist or a tweak. Those models in all cases were not alien to the organizations which used them; each and every one held traits from their respective parent organization.

5 Analysis

In this thesis, the focus is to understand the main business model innovation challenges faced by incumbent firms from different established industries. We aimed to propose a framework which can be used to mitigate business model innovation challenges and facilitate an organization's width of offerings. After an extensive review of the business model innovation concept through various scientific literature resources, we have uncovered a range of business model innovation challenges faced by incumbent firms across different industries. In our empirical findings, we have identified various challenges which are situational and vary from an industry to another. The main emphasis was to highlight those challenges which can be generalized across different mature industries and appropriate some solutions to overcome these issues are also suggested. We have observed a widespread interest in the topics of business models and business model innovation existing among our studied cases but the way some organizations approach business model innovation is not systematic and appropriate.

The companies that are actively involved in business model innovation practices face different issues to successfully make the transition from current to new business models. The primary challenges identified in our research are related to organization, customer and leadership domains. The incumbents are usually involved with huge scale investments in current and future pipelined projects but contemporary changing industry dynamics jeopardize the original management plans. As a result, incumbents find themselves in a paralyzed position where reaping benefits from new arising opportunities becomes hard. As Chandy and Tellis (1998) pointed it out, organizations fear involvement into new business models would potentially render existing investment obsolete. On the other hand, new entrants are very quick to respond to emerging business opportunities and they can eventually rise to market dominance (Hill and Rothaermel, 2003). The new entrants do not have the same level of commitments to any business model like incumbents firms do which save them substantial costs associated with business model transition. We would summarize various business model innovation challenges faced by incumbent firms in the following section and then analyze empirical findings from each industry.

In our literature review we have observed researchers from business field place strong emphasis on business model innovation compared to any other type of innovation. Chesbrough (2007) describes, a superior business model will beat any idea or technology that implies to sustain competitive advantage business model innovation is essential approach in current year.

As Tseng B. (2009) has described one of the most dominant business models of semiconductor industries known as Integrated Device Manufacturer IDM model which was used for several years in the past. This business model included different semiconductor manufacturing processes which were offered by a single Firm. The process costs to manufacture semiconductor devices are very large, therefore small companies cannot afford to have their own production facilities. Now, there exist fabless business model which encourages fabless small firms to enter into the market and forces incumbents to think out the box. In aviation industry, NetJets Inc. offers fractional ownership as alternative to buying multimillion-dollar planes. This involves no product or technological innovation in it just innovative business idea. Customers receive flying hours depending on their share size and get access to various aircrafts of NetJet Company. The big value proposition for customers lies in flexibility to travel on their own terms.

The business criteria in pharma industry are also changing very quickly. The firms are pursuing for new initiatives to improve effectiveness of the healthcare system. In pharma and diagnostic industry, a superior business model is observed that enables treatment of patients using telemedicine practices in which surgeons on Skype extends to 100 facilities throughout India and more than 50 in Africa (Salter C., 2012). Another interesting business model in pharma industry makes use of idle facilities and labs to smaller non-competing drug companies. This business model is quite similar to one that studied from semiconductor industry that enable smaller fabless semiconductor firms to make use of manufacturing services of third party firms. Narayana Hrudayalaya hospital has created new business model to bring medical care to masses. The pricing model subsidizes the cost of high quality treatment to poor patients by charging different treatment cost to rich patients.

5.1 Challenges of BMI for Incumbent Firms

Osterwalder (2010) mentioned that enterprises or startups venture for business model innovation from different starting points and for different objectives either to:

1. Satisfy an existing market need
2. Bring new product, technology or service to the market
3. Improve, disrupt or transform an existing market with a better business model
4. Create an entirely new market

By nature there is less freedom for well-established industries to come with new business models compared to startups. However business model innovation usually reflects the firm's existing model and organizational structure. Motivation for new ones usually spring from:

1. A crisis with the existing business model
2. Adjusting, improving or defending the existing model in order to adapt to a changing environment
3. Bringing new technologies, products or services to the market
4. Preparing for the future by exploring, experimenting and testing new business models that might replace existing ones

Creating a new model in incumbent organizations is not an easy task because the new model may challenge or compete with the existing one. The new model might require a new organizational culture or it might look into an untapped customer segment. Integration or separation is particularly relevant to those firms when applying new business models. In some situations it is best for firms to integrate new models within the organization while in others it is more beneficial to spin them off giving them total autonomy. In both cases firms want the new model to thrive and it depends on whether there is a conflict between the new and existing models and the degree of its severity or whether an actual strategic similarity between both exists. Finally, the degree of risk in case the new model negatively affects the established one in terms of brand image, reputation, earning, legal liabilities etc. must be considered.

5.2 Cases Analysis

The theory propositions are analyzed for the empirical data collected via firsthand accounts, literature and contemporary sources. These propositions mainly address major challenges in business model innovation faced by incumbents at mature industries as well as success routes to overcome those challenges.

The cases examined conformed to the fact that spending on disruptive innovations internally within an organization brings valuable gains. Not only through value capturing and being ahead of competition, it most importantly facilitates the creation of suitable business models as the new product or service is incubated, nurtured and then launched.

An interesting observation as Teece (2010) mentioned is that the competition in part is shifting from product innovation to business model innovation. As it requires way less upfront investments in an incumbent industry such automotive, this way OEMs are achieving growth via offering new services (Amit and Zott, 2012).

For example, DSM managed to foster a culture of innovation throughout the whole organization by constantly allocating resources to it. In the long run innovation culture helped to gain profits and a considerable reputation of foothold in innovation globally. The commitment to seek and spend on disruptive innovation even in hard times is a success factor as DHL and DSM examples show.

Proposition 1: *Business models are not strategies, but rather a depiction of them.*

An organization must have a clear strategy and the business model(s) created must be aligned with this strategy. It is important to know where the organization stands and to have a comprehensible vision. DHL for example vows to deliver services taking advantage of existing technologies and not to invent new ones.

Data collected shows clearly that business models are not a strategy on their own but firms can use several business models to achieve certain strategies and play with the tactics (Casadesus-Masanell and Ricart, 2010) as shown by the three different Audi models.

For instance in semiconductor industry, the long-standing business model IDM has been taken over by very innovative fabless business model (Tseng B., 2009). The fabless business model depicts the strategy that is aimed to cope with organizational challenges driven by changing consumer and enterprise needs, processing speed, and power improvement. Three distinct business model strategies namely innovators, fast followers, and mature-market attackers have been successfully used in fabless space. In aviation industry, new entrants have first entered into the low-cost business segment that prompted incumbent firms later on to change their business strategy. The strategy itself is driven by no-drill business model. The alignment of business model and strategy is a vital aspect to consider for organizations.

The findings from empirical data conform to the theory claims about aligning business model to the organization's strategy in order to decide for appropriate value capturing tactics. The organizations should be proactive to identify changes in their business environment and be ready to come up with new business idea.

