



An empirical study on the selection of business models using dynamic capability framework as a tool

Yawar Hussain



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An empirical study on the selection of business models using dynamic capability framework as a tool

Yawar Hussain

Student number: 4757610

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Graduation Committee:

Chair: Prof.Dr.Ir. Marijn Janssen, Section Information and Communication Technology

First Supervisor: Prof.Dr. Claudia Werker, Section Economics of Technology and Innovation

Second Supervisor: Prof.Dr.Ir. Marijn Janssen, Section Information and Communication Technology

External Supervisor: Jendrik Timm, Head of Strategy and Data Analytics, RTL Netherlands

Preface

This research report presents a detailed outlook on the application of dynamic capability framework for the selection of a business model in a changing business environment and has been written in the fulfillment of my master's degree program, Management of Technology with specialization in Information & Communication Technology at TU Delft, the Netherlands. The research has been facilitated by RTL, the Netherlands and department of Technology, Policy and Management at TU Delft. The study commenced in March 2019 by brainstorming the current challenges, businesses face in the era of rapidly changing socio-technical market ecosystem and has been a great learning experience for me amidst the hope for good results with every complexity faced.

I would like to thank my graduation committee for being supportive throughout the study and without them, the study wouldn't have been possible. Firstly, I express my gratitude to Prof. C. Werker for taking out the time to review my work regularly and sharing her knowledge on dynamic capabilities to improvise the study. Secondly, I want to thank Prof. M. Janssen who helped me structure the report in its current form and gave me inputs on improving the quality of the research. Their critical feedbacks and valuable suggestions have been indispensable for the completion of the study. I also want to extend my sincere gratitude to my external supervisor Jendrik, and my colleagues at RTL, Jacques, Joan, Joel and Rashid for always being available for help.

At last, I want to express my love for my family and friends who cheered me up whenever I was low and encouraged me throughout the duration of the study. I would like to thank Sagrika for listening to all my crazy ideas patiently, proof-reading my work on multiple occasions and for believing in me in the toughest hours. I also want to thank Kislaya, Rupesh and Shreya for their constant support and Simba for cheering me up. At last, I want to thank my friends in Delft, Caecilia, Grace and Izma for helping me reflect on my work by sharing their feedbacks. A big thanks to all of you for making this journey enjoyable.

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Yawar Hussain



Executive Summary

Truly new business models are enabled periodically by a socio-technological disruption and most of the times, firms have to select and refine the already existing models (Teece,2018) to foster growth and sustain competition. However, the selection process is challenging as there is no right or wrong business model and what works for one firm might not work for the other. The researchers in the field of strategic management advocate that the selection or design of a business model is dependent on the dynamic capabilities of a firm which is unique to it. Teece (Teece, 2018) argued that the three clusters of dynamic capability namely sensing, seizing and transforming make a framework which can be used to select or design a business model and maintain a competitive advantage. However, there exists a shortage of empirical studies that furnish granular details on selecting a business model using dynamic capability framework as a tool. Secondly, the inclusion of a value network is important for the selection of a business model (Voelpel, 2005; Afauh et. al, 2001) but the framework ignores the complexity and advantages of working in a network environment, a common trend in the present business ecosystem. Hence, with this research, we aim to generate empirical insights and details on the selection of a business model design based on the dynamic capabilities of a company, working in a network environment by answering the main research question “ Whether and how can the dynamic capabilities be used for selecting a business model?”

The research is conducted by doing a case study on a video on demand [VOD] firm in the Netherlands operating in a network environment and following a subscription business model [SVOD] similar to Netflix, a market leader in the digital media landscape which pioneered the SVOD model. The success stories of Netflix made a plethora of players to launch VOD services with a Netflix-style business model, although, not all of them succeeded and a few who did, have their growth limited to a specific market segment. With the digital market getting crowded, the VOD businesses including the firm faces the dilemma to select other VOD models such as the transactional model [TVOD], the advertisement model [AVOD] and the hybrid model in order to tap new markets and maintain a competitive advantage in the dynamic market setting. A single case study approach has enabled an in-depth analysis of the complex nature of dynamic capabilities which are unique to a firm and argued to be difficult to measure in general.

With an in-depth literature review, the author designed a conceptual framework and posed three sub-research questions to answer the main research question. The first question “How can we use the sensing capabilities to identify the business opportunities for growth?” is answered by doing a market segmentation to identify potential customer segments. An analysis of the sensing architecture enabled by the firm and its network has been done to suggest improvements in sensing mechanism (Teece, 2018; Kindstorm et. al 2013). The second question “How can we compare the prevalent business models in the industry and select one to seize the identified opportunities?” is answered by comparing the existing models in the VOD industry in terms of their potential customer segment, cost of implementation and revenue potential and selecting one which addresses the identified opportunities (Teece,2007). The third research question “How does the transforming capabilities of an organization be used to select the final components of

the business model and build competitive advantage?” is answered by analyzing each element of the selected business model to understand if it is achievable by reconfiguring the existing resource base or needs investment in building additional capabilities (Teece, 2018). To build a sustainable competitive advantage and manage threats, the structure of the organization and the managerial style have been explored (Wang et. al, 2007; Gavetti et. al, 2005).

The results of the analysis show that the first cluster of dynamic capability framework, sensing helps in selecting a business model by identifying the potential customer segment and the value proposition for each segment. However, identified opportunity must be validated, and as such, sensing is underpinned by opportunity identification through market segmentation and opportunity validation through analyzing the data on the market and competitors. It was observed that sensing does not only depend on the technical architecture for information collection as suggested by the existing framework (Teece, 2018) but also influenced by the structure of the organization and its network and therefore, to improve sensing, technological development needs to be coupled with realignment in the organizational structure. The second cluster, seizing, helps in selecting a business model with a commercialization strategy which best caters to the potential customer segment and redesigning the business model to account for all the opportunities identified. The presence of a value network is found to guide the selection process of a business model in the seizing phase, as the technological cost of implementation entailed by a particular model can be reduced if a firm in the partner network already has that technical capability. The third cluster, transforming helps in fine-tuning the selected business model by analyzing the capabilities of the firm to hone the components of the model which can be achieved with the existing resource base. It also helps in changing the managerial practices and organizational structure obstructing the ability to respond to threats and maintain a competitive advantage. It was observed that the ability to respond to threats does not only depend on organizational structure and practices but also on resource availability. Alliancing capabilities are found to support transforming capabilities as the firm can leverage the resources and capabilities of the partner network to implement a business model and adapt to changes in the market.