Proposition 2: Open innovation brings out the most suitable business model, strategic alliances are inevitable.

Seeking out partners and other parties maximize value capturing and is recommended to come up with the most appropriate business model. Almost all our cases demonstrate this fact, as all parties involved benefit from the learning process, especially when it comes to experimenting a new product or service and later bringing it to the market. For instance DHL, publishes all its new areas of innovation attracting partners both from business and academia, growing with their partners and eventually become market leaders.

The rhetoric behind the open innovation approach is that it is of better benefit in building networks than on keeping those brilliant ideas kept internally within an organization, besides it gives leverage as to be the first one to be using a certain technology and formulating a suitable business model for a new business area before anyone else. Meanwhile one must keep an eye on what the competitors are doing.

The value creation in semiconductor industry depends on how critically companies are embedded in web of relationships with actors in their business ecosystem. These actors

include customer, suppliers, and providers of complementary products. Many semiconductor companies are pursuing collaborative innovation models not only internally within different organization units but also with external partners (Kapoor R., 2010). However, there are still some companies working at arms-length and not benefiting from synergies that exist in a collaborative ecosystem. The players involved in such collaborative ecosystem are presented in figure 4-1. Kapoor R. (2010) describes the key findings from survey prove that collaboration with external partners is vital.

In pharma industry, many companies use open innovation to foster the competitiveness and facilitate economic and technological development. The 'Pharma Innovazione' term refers to network of different companies along the supply chain to collaboratively face the evolving market challenges. Companies must consider open innovation option to deliver new value added products and competencies which no firm possesses in-house (LexisNexis, 2014). The other option is to make alliance with external partners with well-defined collaboration goals, flexibility to quickly respond to emerging challenges and opportunities. The life science industry is already good at traditional research and development collaborative approach with peers or biotech. Almost 96% of pharma executives say their companies have plans to collaborate with strategic partners over the next three years. However collaboration boundaries need to be extended with non-traditional players from different industries such as technology, insurance, internet services, food and retail, may require assimilating a host of difference in operations and cultures (LexisNexis, 2014).

The aviation industry case shows firms can optimize and utilize its own resources at first hand to face market challenges before looking for external strategic partners. The connected airline approach is a salient example of Amit & Zott (2012) suggestion that emphasize to make partnership with external partners only after utilizing internal resources. The connected airline network depicted in figure 4-2 describes how different functional entities can be combined to optimize the overall business process to achieve strong competitive advantage and gain strong market share.

The proposition is partially accepted as our empirical findings include several open innovation business models and strategic alliance examples from different industries. However, currently its scalability within and across industries is very limited.

Proposition 3: Foresighting, trends spotting and market analysis then experimentation are the right steps for Business Model Innovation.

Foresight and scenario formulation as mentioned is very helpful, gathering trends from various sources and making partnerships in both academia and business is a recipe for success. For example, workshops in extreme scenarios and far-fetched unfavorable situations are gaining ground within incumbents as apparent by PSA and ING, to be prepared in order not to be taken by surprise from competitors or any kind of event.

Research and experimentation teaches a lot as many new hypes or technological frenzies might not be as threatening as they first seem to be. All it takes is some research and experimentation to know its worthiness and the best method to capture value. In the process new business areas are created and the most suitable business model could be reached. To ensure that, the correct metrics are required to measure progress and a clear picture of what to be achieved must be envisioned. For instance, monitoring human behavior when a product or service is offered helps a lot in perfecting the business model for this product or service, as Itami and Nisino (2010) puts it learning from the process is priceless for firms even at an extra cost.

Chesbrough (2010) asserted on the experimentation, effectuation and the right organizational leadership before venturing in a new business model innovation, that is apparent from the interview data collected. As Volvo Cars for instance are currently doing so to test new services and formulating the right business model in the process.

The organizations should conduct a thorough and exhaustive market analysis to gather relevant data in order to anticipate the possible outcome of new business models. In empirical data from semiconductor industry the collaboration trends are prominent, cross functional interaction exists between marketing teams, engineering departments, customers, and suppliers to exchange important strategic information on changing business dynamics.

In Advantest case, customer like Broadcom and NVIDIA are involved to define product specification sheet who brings in out of the box ideas on development of those features that would be need of the market.

As result, the research accepts the proposed proposition, as the findings confirm that firms follow the necessary steps to bring up new business models which most of the time are applied to small scale entities and then scaled up as suggested by Chesbrough (2010).

Proposition 4: *Separating Innovation centers from the parent organization.*

Taking out the entity responsible for innovating new business areas outside the organization and giving it a high degree of autonomy helps a lot. As literature and other sources suggest an organization's dominant logic can act as a big prison for new ideas and so comes the necessity of creating an environment where everything is possible. Meanwhile great care must be taken to involve those at the top management and stakeholders in general with the new business areas and not making them alien to those new innovations. Those centers exist nowadays in many organizations and their value chain usually ends at the concept phase after that it's delivered to the relevant business division.

Hill and Rothaermel (2003) mentioned that previous commitments to existing models are a major challenge for incumbent firms as the interviews demonstrates that incumbents such as Volvo Cars are aware of this problem and they strive to be flexible in facing changes to produce strong competent business models (Opsahl and George, 2010).

Another remarkable challenge is that it takes time and effort to know which business model is the best to implement and the existing logic may hinder new innovation from springing up (Chesbrough, 2010). Firms cannot shy away from risks, as Volvo Group demonstrates they do invite risks, create supply and demand but beforehand understanding competition is crucial. Whatever business model they came up with it must be part of the strategy.

Airline industry is facing several challenges with ever changing dynamics of the competitive markets. In order to stay in the competition and sustain competitive advantage for longer time, the innovative business models are inevitable. The connected airline concept is getting it's foosts in airline industry and making routes for open innovation initiatives. Using connected airline concept, virtual network of strategy aligned partners are established and pioneering product solutions including seating, entertainment, and ground services are developed. This connected airline concept can hugely facilitate innovation process by taking

holistic approach management. However, there are concerns several airlines might not be able to afford the costs incurred and time consumed to implement the complete framework as few companies lack in data analytics, business process redesign, and change management.

Chesbrough (2010) suggests experimenting new business models using separate business entity at small scale first and then bring gradual improvements to business models from their experimental projects is the way to go. This way risk of new business model's failure is minimized and learning are utilized to scale up the investments.

This proposition is backed by empirical findings several firms create separate business units to try out new business model however important part is to know when that unit should be integrated or separated out from parent firm.

Proposition 5: Solving customers' needs should be the priority of any business model, involve them in business model innovation process.

As Writz, Schikle and Ullrich (2010) mentioned to always put customers at the heart of any new business model innovation, since they are the source of improvement and greatly help firms understand technological changes and not doing that misses out on opportunities and eventually lose market share as our cases showed.

Being in close contact with customers brings the best understanding of their trends and needs. As the empirical data demonstrates big OEMs at a mature industry such as automotive followed suit and understood that car sharing schemes are gaining ground due to the ongoing massive urbanization and customers are becoming more cost and environmentally aware. They also realized that they need to reach out for customers directly as noticed that in all the services offered they cut middlemen and distribution channels. Although the business models for those schemes are easily imitable which is a major source of business model advantage according to Amit and Zott (2012), factors such as the brand reputation, awareness, ease of use, and customer loyalty will play an important role for the customer choice.

Luxury brands are facing the problem of changing in customer trends as customers and new generations are turning away from well-known brands that have been around for decades. In

turns they are losing ground for newer ones. The main challenge here is that those brands have been using their business models for many years only the change in customer trends pushed them away from their comfort zones. As Writz, Schikle and Ullrich (2010) suggests putting the customers at the core and seek to know what they want acts as source of improving an old business model and even to engender a new one. That what Burberry did by having a closer relation with customers via social media to act fast, gain trends insights firsthand and make customizable products.

Teece (2010) also mentioned that a new business model has to be appropriate for the firm's culture and strategy. Burberry for instance went as far as to change how their organization is structured, relying primarily on young employees shortening the distance to their targeted customers of the same age group.

Many luxury brands nowadays had to develop their own distribution networks to be in direct contact to their customer and cutout middlemen and retailers, gaining advantage by having both the business system, the profit model and learning in the process (Itami and Nisino, 2010). The same concept is applied by taking bigger control of the supply chain. In retail business for instance Aldi and Lidl have control of a huge part of their supply chains coupled with the do-it-yourself approach to gain efficiency in the long run offering solutions to their customers' needs (ibid).

Although the previous approach is not novel but it has been proven that competition is shifting from product innovation to business model innovation (Teece, 2010), that what those incumbents did and keep on doing to retain customers. For example, Aldi and Lidl are continuously expanding their width of offering to retain customers gained post the 2008 crisis with that they demonstrate knowledge of both customer needs and competitors shortcomings.

Customers are at the core of any business, which is not different in airlines industry. In order to successfully pursue business model innovation, customer's inputs are essential to its success. As von Hippel (1998), Wirtz, Schilke, and Ulrich (2010) propose, to have a sustainable business model involve customers in the innovation process. The Airline industry has taken various initiatives to build their value proposition around customers. The

partial ownership business model in aviation is quite new model that provide alternative to buying multi-million jets. NetJet Company has identified the need of individuals and corporations customers who could not afford to own private Jets but could afford to buy shares. Customers receive flying hours depending on their share size and get access to various aircrafts of NetJet Company. The big value proposition for customers lies in flexibility to travel on their own terms.

Further airlines are utilizing loyalty programs as the “front door to the airline” and offer special technology-enabled experience to their frequent flyers. Further e-ticketing is a great leap towards improving customer experience, now a day passengers do not need to keep their tickets with them while boarding. Customers are facilitated with mobile technologies to stay connected while traveling to provide best flight experience.

In Pharma and Diagnostic industry, customers are again at the core of the business model. Narayana Hrudayalaya hospital has created new business model to bring medical care to masses. The pricing model subsidizes the cost of high quality treatment for poor patients by charging different treatment cost to rich patients. Another superior business model exist that enables treatment of patients using telemedicine practices in which surgeons on Skype extends to 100 facilities throughout India and more than 50 in Africa (Salter C., 2012).

Involving customers into the innovation process and try to make strategic alliance with it ecosystem partners. Wirtz, Schilke and Ullrich (2010) pointed out that the wave of web 2.0 brought drastic changes to competitiveness how business models are designed and how value is created and captured. They suggest firms looking to have a sustainable business model need to put customers at the core of their strategy. Customers can be source of intuitive ideas and facilitate firms understanding on evolving technological challenges along the value chain. Ultimately involving customers in the innovation process a highly sustainable business model can be engendered. Empirical findings also back this claim, the semiconductor industry has collaboration with its ecosystem partners namely customers, suppliers, and complementors (Kapoor R., 2010) these companies extensively share information in different function areas helps in business model innovation.

Accounting on first-hand experience on involvement of ecosystem partners into innovation is evident from Advantest Company. One author works at Advantest as research and development engineer and develop digital chip design targeting field programmable gate array FPGA. Author identifies that Advantest organization is aware of open innovation concepts and actively exercises collaboration practice with external partners. In earlier phase of product definition, customer requirements, supplier's technological capabilities, EDA³¹ tool advancements, and support structure of all ecosystem partners is well analyzed and planned. FPGA device suppliers like Xilinx³² and Altera³³ are frequently invited to share their product roadmaps and offer innovative ideas on deploying their technology in Advantest's product development.

Hippel (1986) suggest the best approach to have a sustainable business model is to involve lead customers in the innovation process of company. Who are the lead customers? Urban and von Hippel (1998) have defined lead customers as following.

1. Lead customers are at forefront of defining need of a solution that will be established in market.
2. Lead customers place great value proposition on solutions to their current needs

The lead customers bring in innovative ideas while developing new product concept compared to traditional customers. It is because they already know the problem and context in which new product would be used. Lead users also gain most of the benefit from a tailored solution to their needs which clearly suggests level of their commitment toward innovation process. The lead user approach how to integrate using four phase process is well explained by von Hippel (1986) in his paper, since going into customer integration process is not focus of this thesis we would encourage interested readers to read his paper.

In Advantest case, customers like Broadcom and NVIDIA are involved to define product specification sheet who brings in out of the box ideas on development of those features that would be need of the market. Furthermore, these customers also contribute on volume

³¹ EDA Electronic Design Automation

³² Xilinx Field Programmable Gate Array FPGA vendor www.xilinx.com

³³ Altera Field Programmable Gate Array FPGA vendor www.altera.com

projection, cost reductions and road mapping activities. Once the product definition phase is over then complementor companies are involved to decide for manufacturer and component technology. The full product development phase is executed with close collaboration with different external partners. Product road map information from complementors is aligned Advantest product roadmap. The customer's value proposition is given high priority to devise different business models in various industries.

The proposition is accepted, as the findings predominantly confirmed the importance of involving customers into business model innovation process. Almost all data sources conformed to the proposed proposition. Various scholars have converged onto this point as well and placed customers at the center stage of business model innovation in any business.

Proposition 6: *When it comes to business model innovation leadership is not just a role.*

It is crucial to manage new innovation projects correctly and not to make one person responsible for a certain project, as it becomes impossible to detach later on even if the whole thing proved to be a failure. Our firsthand accounts attested to this fact as apparent in Volvo Group as they prioritize the choice of leadership personalities' not just roles to foster the innovation culture and business model innovation, reflecting what literature mentioned on the importance of leadership in business model innovation. That approach is also shown by evidence from various representatives such as DHL, DSM and Volvo Cars.