By reflecting on the findings of the case study, the researcher has developed a detailed framework for the selection of business models using dynamic capability as a tool for future research. The researcher further argues that dynamic capabilities co-evolve if a transition in business model has been achieved by following the dynamic capability framework. A firm exhibits competence in certain areas and arriving at a business model by reflecting on the dynamic capabilities helps in developing the lacking capabilities and creates a loop in which, new and improved capabilities, will lead to new opportunity identification and hence, a new business model. The continuous loop of business model transition with evolving capabilities is the essence of maintaining a sustainable competitive advantage and managing threats in the changing business environment.

From a practical perspective, the research would help the managers in the VOD, Music on Demand [MOD] industry who face the dilemma of choosing a web-based business model through which new markets can be proliferated and a sustained competitive advantage can be maintained. With further research, the results could also be extended to software industries, operating with similar business models.



Table of Contents

1. Introduction.....	9
1.1 General Overview	9
1.2 Problem Formulation.....	10
2. Theoretical Framework.....	13
3. Research Design.....	22
3.1 Research Approach.....	22
3.2 Research Methods	22
3.2.1 Interview as a research method	23
3.2.2 Big data analysis as a research method.....	23
3.3 Case Selection.....	24
3.4 Data Collection.....	25
3.5 Data Analysis	26
4. Results.....	29
4.1 Sensing	29
4.1.1 Demographics of Falcon users vs. the Demographics of Netherland’s population	29
4.1.2 Segment wise analysis of the Falcon users	34
4.1.3 The popularity of original contents.....	36
4.1.4 Analysis of the sensing capabilities of the organization	37
4.2 Seizing the opportunities	43
4.2.1 The SVOD, AVOD, TVOD and Hybrid model.....	43
4.2.2 Comparison between the SVOD model, AVOD model and Hybrid model.....	45
4.3 Transforming.....	52
4.3.1 Alignment of existing capabilities and investment in additional capabilities	53
4.3.2 The Organizational structure, managerial practices and flexibility for responding to the changes in the business ecosystem	54
4.3.3 Managing threats and maintaining a sustained competitive advantage.....	55
4.4 Summary of the findings	55
5. Analysis of the Results	57
5.1 Analysis of the sensing cluster for selecting a business model	57

5.1.1 Identification of market opportunities on the basis of existing technological possibilities	57
5.1.2 Analysis of the sensing architecture enabled by the company and its network of partners	59
5.2 Analysis of seizing cluster for comparing and selecting a business model	60
5.2.1 Business model to seize the identified opportunity and maintain a sustained competitive advantage.....	61
5.3 Analysis of transforming capabilities for selecting a business model and building a competitive advantage.....	63
5.3.1 Reconfiguration of existing capabilities and investment in additional capabilities to implement the business model	64
5.3.2 Realigning organizational structure and practices	67
5.3.3 Managing threats and maintaining a sustained competitive advantage.....	67
5.4 Empirical insights on the process of selecting a business model using dynamic capability as a tool.....	70
6. Discussion and Conclusion.....	73
6.1 Theoretical contribution of the study	73
6.2 Practical contribution of the study	75
6.3 Conclusion	76
6.4 Limitations of the research	79
6.5 Recommendations to the firm	79
6.6 Suggestions for Future Research	80
7. References.....	82
Appendix I: Interview questions for the analysis of sensing capabilities	87
Appendix II: Interview questions for the analysis of transforming capabilities	90
Appendix III: Grouping of variables for K-mean clustering.....	93
Appendix IV: Segment wise analysis of the users.....	94

List of Figures

Figure 1. 1 : Interaction between dynamic capabilities and business model design, selection, refinement (Teece, 2018).....	9
Figure 2. 1 Development of dynamic capability framework and its extension to the concept of business models.	16
Figure 2. 2: Schema for sensing in the process of business model selection	17
Figure 2. 3: Schema for seizing for comparing and selecting a business model.....	19
Figure 2. 4: Schema for transforming for selecting a business model	20
Figure 2. 5: Simplified schema of business model selection using dynamic capabilities.	21
Figure 3. 1: Research Framework.....	27
Figure 4. 1: Age wise distribution of the Falcon user base in comparison to the population of the Netherlands as per CBS (Central Bureau of Statistics, Netherlands)	30
Figure 4. 2: Age wise distribution of the Netflix user base in comparison to the population of the United States (Data Source: Business of Apps, 2019).....	30
Figure 4. 3: Penetration of Falcon in the population of the Netherlands with varying levels of education.	31
Figure 4. 4: Penetration of Netflix in the population of the US with varying levels of education.	31
Figure 4. 5: Penetration of Falcon among the male and female population of the Netherlands	32
Figure 4. 6: Gender distribution for Netflix and Amazon Prime in the UK	32
Figure 4. 7: User activity per device.....	33
Figure 4. 8: Distribution of user groups on the basis of viewing behavior	34
Figure 4. 9: Original titles on Netflix, Amazon and Falcon (Source: Hammil, 2019)	36
Figure 4. 10: Information collection architecture for Falcon.....	40
Figure 4. 11: Stakeholder map for sensing market opportunities.....	41
Figure 4. 12: The SVOD model.....	47
Figure 4. 13: Differences in AVOD model in comparison to SVOD model	47
Figure 4. 14: Differences in Hybrid model in comparison to SVOD model.....	48
Figure 4. 15: Revenue generation potential of the business models.....	51
Figure 4. 16: Conversion rate per segment and the percentage of young audience in segment S4 and S6.....	52
Figure 5. 1: Business model to seize the identified opportunity and maintain a sustained competitive advantage	63
Figure 5. 2: Final design of the business model achieved by following the dynamic capability framework in comparison to the currently followed business model.	66
Figure 5. 3: Improvements in the conceptual framework.....	72
Figure 6. 1: Co-evolution of dynamic capability with business model transition leading to sustained competitive advantage	74

List of Tables

Table 3. 1: List of Interviewees	25
Table 4. 1: Categorization of devices used to access the service.....	33
Table 4. 2: Summary of the sensing capabilities	42
Table 4. 3: Revenue potential of SVOD model	49
Table 4. 4: Revenue potential of AVOD model.....	49
Table 4. 5: Revenue potential of hybrid model	50
Table 4. 6: The summary of transforming capabilities.....	55
Table 5. 1: Opportunities identified with the respective value proposition	58
Table 5. 2: Capabilities to be developed to improve sensing mechanism	60
Table 5. 3: Analysis of resource reconfiguration capabilities and to tap the potential segments	64
Table 5. 4: Resource reconfiguration capabilities to realize other dimensions of the model	65

1. Introduction

This chapter discusses the challenges faced in the selection of business model, the dynamic capability framework which addresses the problem theoretically and the issues obstructing its application for selecting a business model. The chapter concludes by introducing the research questions.

1.1 General Overview

Truly new business models are a rare occurrence and are observed with a major shift in the socio-technical business environment. In the pursuit of making profits, firms often select a business model which is prevalent and proven to be successful in the industry. However, owing to the fact that there is no right or wrong business model, the selection process is challenging as it has high stakes involved and a wrong choice could be a major setback for a firm in the industry. The literature concerning strategic management addresses the problem of selection of business model by advocating that business model choices are highly contextual to a firm. Teece D.J. (2007) argued that the design, operation or selection of a business model is linked with the higher order capabilities known as dynamic capabilities. The three clusters of dynamic capability namely sensing, seizing, and transforming interact with the design or selection of a business model at different levels.

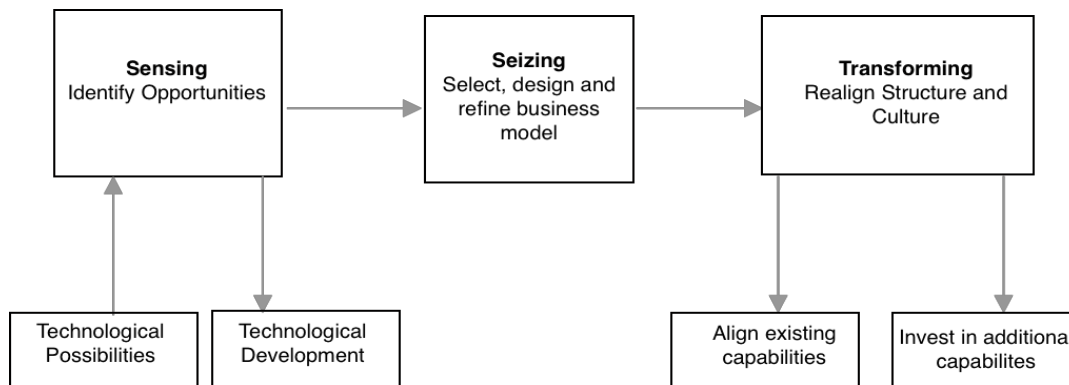


Figure 1. 1 : Interaction between dynamic capabilities and business model design, selection, refinement (Teece, 2018)

Figure 1.1 demonstrates the three clusters of the dynamic capability framework namely sensing, seizing and transforming. Sensing capabilities involve developing a deep understanding of the customers, along with analyzing the market environment continuously (Teece, 2012) to identify opportunities and therefore can be treated as the starting point for designing or selecting a business model. Seizing involves addressing the identified opportunities by designing or selecting a business model and if necessary, redesigning it in order to exploit the identified consumer needs (Teece, 2007). The last cluster of the framework, transforming caters to business model

implementation by realigning the existing capabilities and investing in additional capabilities. It also emphasizes on realigning the organization structure and culture to manage threats and build a competitive edge over the competitors (Teece, 2007).

The digital media industry is one such industry which witnessed a disruption in the past two decades following high-speed internet penetration and an increase in the number of smartphones and smart TVs (Deloitte report, 2018). A lot of researchers quote Netflix in the context of a disruptive business model which cannibalized the DVD rental industry by eliminating retail outlets and coming up with a pricing structure that eliminated late fees and offered unlimited viewership to the users, hence leading to a subscription video on demand [SVOD] model (Euchner et al, 2014; Teece, 2009). The success stories of Netflix created a plethora of players launching video on demand services in line with a similar business model such as Amazon Prime, Hotstar, Viaplay etc. (Grauso, 2017). Subsequently, the market space is crowded making it difficult to realize organic growth. With a Netflix style business model, the reach has always been limited to a specific market segment and new markets remain to be proliferated with their own set of opportunities and challenges. From the taxonomy of web based business models developed in the early 2000s (Rappa, 2001), some of the business models which has found its way to the VOD industry are the transactional business model, the subscription business model, the advertisement model and the hybrid model mainly designed from a revenue perspective (Rappa, 2006). Each of these models address different customer segments, have varying value propositions, and entail changes in the business and technical architecture for implementation. A deviation from the Netflix-like model does offer potential to grow in a different market, however, the selection of a business model, is a complex process and the dynamic nature of the VOD industry makes it even more difficult, as the selected business model runs the chances of turning obsolete with a microeconomic, technological or behavioral shift in the market. Falcon, a company in XYZ group, operates in the Dutch VOD market and follows an SVOD model. Falcon currently faces competition by Netflix and other VOD services in the Netherlands and the entry of new players such as Disney and Apple would further saturate the target market segment. The company is interested in exploring other business model options in the industry to untap new market opportunities and hence the serves as the case to conduct the research upon.

The dynamic capability framework which can be used for selecting a business model is a recent addition to the strategic management literature and difficult to use in its current state. This study aims to provide empirical insights on the process of selection of business model using dynamic capability framework as a tool and presents an elaborated framework, by following a case study approach.

1.2 Problem Formulation

The existing framework for business model selection made by Teece (2018) does present a simplified schema but the building blocks for each cluster which helps in selection of a business model is not explained. Neither does the framework details out a methodological approach which underlines the selection process. The concept of business models has received an overwhelming interest in strategic management literature emphasizing that it is the primary mechanism for value

creation in the market economy and utmost care should be taken in designing or selecting a business model (Osiyevskyy et. al, 2015). As such, the framework lacks granularity making it difficult to interpret and apply for solving complex business problems.