There is a slightly stronger opinion on leadership role in fostering business model innovation culture. Alex Osterwalder recommends, in order to foster innovation, companies have to change their model and introduce new roles into its management personnel. The CEO – Chief Executive Officer: Person in charge of running business models that work effectively. The CCE – Chief Corporate Entrepreneur: This person is in charge of inventing new business models in order to keep the company competitive. The CIA: Chief Internal Ambassador: Alex originally called this the corporate concierge, but someone from the audience suggested CIA as a cooler, better name. The CIA helps the entrepreneurs with access to the corporate resources (Otterloo, 2013). According to Alex Osterwalder by defining these three new roles in organization two major problems can be solved. First, it

provides career path based on innovation and entrepreneurship which implies people do not need to be managers to progress. Second, it helps to facilitate startup teams inside large organization through organizational resources.

An issue that was outspoken by several interviewees and was not addressed properly in literature is that it is not as easy as it sounds to convince top management of a new approach in business models, even if the innovation looks very promising. A way to mitigate that is to involve them as early as possible and to have a ready convincing plan. That needs special personality not just a “role”, one that are able to convince, paint the whole picture to decision makers and make it understandable. In order to discover new business model, a suitable leadership and a cross-functional team from different business units throughout the organization can be very vital (Kletzel J. et al, 2013).

In semiconductor industry, the innovation oriented leadership play important role to encourage organization culture that promote out of box think approach. The leadership seeks innovative leaders within the workforce not just rely on only one leader from the management. As Shipton et al. (2005) argue to prosper and grow the organizations must develop individuals that have self-leadership skills and networks that enable individuals to create, transfer, and institutionalize innovative knowledge. Advantest organization has its mantra “Innovation at the cutting edge” which reflects the leadership’s vision.

This proposition has to be partially accepted as acceptance of leadership role across the industries varies and it is hard to generalize this theoretical proposition for all industries.

Proposition 7: *In business model innovation there is no “best practices”.*

All our firsthand accounts and interviews conform to this fact. A business model is only successful at a certain time, in a certain place, at a certain organization. That is best practices or company logic would only work provided that nothing changes around which is hardly the case. The notion that incumbents’ old business models and prior investment can act as a prison is not new and is seen in many sectors specially within big retail chains, luxury brands,

cable TV, automotive and others. As Hill and Rothaermel (2003) mentioned it as a major challenge for incumbents to switch to other business model.

Teece (2010) mentioned that a business model in order to succeed need to have superior technology or at least follow the contemporary ones, which is totally absent from how law firms are operating, leaving a room for innovative disruption by the big four as the case from personal services show. The big four have been approaching this area cautiously for years improving their business models along the way until they reached a point that their legal arm gained considerable market share. Moreover, they are making it more convenient to their clients such as bundling non-competing services together as Osterwalder (2010) suggested forming a “one-stop shop” service in which legal work is bundled together with consulting and tax filling for instance.

As the mass media case demonstrates, the way incumbents used to capture and offer value to customers is becoming outdated. The once expensive technologies such as smart phones and personal computers are being commoditized at very fast pace (Chesbrough, 2007) making incumbents unable to keep up or even restructure their old business model blocks. Cable-TV networks for instance are too committed to their current business model making it a matter of time to their subsequent failure or divestments as figures from The Economist (2015) display. Their current logic of capturing value hinders the ability to extract and gain untapped value from a new business model (Hill and Rothaermel, 2003).

In semiconductor industry, some of business model innovation challenge comes from short product life cycles and the rapid growth of consumer device market. The Jung P. and Gilliland G. (2012) have summarized these challenges, which include meeting the need for accelerated speed to market, and fulfill the requirements of purpose-built devices. Firms try their best to reach the target market with solution as soon as possible which inherently brings many challenges to management. One of the main challenges for incumbent firms is to decide when to adopt new business model and when to stop with old business model.

There is no recipe for leadership which can guide them to make smooth business model transition from old to new model. The new business models need a new organizational culture and decision whether to implement it within organization or in autonomous entity.

The risk of any potential conflict between new and existing business model has to be mitigated and company's reputation and brand image has to be taken into account.

The Advantest Company with its subsidiaries around the world is managing dual business models quite successfully for years. The management has quite successfully overcome intercultural and management challenges. The Verigy organizational culture and Advantest organization culture were very different from each other but Advantest management made smooth integration of organizational processes and multicultural workforce. Business innovation literature identifies the managerial skills to overcome such challenges as competitive advantage for the organizations. No doubt Advantest have clear competitive advantage and hold the leading position in Semiconductor Test Solution market. It is worth noting that despite missing best practices, competitive leadership can still successfully make business model innovation.

The findings show there are no recipes to follow in order to make a successful business model innovation that implies the proposition holds. There are many different ways how firms can gain values either through optimizing their existing business processes or just selling ordinary technology using new business idea. Whatever approach is used, firms should ensure that the competitors should not be able to imitate their business model hence should be difficult to copy.

5.3 Factors of Business Model Success

To design a successful business model creativity, insight, knowledge, intelligence information regarding customers, competitors, and suppliers is required. Experimentation as advised by Teece (2010) is often required to test models demanding first to come up with temporary model to be tested against the current one. In terms of the product/service usage, how will customers be enticed to pay, the target segment, do other competitive offerings exist, has a dominant design emerge yet, how the product will be presented as a solution to customer needs and what will it cost to deliver value and is it volume sensitive?

It is also noted that uncertainties and disappointments are often common, but success rates can be improved if the business model designers learn and adjust their models with a deep understanding of customers' needs within range of capturing more value. In short, firms can select a business environment or be selected by it, but with innovations in business model they can shape it and become market leaders by designing the dominant model for the industry. The fact that many technological innovations failed commercially because little attention were given to designing an appropriate business model to take the product to the market serves as a good example.

Another issue is Sustainability: As discussed earlier business model is concerned with the benefit the enterprise delivers to customers, how it will organize to do so and how it will capture a portion of the value that it delivers. Since elements of business models are rather transparent making it prone to imitation by others. A once successful business model brought to market by an enterprise could possibly be shared by multiple competitors. To illustrate, Dell used its superior technology to offer its products directly to customers bypassing normal middlemen and distribution channels. Wal-Mart also started opening good sized stores in small town which gave them the advantage of the first-mover. Google used its own state-of-the-art software developers to come up with a search algorithm based on internet site rankings. Offering better search results on one hand and allowing advertisers to post their links while indicating so with a strict policy of no pop-ups or biased search for any advertiser.

Examples also for failed business models exist. Discover and American Express Cards had a conflicting business models in which they acted as banks and issuers of cards, they found it hard to convince banks to issue cards for them while remaining a competitor, while Visa and MasterCard are the preferred partners since they only issue cards and don't compete in the banking business. These examples illustrate that business model choices define the architecture of the business and expansion paths to come.

To summarize a sustainable business model requires:

1. Market segmentation.
2. Value proposition for each segment.
3. Mechanism to capture value.
4. Create isolating mechanisms to block imitation by competitors.
5. Finally it requires a strategic analysis filter.

It's unlikely for a particular business model to hold a patent perhaps its description could be copyrighted. However there are several factors that could guarantee its success. For instance, business model requires assets, systems, processes that should be hard to replicate. Moreover outsiders must not know how the business model is actually implemented. But in some cases incumbents within an industry are uncertain and afraid of adopting a new business model that might cannibalize existing sales or disturb important business relationships, that is not valid for newcomers which are unconstrained by those factors.

6 Conclusions and Implications

6.1 Limitations

The research shows limitations as it deals with a limited sample of respondents due to time constraint. The case samples were selected from diverse industries that again restricted us from digging into more detailed information from individual case industry. Same applies in direct observations case the desired level of depth could not be achieved due to time and other thesis writing process restrictions.

The fundamental assumptions and propositions regarding business model innovation challenges and mitigations proposals have been gathered from various resources including academic literature that can somewhat be regarded as outdated due to its publishing date. On the other hand, business model cases from the real-world can also become irrelevant rather quickly mainly due to the rapid change in nowadays business dynamics. Add to that, factors shaping customers and markets that are constantly evolving due to technological and socio-economic advances. However, to ensure validity of this research we have used recent literature and contemporary business model examples.

6.2 Further Research

Various researches have already been conducted on business model innovation challenges of incumbent firms from established industries, only a few researchers have focused on the identification of common business model innovation challenges of incumbent firms from different industries, as well as on the possible strategies to overcome such challenges. As this thesis is based on diverse cases and esoteric information, this exploratory work lends to further research.

It is suggested that follow-up research to deepen the findings by focusing more specifically on differences in the underlying industries' structure and strategy, homogeneity and size of brand portfolio, years of business and geographic positions. The future research should also consider the business model innovation challenges for new entrant firms from comparable industries to reveal any hidden rationale behind the firm's sophistication level. Additionally

future research can concentrate on helping firms and leadership to overcome organizational structure rigidities and become more innovative to engender novel business models even under prosperous economic conditions.

6.3 Conclusion

We have reviewed a large number of research papers, articles, surveys, case studies, and other online resources in the field of business to investigate various business model innovation challenges faced by incumbent firms from different industrial sectors. These challenges were captured in theoretical framework to further guide our empirical findings and our analysis. We have proposed a framework to suggest how incumbent firms can mitigate business model innovation challenges and successfully implement new business models. We believe our proposed framework is based on academic background and has been illustrated through real-life business model examples and first-hand experiences. The business model innovation topic is not yet an established field of research but it has strong potential to become a dominant topic particularly when linked to organization strategy, we feel our thesis is a small and important contribution in furthering the understanding of the concept and its applicability.

Literature did show interesting examples when it comes to business model creation, but due to the fact that it is a fast changing world sources from industry must also be sought. Data collected from the our firsthand accounts conformed to theory to a large extent, however there were a couple of issues when it comes to business model innovation that were asserted by a number of firms and were not well pronounced in literature. Many examples have shown that organizations must try out new things and invite risks to see the worthiness of a new innovation especially when it comes to business model creation. The fact that many traditional businesses failed not because they did something wrong but because they stood their doing nothing at all losing market share and revenues along the way. Altering an existing business model or innovating one makes the organization ahead of the game.

The organizations often fail to adopt new business models due to their commitment with current successful business model, management often neglect the changes happening in their

business environment, evolving technologies and changing customer needs. In some cases the accumulated wisdom over the years and internal organizational filters hinder business model innovation. The firms going for business model change face difficulty to decide for separation or integration strategy for experimenting new business model. Then incumbents face challenge with transition from old to new business model.

We have learned through literature and empirical resources, in order to make a successful business model innovation, organization can use open innovation, experimentation, trend spotting, to keep customers at the core of the business, form alliance with other partners and perform market effectuation. All these are crucial for the success of a business model. The state of the art technology platforms like cloud computing are enabling business model innovation in various industries like automotive, semiconductor, aviation, and pharma. The business alliances with partners are staging the organizations well ahead of competition and firms can then acquire a highly sustainable competitive advantage. We have observed firms from different industries that have already started to involve customers, suppliers, and other value-chain partners into its internal innovation process. This way each firm within the value-chain gain the benefit from novel approach to fulfill customer needs. In order to sustain market leadership, business models should be complicated and difficult to imitate in order to achieve strong position in the business.

Our study has investigated mostly for business model innovation challenges from well established firms from different industries which provide solid evidence on challenges and business model innovation success factors. However, the business models are highly situational and vary from industry to industry; the findings of this study are limited to incumbent industries and cannot be generalized for all industries. More research into the business model innovations of new entrants firms from other industries can make our findings abstract.

6.4 Implications

First it's worth noting that we selected Osterwalder, Pigneur and Smith (2010) definition of business models since it is the most understandable, comprehensible and easiest to adapt within incumbent firms' thinking rhetoric.

Firms must know where they stand and first select the technologies to be embedded in the new product or service, segments and markets targeted, value capturing and streams. In short, firms should fill out the business model canvas proposed by Osterwalder, Pigneur and Smith (2010).

The one of important business model innovation challenges faced by incumbent companies is to make the decision to adopt new business model. The business literature does not provide clear directions on suitable criteria to make business model change. In such circumstances, the role of organization's leadership becomes very vital to make business model transition from old to new business model and foster innovation within organization. The incumbent organizations must create the right environment for entrepreneurs and innovators to promote innovation. The evaluation system for mainstream employees and innovators should be different.

Business models are neither financial model nor do they have a strict scientific approach but rather a conceptual one. With this in mind, innovation in business model are situational every firm has its own rhetoric and decision making procedures. For instance, it is the business model created that have to adapt to the parent company not the other way around. Same thing goes for considering business models as an organizational model, which is not correct.

The incumbents have strong organizational filters which they build through accumulated Know-How over years which have strong influence on management to take certain actions and strategies. Moreover, many incumbent organizations face difficulty to adopt new business models due to their commitment with existing models and to due to the risk of making existing investment obsolete. Managers on the other hand often doesn't know what

the right business model is to implement due to presence of strong firm's logic or the usual way of doing things only via commitment and experimentation it will come.

The new entrants are very active to new opportunities whereas incumbents are passive in their approach. The incumbents have specified routines to carry out repetitive tasks which give big leverage from proved business models. However, incumbents can benefit from attained knowledge of their business processes over many years and from extra resources which can be utilized to harness novel business model. The business model can be used as a sustainable competitive advantage even for a period of time, as researchers suggest, a new business model could be understandable but should be difficult to duplicate.

A firm's strategy should not be confused with its chosen business model. Business model is a direct result of strategy but not a strategy per se. In fact a firm's strategy could withhold several business models to capture value from. However many startups were first based on a novel idea of a business model, but that shouldn't be permanent. As time passes and new technologies emerge a certain business model could be obsolete as many examples had shown.