Furthermore, the framework misses out on the dynamics of network environment and does not shed light on the ways in which the presence of a network guides the process of business model selection. Businesses operate in a complex environment consisting of a network of actors and partners. Especially for web-based business models, inclusion of the value network in the business model design is crucial as it guides the process of value creation through the model (Afuah et.al,2001; Voelpel, 2005). Firms are able to decrease cost by disintegrating their service components and distributing them among their partners networks (Tapscott et. al, 2000). Working in a network environment, a firm can focus on building its core competencies and leveraging the non-core competencies of the partners to effectively create values through the business model. Particularly in the context of VOD industry, which can be categorized as a platform-based business, networks are seen to have a cooperation-competition (two-dimensional) relationship (Gawer et. al, 2014) and inclusion of such interactions is required to arrive at a business model. Businesses seldom operate in isolation and a good business model design accounts for the nature of the social system in the business environment (Thomas et al, 2001)

Building a competitive advantage is the core of utilizing the dynamic capability framework for the selection of a business model and the same is addressed in the cluster of transforming capabilities. A firm manages threat and builds competitive advantage by realigning the organizational structure and culture to better scan the market and exploit the identified opportunities (Teece, 2018). However, transforming capabilities are also directed towards the implementation of a business model. Endeavoring to focus on orchestrating resources and achieving realignment in structure and culture at the same stage, where the focus is on implementing the business model will lead to chaos and tension (Helfat et al, 2003).Therefore, has to be an organic way through which the framework can explain the vertical of building competitive advantage in dynamic environment. While there exists plenty of literature on measuring dynamic capabilities, but there is still a lack of empirical studies on the selection of a business model using the dynamic capability framework. With this study, we aim to produce empirical insights on the interaction between the selection of business models and the dynamic capabilities of a company and explain the elements in each cluster of the dynamic capability framework directed towards the selection of a business model by taking into account the network dynamics in the business environment. We also aim to explain how the three clusters of the framework helps in building competitive advantage.

1.3 Research Objective and Questions

The purpose of this research is to conduct a quantitative as well as a qualitative analysis of the process of business model selection through utilizing the dynamic capabilities in the context of VOD services, by doing a case study on Falcon, a subscription video on demand service offered by the XYZ group. The study takes a granular insight into the general taxonomy of business models prevalent in the VOD industry and advocates a strategic management approach for

business model selection in order to acquire new markets and build a competitive advantage in the industry. Hence, the main research question is:

● *Main research question* ●

“Whether and how dynamic capabilities be used for the selection of a business model?”

As the starting point of the research, an extensive literature review is done to detail the existing framework by identifying the building blocks for each cluster of dynamic capabilities. With a robust framework to research upon, the study proceeds to answer the main research question by answering three sub research question which are:

● *Sub-research question 1* ●

How can we use sensing capabilities to identify the business opportunities for growth?

The first sub-research question focuses on using the sensing capabilities to identify the underlying opportunities and the relative improvement in the sensing architecture of the company and its network to improve sensing. The question is answered by exploring the data collected on the customers via the existing sensing architecture of Falcon on the basis of which the user characteristics of the customers and potential target segments are identified. As suggested by the existing framework, an analysis of the sensing architecture enabled by the company and its network of partners is also done to suggest improvements. The opportunities identified in the first sub research questions sets base to answer the second sub research question:

● *Sub-research question 2* ●

How can we compare the prevalent business models in the industry and select one to seize the identified opportunities?

The second sub research question focuses on comparing and selecting a business model which is viable for seizing the existing business opportunities. The question is answered by comparing the business models prevalent in the VOD industry in terms of the customer segment they address, key operations, cost drivers for implementation and their respective revenue potential. The presence of a value network is also taken into consideration to see its influence on the selection process. The answer results into a business model which addresses all the identified opportunities and sets base to answer the third sub research question:

● *Sub-research question 3* ●

How does the transforming capabilities of an organization be used to select the final components of the business model and build competitive advantage?

The third sub research question brings out the essence of using the dynamic capability framework by analyzing the asset orchestration capabilities, the organizational structure and practices to select the final design of the business model. To answer the third sub research question, each element of the business model is analyzed to understand how the capability to reconfigure assets leads to the selection of the final design of the business model. In order to understand how the transforming capabilities underpins or obstructs sustained competitive advantage, organizational structure of the company, its managerial practices and ability to manage threat is explored.

2. Theoretical Framework

This chapter explains the different theories which are put together to arrive at a detailed theoretical framework in order to conduct the research.

2.1 Business models for the web

With the boom in the e-commerce industry, business models for the web has received substantial research. As such, there exists plenty of literature exploring the business logic of firms with a strong IT-component. However, the term “business models” is a buzzword and highly misinterpreted especially in the e-business space with a variety of definitions often contextual to the scope of the research. The most cited definition of a business model is by Teece D. J. (2010) describing business models as “The design and architecture of the value creation, delivery and capture mechanism employed. The essence of a business model lies in the fact that it decomposes the needs of the customers and their paying abilities, outlines the ways in which business organization creates and delivers value, entices customers to pay for the service and converts the transactions to profit through properly designing and operating the value chain”.

The early researchers exploring the web-based business models (Rappa, 2001; Tapscott et al, 2000) provided a general taxonomy of the different business models on the world wide web such as the brokerage model, the merchant model, the subscription model, the advertising model etc. without explaining the building blocks of such models. Around the same time, other researchers decomposed the web business models into sub-components. For e.g. (Hamel, 2000) identified four types of business models and decomposed them into sub-components. Weill and Vitale (2001) defined eight atomic business models that upon combination yields a business model for the web similar to the way atom combines to form molecules. The underlying proposition of identifying sub-components was to design a hybrid business model by combining them, to capture a higher market share and enhance the revenue prospects of the business organization. While most of the researchers ignored the complexity in the network of actors in web-based business models. Some researchers did address it by defining the roles of different actors in the network for value creation. For e.g., Afuah and Tucci (2001) made a business model framework that focused on the interrelation between different actors to outline a list of business model components.

The success of digital platform-based business models such as Amazon, YouTube, Netflix etc. in the late 2000s brought the focus on platform economy and researchers started linking the business model components to organizational processes orchestrated to create profit. (Johnson et al, 2008) decomposed business models into four sub-components namely, value delivered to the customers, the formula for profit i.e. the revenue model, the cost structure of the service and the key processes for creating values. Vaccaro V. (2011) studied the evolution of business models and put forward his research by exploring the ways in which 5Ps of marketing namely Productivity, Place, Price, Product and Process can be ingrained in the business model framework. With the concept of open innovation gaining popularity, Saebi et al (2015) explored the ways in which a

business model enables an organization to innovate in a network-based environment and formulate a market-based collaborative innovation strategy. The business model designs put forward by various researchers are generic in nature, however, a business model is highly contextual to a firm and there exists a deep relationship between the firm's capabilities and its choice of business model (Teece, 2010). Hence, the general outline of business model does assist a firm to design a model by following the templates and components presented in the contemporary research but barely lays out the reasoning behind the design or selection.

2.2 Strategic View on Business models

A business model can be perceived as a template that explains the way a company does business, the way values are delivered to different stakeholders and the way it markets its products (Zott et. al 2010). A business model framework has been investigated in the contemporary literature with several views with the popular ones being the STOF model with 9 building blocks which has been designed by Osterwalder A. et. al (2010) and the business model wheel which is opportunity centric. Unlike the value capturing mechanism based STOF model, the opportunity centric business model takes into account the value creation mechanism as well (Zott et al,2010). Rappa (2004) explained that such a business model has three major dimensions 'What', 'How' and 'Why'. Later, Ahokangas et. al (2014) added the 'Where' dimension to the business model wheel to understand how business model elements are affected by external or internal factors. This view is also advocated by Zott & Amit (2005) who suggest that opportunities can be explored and exploited through a business model. As a matter fact, this view also aligns with the dynamic capability framework for the selection of business model, where the opportunities are explored through sensing capabilities and exploited through seizing capabilities. For the purpose of this study, we align with the three fundamental dimensions of the opportunity centric business model 'What', 'How' and 'Why'. The 'What' dimension includes the customer segments that has to be targeted, the value proposition of the service to the segments and the product offerings. The 'How' dimension relates with the 'What' dimension and answers how the customer segment can be targeted and how the value propositions and product offerings can be delivered. It hence includes business model elements such as marketing to target the customer segment, the key operations which has to be carried out to realize the 'What' dimension, mode of delivery etc. The 'Why' dimension explains the cost and revenue components of the business model by including the cost drivers and revenue mechanism. Since the dynamic capability framework in itself is opportunity driven and starts with opportunity identification, the business model framework used for this study is the opportunity centric business model wheel.

2.3 Dynamic capabilities and business model

Business models and dynamic capabilities have gained considerable research interest but grew as two separate fields until the last decade. Dynamic capabilities of an organization allows it to address the changing business environment and make profits in the longer run by developing a competitive advantage (Teece, 2009).The profit making process is deeply linked to the success of a business model which in turn does not only depends on the tangible and intangible assets

assigned to it but also on the way it has been designed. Dynamic capabilities cater to the concept of changing business environment i.e. 'dynamism' to enable businesses to grow in the era of technological changes and address future issues (Teece et al. 1997). The concept of dynamic capability originated in the 90s from the resource-based view of a company with the ideology that the success of a company depends on the ways in which it manages its resources (Barney, 1991). Because of the concept of dynamism engraved in the core principles of dynamic capabilities, it was thought to address radical change in the business environment for a long time but towards 2010, the concept was extended to support existing business in coming up with new recombination of resources (Helfat et al, 2011). However, Teece (2007) argued that the an organization's success does not only depend on resource and efficiency maximization but on finding the opportunities existing in the market and capturing or nurturing these opportunities and hence the two views were added to the dynamic capability framework namely sensing and seizing, with the former being the ability to correctly identify the market opportunities and the latter, to take advantage of the opportunity.

Teece (2007) used the dynamic capability framework to explain how the higher order capabilities of a firm enables the creation, launch and protection of intangible assets that underpin a sustained business performance, briefly touching upon some elements of the business model. The two concepts saw intertwined research in the coming years with Teece (2010) mentioning that " The selection/design of business models is the key micro foundation of dynamic capabilities- sensing, seizing, and reconfiguring" which enable the design of a business model through market segmentation, determining value proposition for the market segment, designing capturing mechanism and developing an isolating mechanism. The inter-relation of the three clusters with the processes were not shown, nor was a framework presented. Zott & Amit (2014) also tried explaining the relationship between dynamic capabilities and business model design by putting forward a theory which stated that dynamic capabilities lead to the design of a business model in four steps namely observing, synthesizing, generating & refining. The four steps outlaid an idea of how the three clusters of dynamic capability framework are related to a business model design and implementation but failed to put forward a framework for the selection or design of a business model. Because of the ingrained concept of dynamism linked with dynamic capabilities, most of the researchers in the recent years have explored the concept for business model innovation. Najmaei (2014) studied the role of dynamic capabilities for business model innovation concluding that sensing capabilities are linked with finding the product gaps in the market, and the transforming capabilities create a learning environment for the businesses to experiment and come up with disruptive business models. Leih & Teece (2015) linked transforming capabilities with business model innovation stating that organizational structure, culture and incentives can either enable or disable business model innovation. Most of these studies looked at the relationship between individual clusters of dynamic capability and its impact on business model design or innovation until 2018, when Teece (2018) presented a preliminary theoretical framework showing the interrelation between the design/selection of business model and the three clusters of dynamic capabilities. Cirjevskis A. (2019) showed the links between the business model elements and the three clusters of dynamic capabilities in the case of business model innovation through mergers and acquisitions.

The current state of literature majorly focuses on individual cluster of dynamic capabilities and its interrelation with business model design or innovation and ignores selection of already existing business models by utilizing the dynamic capability framework. Furthermore, there exists a shortage of empirical studies which actually utilized the framework to select or design a business model.