For a successful business model innovation, organizations should conduct a thorough and exhaustive market analysis to gather relevant data. It is difficult to project the success of any business model hence enacting the market becomes essential to reveal relevant data.

To prosper and grow organizations must develop individuals that have self-leadership skills and networks that enable individuals to create, transfer, and institutionalize innovative knowledge. The organizations must build a workforce that consists of self-leaders who are able to refine, further develop, and implement novel ideas. Companies where only leaders are seen as the innovators will have a difficult time to sustain innovation for longer time.

Companies can use dual business model approach in order to overcome new entrant threats. However, to maintain dual business models within same organization calls for particular management skills to deal with inherent challenges. The managerial skills to overcome such challenges are seen as competitive advantage for the organizations.

Good business models needs to be appropriate for the firm's culture and environment, correctly implemented and refined during the time of its operation. It also needs superior technology, competent people and good leadership.

Organizations can create new entities in order to try out new business models without the risk of affecting their current business model. A new business unit can be formed inside or outside of parent organization to experiment new business model and later on that business unit can be merged in or out. Many researchers claim that integration approach is successful than separation but some argue that instead of deciding on integration or separation, we should ask the question when to separate and when to integrate back to parent organization.

Finally, the thesis doesn't suggest for organizations to change their current business model completely in order to survive but rather tweak, trim and fine tune their current business models while developing new ones in order to extend their width of offerings. Creating business models is more of an art than science and the indications for a failed business model are rather easy to notice and yet costly. Then again business models are just a part of the organization; having a perfect one doesn't necessary mean the organization will be successful unless all the other organizational aspects are properly addressed.

7 References

- A. C. Crombie, *Designed in the mind: western visions of science, nature and humankind*, History of Science 26, 1e12 (1988); and I. Hacking, 'Style' for historians and philosophers, Studies in the History and Philosophy of Science 23(1), 1e20 (1992).
- Arlington S. & Davies N., 2013. pwc. [Online], Available at: http://www.pwc.com/en_GX/gx/pharma-life-sciences/assets/pwc-managing-innovation-pharma.pdf, [Accessed 24 April 2015]
- Altringer, Beth, 2013. HBR. [Online] Available at: <https://hbr.org/2013/11/a-new-model-for-innovation-in-big-companies/> [Accessed 24 February 2015].
- Amit, R. & Zott, C., 2010. *Business Model Design: An Activity System Perspective*. Long Range Planning, Volume 43, pp. 216-226.
- Amit, R. and Zott, C., 2012. *Creating Value Through Business Model Innovation*. MIT Sloan Management Review, Spring 2012, pp.41-49.
- Baden-Fuller, C. & S.Morgan, M., 2010. *Business Models as Models*. Long Range Planning, Volume 43, pp. 156-171.
- Barnett, W.P. and Burgelman, R.A. (1996) *Evolutionary perspectives on strategy*. Strategic Management Journal 17, 5–19.
- Bergeka, A., Berggren C., Magnusson T., and Hobday M. (2013): *Technological discontinuities and the challenges for incumbent firms: Destruction, disruption, or creative accumulation*. Elsevier, 42(6), 1210-1224.
- Bock, A., Opsahl, T., and George, G. 2010. *Business model innovations and strategic flexibility: A study of the effects of informal and formal organization*. Working paper Imperial College.
- Beene, R., 2015. Audi tests 2 car-sharing concepts in U.S. *Automotive News*. [online] Available at: <<http://www.autonews.com/article/20150427/RETAIL01/304279966/audi-tests-2-car-sharing-concepts-in-u.s.>> [Accessed 01 May 2015].
- Berman S., Kesterson-Townes L., Marshall A., & Srivathsa R., 2012. *The Power of Cloud: Driving Business Model Innovation*. IBM Global Business Services
- Bryman, A., & Bell, E. 2007. *Business Research methods*. Oxford: Oxford University Press.
- Bryman, A. (2008). *Social research method*, Oxford, UK: Oxford University Press
- Casadesus-Masanell, R., and Ricart, J., 2010. *From Strategy to Business Models and onto Tactics*. Long Range Planning, 43, pp.195-215.

- Capo F., Brunetta F., & Boccardeli P., 2014. *Innovative Business Models in the Pharmaceutical Industry: A Case on Exploiting Value Networks to Stay Competitive*. INTECH. DOI: 10.5772/59155
- Chesbrough, H., 2007. *Business model innovation: It's not just about technology anymore*.
- Chesbrough H., 2010. *Business Model Innovation: Opportunities and Barriers*. Long Range Planning, 43, pp.354-363.
- Chandy, R.K. and Tellis, G.J. (2000) *The incumbent's curse? Incumbency, size, and radical product innovation*. Journal of Marketing 64, 1–17.
- Chandy, R.K. and Tellis, G.J. (1998) *Organizing for radical product innovation: The overlooked role of the willingness to cannibalize*. Journal of Marketing Research 35, 474–487.
- Clinton, Lindsay, 2014. *GreenBiz*. [online] Available at:
<http://www.greenbiz.com/blog/2014/03/07/promise-and-challenge-business-model-innovation>[Accessed 03 March 2015].
- Charitou, C. D., and Markides. C. C. (2003): *Responses to Disruptive Strategic Innovation*. In: MIT Sloan Management Review, 44, 55-63.
- Cuervo-Cazurra, A. 2007. *Sequence of value adding activities in the multinationalization of developing country firms*. Journal of International Management, 13(3), 258-277.
- David Green, 2015. *Challenges for business model innovation at Volvo Car Corporation*. Interviewed by Ahmad Salama [direct] Volvo Car Corporation Head Quarters, Gothenburg, Sweden 20 May 2015.
- Dryden. C., 2015. *Car2go car-sharing service to suspend South Bay operations*. Daily Breeze. [online] <<http://www.dailybreeze.com/business/20150504/car2go-car-sharing-service-to-suspend-south-bay-operations>> [Accessed 18 May 2015].
- ebay.com (2015) *Ebay*, [Online], Available: <<http://www.ebay.com>>/[Accessed 20 Feb 2015]
- Eisenhardt, K.M. 1989. *Building Theories from Case Study Research*. The Academy of Management Review, Vol. 14, No. 4, Oct. 1989, 532-550. Engineering Management, Vol. 57 No. 1, pp. 51-62.
- Fecikova, I., 2004. *An Index Method for Measurement of Customers Satisfaction*. TQM Mag. 16 (1), pp.57-66.
- Foster, R. (1986) *Innovation: The Attacker's Advantage*. New York, Summit.
- Gilbert, C. G. (2005): *Unbundling the Structure of Inertia: Resource vs. Routine Rigidity*. In: Academy of Management Journal, 48, 741-763.
- Gambardella, A. & McGahan, A., 2010. *Business-Model Innovation: General Purpose Technologies and their Implications for Industry Structure*. Long Range Planning, Volume 43, pp. 262-271.