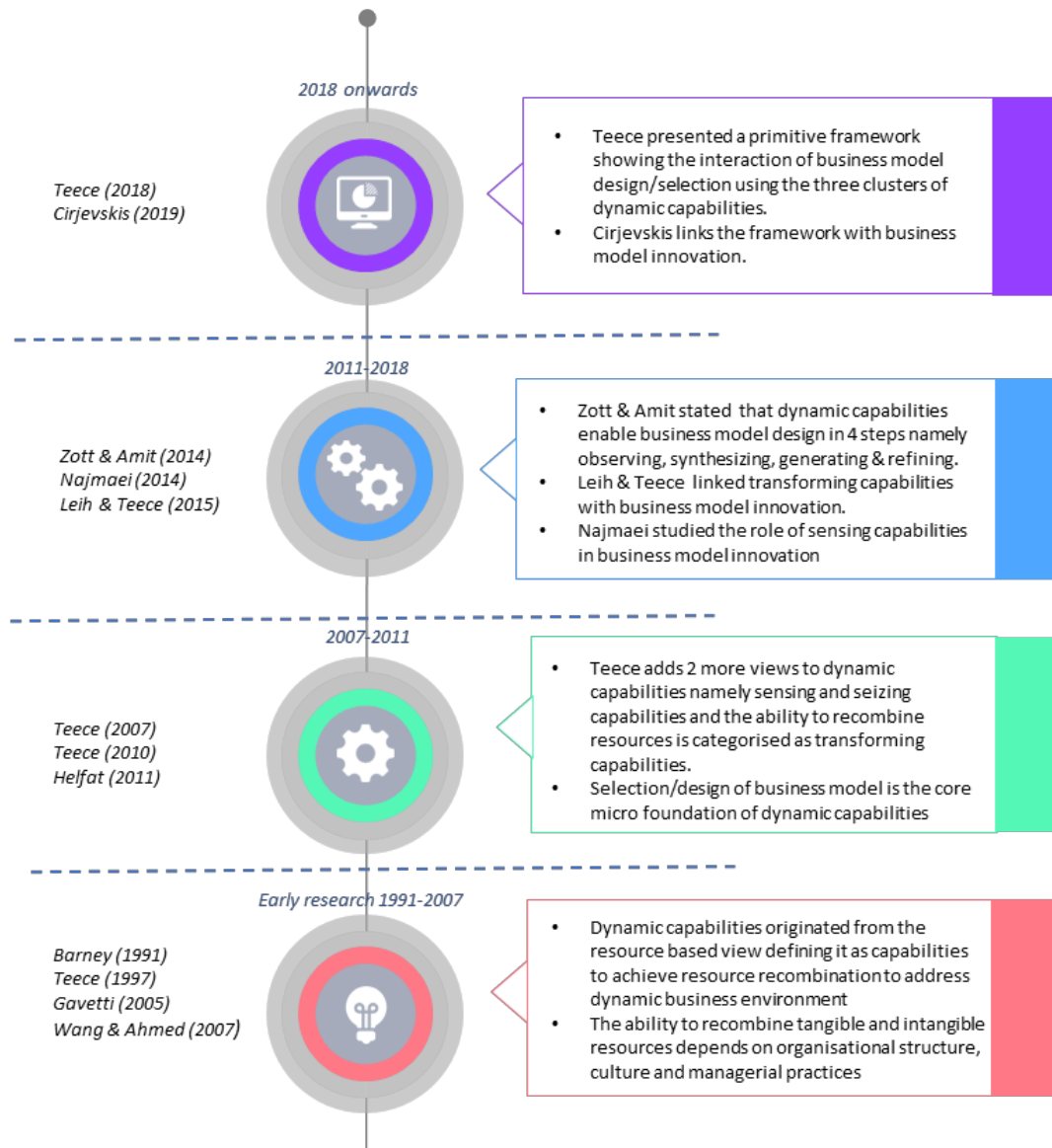


Figure 2. 1 Development of dynamic capability framework and its extension to the concept of business models.

2.4 Dynamic capabilities of an organization for selection of business model

Sensing in the process of selecting a business model

For sensing the opportunities, it is crucial to understand your customers. A good business model design helps in determining which market segment to target (Teece, 2018). The selection of a business model impacts the business architecture and a business model is the byproduct of opportunity recognition and exploitation (Teece 2010; Zott & Amit, 2005). In a platform economy, the opportunities to target new segments is also dependent on the platform ecosystem and the interaction within the ecosystem. For example: Netflix partnered with Disney Inc. to offer Disney shows on its platform exclusively realizing the popularity of the few Disney content it owned, thereby increasing its reach to the Disney audience. When Disney planned to come up with its own platform, it ended its partnership with Netflix (Forbes, 2017) in order to attract the Netflix users to its platform. Hence customer segmentation should be done to identify the potential target group based on the existing technological possibilities of the sensing architecture enabled by the company along with its network of partners.

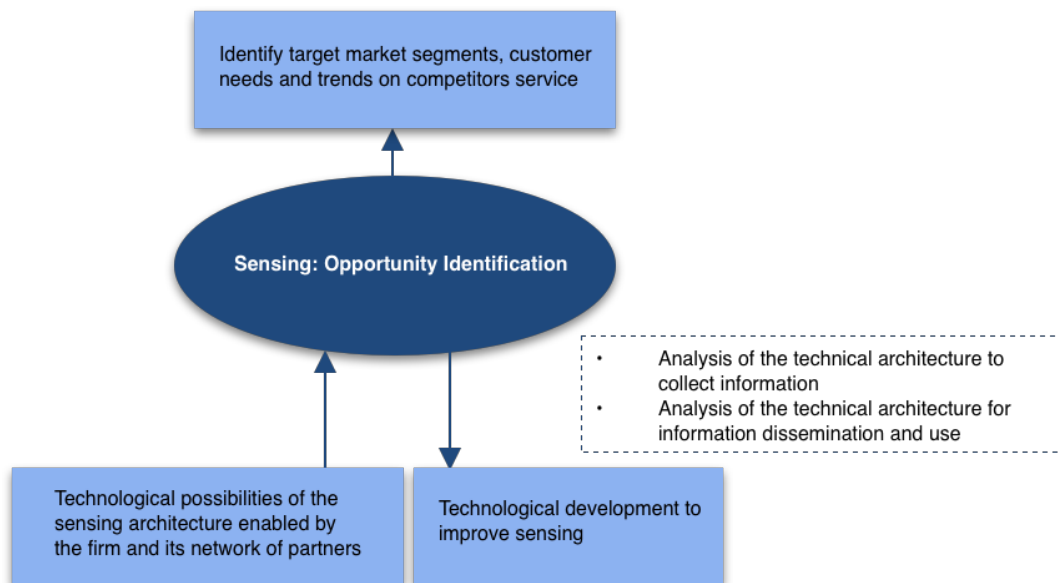


Figure 2. 2: Schema for sensing in the process of business model selection

Sensing the market for understanding the changing business needs and spotting opportunities is of prime importance and firms failing to build sensing capabilities are less likely to stay competitive (Teece, 2007). It is important for organizations to have the capability to scan the market in order to understand customer's preferences and capture ideas, both internally and externally. Aligning towards market orientation, sensing capability of an organization can be described as a two-step process, with generating market intelligence as the former and dissemination of the information

collected as the later (Kindstorm et al, 2013). The responsiveness to the implementation of the information gathered has to do with seizing and transforming capabilities of the organization. Therefore, to ascertain the improvements needed in the sensing architecture, an analysis of the information collection architecture has to be conjugated with the architecture for the flow of information and its use. Furthermore, Fischer T. et. al (2010) extended the standard definition of sensing by emphasizing the need to build information processing capabilities to observe competitors service activities and not just limiting it to explore the changing customer preferences.

Seizing in the process of selecting a business model

The next step in the dynamic capability framework is to seize the opportunity. The seizing phase addresses the value capturing mechanism and the sensing phase is linked with the value creation mechanism (Zott & Amit, 2010). This step also involves the scope for refining the model and committing resources towards it (Teece,2018). Once the opportunities have been identified, the organization is expected to address it with new value proposition of the products, new business structure, technology and revenue models (Teece, 2010) which are the building elements of a business model. The seizing phase hypothesis the new features and technologies to be built to improve the product and services, the revenue and the cost structure of the service and the identity of the customer segments that has to be targeted. Based on the learnings gathered from the previous phase and the values offered, a suitable business model can be designed, selected, or altered. Seizing can also be seen as the continuation of the sensing phase. With respect to this study, once the potential customer segment and the underlying value propositions have been identified, we look at new markets, new proposition and new commercialization strategy to increase market penetration of the services and acquire customers. In order to do so, the different business models prevalent in the industry are compared to each other on the basis of the potential customer segments that can be targeted, the key value proposition of each model, the change in the cost structure of the services upon the implementation of each model and their respective revenue potential. Taking into account, the result of the comparative analysis, a business model which best fits the capabilities of a firm is chosen (Teece, 2018). If necessary, the business model has to be redesigned to account for all the identified customer needs (Teece, 2007). Figure 2.3 illustrates the schema for comparing and selecting a business model.

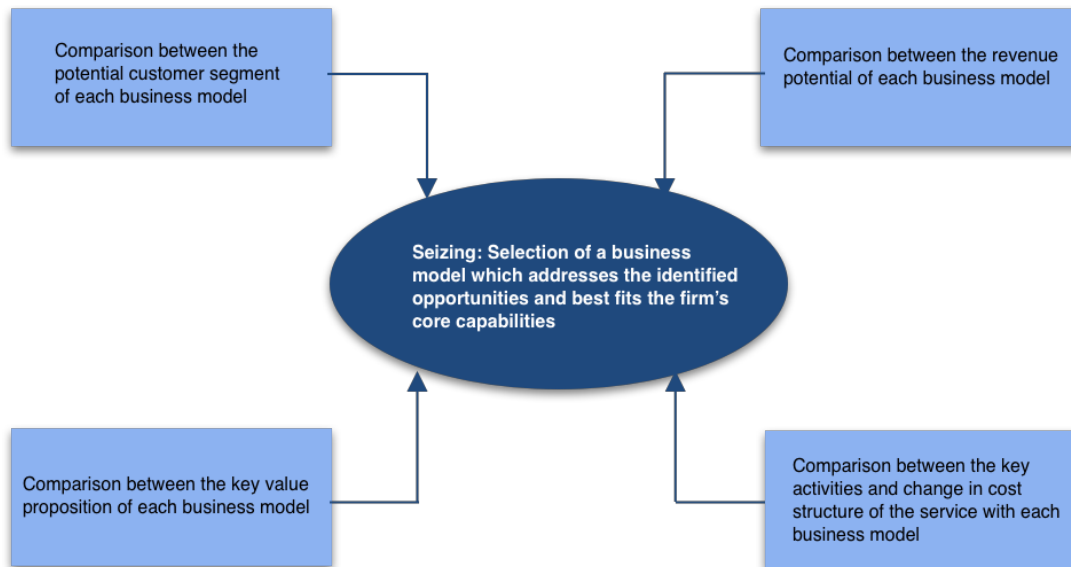


Figure 2. 3: Schema for seizing for comparing and selecting a business model

Transforming in the process of selecting a business model

The third function of the dynamic capability framework directed towards a strategic change is transforming and reconfiguring existing models and strategies (Teece 2018; Helfat et al, 2018). While sensing and seizing are more oriented towards value creation in a business model, transforming creates value by achieving recombination and captures values by managing threats, honing the business model and developing new complements (Katkalo et al, 2010). The learning from the two phases discussed above can be modeled but for effective implementation of any such model, it is important to make the firm's resources in line with it. The selection and implementation of a business model depends on the strategic agility and the adaptive capabilities of a company. The adaptive ability is the company's ability to restructure and reconfigure resources to address the changing business environment (Wang et. al, 2007). The selected business model design will have multiple markets to address which requires building new features and investment in new technologies, but a firm addresses the opportunities which fits its adaptive capabilities to orchestrate assets.

A business model design which enables a competitive advantage would fade away if continuous cycle of designing, implementing and testing of the business model is not followed. In order to remain competitive, a company should also have the ability to manage threats and transform via a self-reinforcing loop. For managing threats and building competitive advantage, the presence of a learning mechanism is important (Wang et. al, 2007). A learning function enables a firm to utilize the knowledge from the previous projects to quickly address the changing business environment. Gavetti (2005) found a strong link between the hierarchy of an organization and its ability to respond to a dynamic environment which further supports the transforming capabilities.

The presence of a sensing and seizing routine further complements the ability of a firm to manage threats and better respond to market changes (Teece, 2007). Hence the hierarchy inside an organization, its resource reconfiguration abilities, routines and the learning mechanisms were advocated to be the micro foundation of transforming capabilities. Figure 2.4 demonstrates the selection of a business model underpinned by transforming capabilities. A detailed review of the transforming capabilities suggests that, it caters to a business model in two ways. Firstly, the capability to re-orchestrate assets influences the final selection of business model. Secondly, realigning the structure and practices of the organization and the ability to manage threats does not influence the selection of a business model directly but builds a mechanism through which a firm maintains competitive advantage.