- George, G. & Bock, A.J. 2011. *The business model in practice and its implications for entrepreneurship research*. Entrepreneurship Theory & Practice, Vol. 35 No. 1, pp. 83-111.
- Hannan, M.T. and Freeman, J. (1984) *Structural inertia and organizational change*. American Sociological Review 49, 149–164.
- Henderson, R.M. and Clark, K.B. (1990) *Architectural innovation: The reconfiguration of existing product technologies and the failure of established firms*. Administrative Science Quarterly 35, 9–30.
- Heffernan, G.M. (2003) *Path dependence, behavioral rules, and the role of entrepreneurship in economic change: The case of the automobile industry*. Review of Austrian Economics 16, 45.
- Hill, C.W.L. and Rothaermel, F.T. (2003): *The performance of incumbent firms in the face of radical technological innovation*. Academy of Management Review 28, 257–274.
- Hoberman, S., 2008. *Ontology and Taxonomy*. DM Review, 18(5), pp. 8-8.
- Hunter, S. T., & Cushenbery, L. (2011). *Leading for innovation: Direct and indirect influences*. Journal for Advances in Developing Human Resources, 13(3), 248-265. doi: 10.1177/1523422311424263
- Itami, H., and Nishino, K., 2010. *Killing Two Birds with One Stone Profit for Now and Learning for the Future*. Long Range Planning, 43, pp.364-369
- J.Williamson, P., 2010. *Cost Innovation: Preparing for a 'Value-for-Money' Revolution*. Long Range Planning, Volume 43, pp. 343-353.
- Jubak, J. (2004). The Next Wave of Airline Bankruptcies. Available at: <http://moneycentral.msn.com/content/P87285.asp>. [Accessed 22 April 2015]
- K.Smith, W., Binns, A. & L.Tushman, M., 2010. *Complex Business Models: Managing Strategies Paradoxes Simultaneously*. Long Range Planning, Volume 43, pp. 448-461.
- Kapoor R., 2010. GSA.[online]. Available at: <http://www.gsaglobal.org/gsa-resources/reports/collaborative-innovation-in-the-global-semiconductor-industry>. [Accessed 24 April 2015]
- Kletzel J., Wysong R., & T. Stillman A., 2013. pwc.[online]. Available at: http://www.pwc.com/en_US/us/industrial-products/publications/assets/pwc-tailwinds-the-connected-airline.pdf. [Accessed 20 April 2015]
- L. Friedrich, T. et al., 2010. *Leading for Innovation*. International Studies of Management & Organization, 40(2), pp. 6-29.
- L.Doiz, Y. & Kosonen, M., 2010. *Embedding Strategic Agility: A Leadership Agenda for Accelerating Business Model Renewal*. Long Range Planning, Volume 43, pp. 370-382.

LexisNexis, 2014. *Rethinking the Future: New Business models for Pharma* [online], Available at: <http://asq.org/qualitynews/qnt/execute/displaySetup?newsID=18711>, [Accessed 29 April 2015]

Lulu.com (2015) Self Publish a Book, [online], Available: <http://www.lulu.com/publish/books/> [20 Feb 2015]

Leonard-Barton, D. (1992) *Core capabilities and core rigidities: A paradox in managing new product development*. Strategic Management Journal 13(Summer special issue), 111–125.

Manners David, 2014. *Electronics Weekly*. [online] Available at: <http://www.electronicsweekly.com/news/business/fabless-companies-grew-8-2013-says-ic-insights-2014-05/> [Accessed 23 March 2015].

McGrath, G. R., 2010. *Business Models: A Discovery Driven Approach*. Long Range Planning, Volume 43, pp. 247-261.

NetJets, 2015. *NetJets*. [Online] Available at: <https://www.netjets.com/> [Accessed 04 March 2015].

Neuendorf, K. 2002. *The content analysis guidebook*. London: Sage Publications Ltd. New York: McGraw-Hill.

Nike, 2013. *Strategy Innovation in the Offense* [online], Available at: <http://www.nikebiz.com/crreport/content/strategy/2-1-4-a-new-model-and-shift-to-sustainable-business-and-innovation.php> [Accessed 29 April 2015]

Osterwalder, A., Pigneur, Y. and Clark, T., 2010. *Business Model Generation*. [e-book] John Wiley Sons. Available at: Business Model Generation < <http://businessmodelgeneration.com> > [Accessed 20 January 2015]

Otterloo, Siewert Van, 2013. *Business Modelsinc*. [Online] Available at: <http://www.businessmodelsinc.com/new-roles-for-innovation-inside-large-organizations/> [Accessed 24 February 2015].

Prahalad, C.K. & Stuart H., 2002. *The Fortune at the Bottom of the Pyramid*. Strategy and business, Issue 26.

Prahalad, C. K. 2010. *The Fortune at the Bottom of the Pyramid*. 5th edition. New Jersey: Pearson Education, Wharton School Publishing.

Roland, 2013. *Business Modelsinc*. [Online] Available at: <http://www.businessmodelsinc.com/new-business-models-in-the-car-industry/> [Accessed 24 February 2015].

Robson, C., (1993). *Real World Research: A Resource for Social Scientists and Practitioner-Researchers*, 2nd ed, Blackwell publications.

- Schwandt , A. T. (2007). *The Sage Dictionary of Qualitative Inquiry*, 3rd edition, Sage Publications
- Sebastian Percival, 2015. *Challenges for business model innovation at Volvo Car Corporation*. Interviewed by Ahmad Salama [direct] Volvo Car Corporation Head Quarters, Gothenburg, Sweden 29 April 2015.
- Shipton, H., Fay, D., West, M., Patterson, M., & Birdi, K. (2005). *Managing people to promote innovation*. *Journal of Creativity and Innovation Management*, 14(2), 118-128.
- Sosna, M., Trevinyo-Rodriguez, R. N. & Velamuri, S., 2010. *Business Model Innovation through Trial-and-Error Learning: The Naturehouse Case*. *Long Range Planning*, Volume 43, pp. 383-407.
- Spotify (2015), *Get Spotify*, [Online], Available: <<http://www.spotify.com/no/getspotify/overview/>> [Accessed 20 Feb 2015]
- Staehler P., 2009. *Business Model Innovation* [online], Available at: <http://blog.business-model-innovation.com/2009/06/change-unlearning-and-the-business-model> [Accessed 29 April 2015]
- Teece, D.J., Pisano, G. and Shuen, A. (1997) *Dynamic capabilities and strategic management*. *Strategic Management Journal* 18, 509–533.
- Teece, D., 2010. *Business Models, Business Strategy and Innovation*. *Long Range Planning*, 43, pp.172-194.
- Timmers, P. (1999). *Electronic commerce: Strategies and models for Business-to-Business trading*. Chichester, U.K.: John Wiley.
- The Economist, 2014. *Special Report: Luxury Exclusively for everybody*, *The Economist*, 13 December. pp.1-12.
- The Economist, 2015. *Crowdfunding, The stars are the limit*, *The Economist*, 14 February. p.51.
- The Economist, 2015. *Schumpeter: Mammon's Manichean*, *The Economist*, 31 January. p.54.
- The Economist, 2015. *Personal Services: Attack of the baen-counters*, *The Economist*, 21 March. pp.51-52.
- The Economist, 2015. *Viacom: The Autumn of Sumner*, *The Economist*, 21 March. p.53.
- Tseng Benjamin, 2009. *Innovator's Business Model*. [Online] Available at: <<http://www.benjamint seng.com/2009/10/innovators-business-model/>> [Accessed 04 March 2015].
- Wirtz, B., Schilke, O., and Ullrich, S., 2010. *Strategic Development of Business Models Implications of the Web 2.0 for Creating Value on the Internet*. *Long Range Planning*, 43, pp.272-290.
- Yin, R. K. (1989), *Case Study Research: Design and Methods*, Revised edition, London, Sage, Newburg park, CA.
- Yin, R. K. (2003): *Case Study Research*. Thousand Oaks, CA: Sage Publications.

Yin, R.K. (2009): *Case study research: Design and methods*, *Applied social research methods series*, Band 5, 4. Edition. Los Angeles, USA, Sage Publications

Zott, C., & Amit, R. (2010). *Business model design: an activity system perspective*. *Long range planning*, 43(2) : 216-226.

Zott, C., Amit R. and Massa L., 2011. *The Business Model: Recent Development and Future Research*. *Journal of Management*, 37(4), pp.1019-1042.

8 Appendices

8.1 Appendix A – Business Model Example

The Business Model of BMW DriveNow

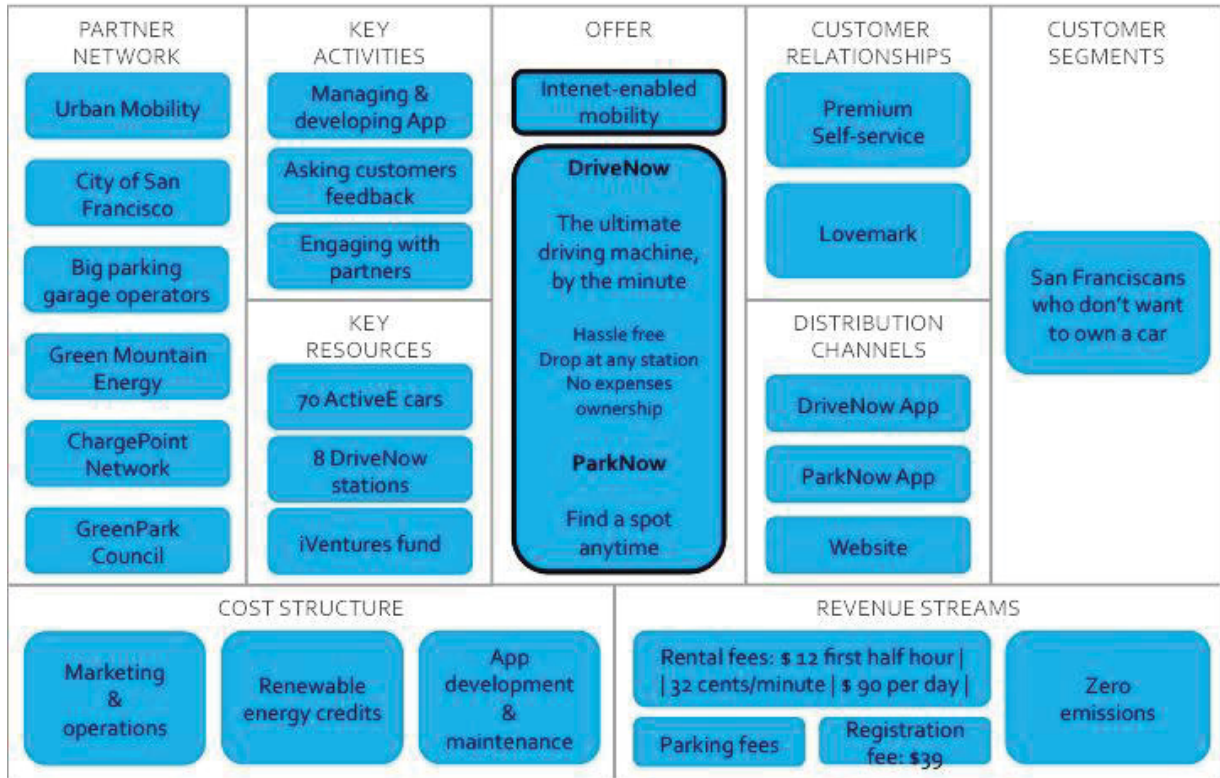


Figure 8-1: Business Model of BMW DriveNow (Source (Roland, 2013))

8.2 Appendix B – Interview Questions “Challenges in business model innovation at Volvo Car Corporation”

The following interview questions were directed on separate occasions to a Commercial Manager at Special Products and a Market Development Director at Volvo Cars Corporation. The interviews were held on the 29th of April and the 20th of May 2015 respectively at Volvo Cars Head Quarters in Gothenburg, Sweden.

1. *What business models concepts and tools are in use at your organization?*
2. *Does your company strive for business model innovation? What type of innovation is used incremental or radical?*
3. *How business model change is achieved, by using experimentation or analytically?*
4. *How the market is analyzed to gather relevant data for business model innovation?*
5. *What role leadership plays in your company to make transition from old business model to new business model?*
6. *Does your company form separate business units to experiment new business model? Which strategy is used integration or separation for new business model units?*
7. *Which organizational challenges are faced at your company to business model innovation? How your company seeks competitive advantage through business models?*

8.3 Appendix C – Cloud Computing

The term cloud computing can be traced back in history to 2006 when Amazon.com Inc introduced first time Elastic Computing Cloud. Nowadays cloud computing is considered as key elements of model ICT systems changing the original technological and architectural concepts of these systems. Cloud computing offers a novel business model which no less influential than E-Business according to Gartner Inc (a research firm). Due to popularity of internet and service oriented architecture of software has enabled virtualization, commoditization, and standardization of technologies (Stamford, 2008). These trends constitute the basis of a discontinuity that in turn engenders new business opportunities to those who offer such IT-services and customers who use these IT-services. The customers care less about the architecture of services provided rather what these services provide to them.

IT-services provided through cloud are wide ranged which include computing services to use central processing unit cycles without buying computers. Storage services offer customers or companies' possibility to use remote data storages and servers using networks without buying storage devices. Software as a service companies offer CRM service through their multitenant shared facilities so clients can manage their customers even without buying their software.

“Companies invest billions of dollars in building up their core competencies, much of which goes into IT,” Mr. Smith said. “If companies could lease their core competencies to other companies then they would capitalize on both brands, driving revenue both in the consumer-facing market and the business service market in the way that Amazon has done with technology.” *ibid.*