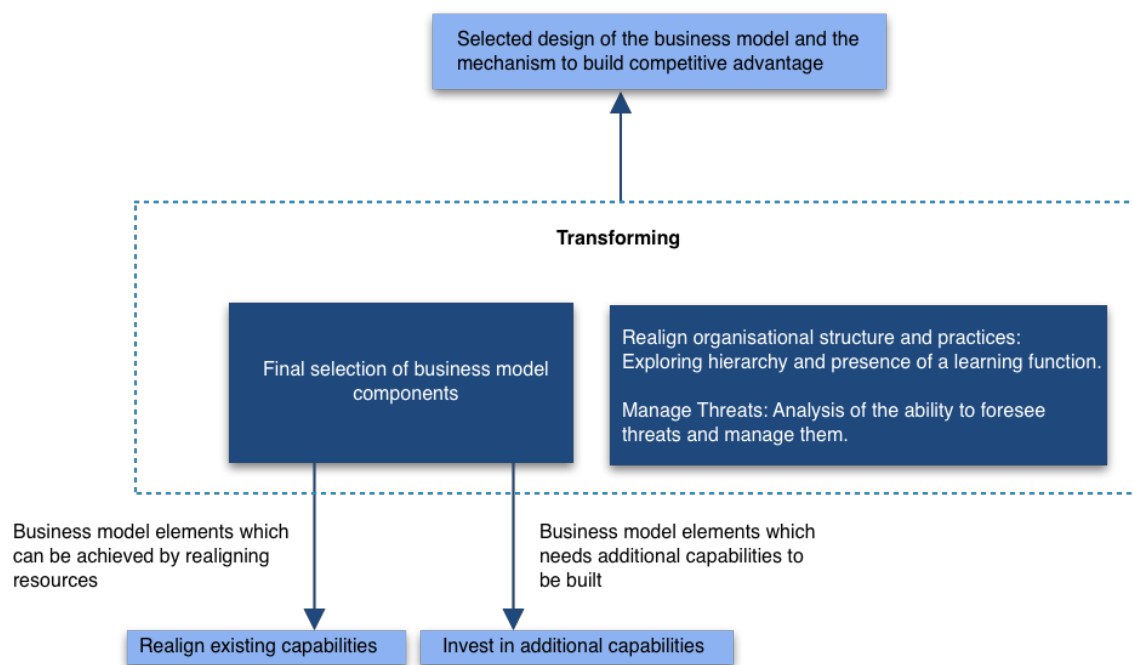


Figure 2. 4: Schema for transforming for selecting a business model

2.4 Theoretical framework for business model selection using dynamic capabilities of an organization

Teece (2012) argues that dynamic capabilities are higher order capabilities and enable businesses to address changing market, technology and build a sustained competitive advantage. The three clusters of dynamic capabilities interact with a business model selection at different stages. Sensing involves scanning the business environment to identify potential customers based on the existing possibilities enabled by the business architecture. At the same stage, the business architecture has to be developed to improve sensing and establish a continuous market scanning mechanism (Teece, 2018). Seizing involves the strategic utilization of the information

collected and addressing the potential market with new propositions, resources and revenue models and hence arriving at a business model to cater to the new requirements. Transforming impacts, the design of the selected business model by choosing the business model components from the full menu of the business model which can be achieved on the basis of asset orchestration and resource availability for building additional capabilities. The figure 2.5 shows the simplified theoretical framework for the selection of a business model used for conducting the research.

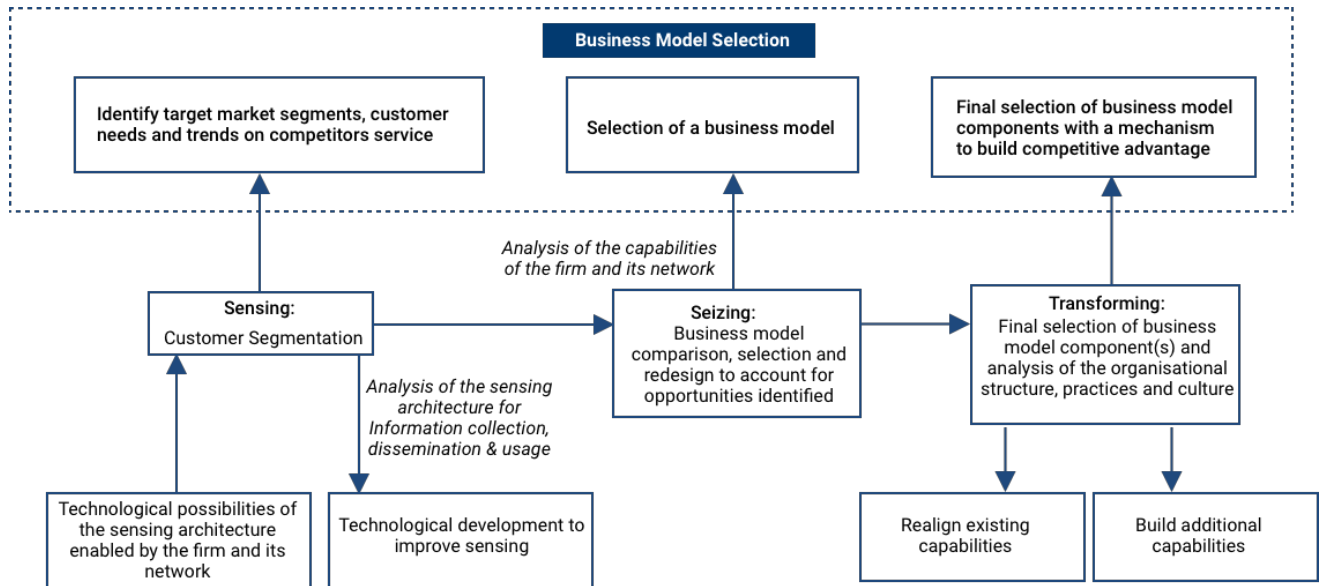


Figure 2. 5: Simplified schema of business model selection using dynamic capabilities.

3. Research Design

This chapter explains the research approach adopted for the conduction of the study and presents a detailed research framework which has been followed for the purpose of the research.

3.1 Research Approach

A quantitative research paradigm is based on positivism which states that there exists only one truth and the objective reality is independent of human perception. On the other hand, a qualitative research paradigm is mainly based on interpretivism and constructivism which assumes that reality is constructed socially and is changing constantly (Sale et. al, 2002). The recent research designs have seen a growing use of mixing both the methods leading to mixed method research paradigm which is supported by the views that both qualitative and quantitative research are based on a unified logic and commitment for disseminating knowledge for academic and practical use. The approach differs from a pure qualitative and quantitative approach as it combines both the methodologies and inculcates a unique set of ideas and practice (Cresswell, 2014). The mixed method approach leads to higher data accuracy and helps shape a holistic picture by combining the strengths of qualitative and quantitative approaches. Ultimately, the choice depends on the complexity of the system on which the research is conducted. The digital media industry operates in a complex mechanism with tons of data generated every day and hence to gain insights from the large data sets a mixed method approach is used. The quantitative part of the research method employs data mining technique and the qualitative part proceeds with an interpretive research approach. Following the approach, the research framework is constructed based on academic theories allowing us to interpret the organization under study and leading to the development of theories based on the evidence generated by raw data collected via interviews.

Once the research focus has been established and the problem has been identified, an extensive literature review is done to understand the current state of the academic research and identify the knowledge gap which is debarring a solution to the problem. The literature review touches upon the various approaches discussed in the contemporary literature to nurture the growth of an organization and build competitive advantage. This is accomplished through looking at the key concepts of web-based business model and dynamic capabilities, both of which have received numerous research interests after the emergence of world wide web. The interview questions are framed around the concepts discussed under literature review. Once the data is gathered, it is analyzed to build theories and themes.

3.2 Research Methods

In this section, the research approach is elaborated to discuss the research methodologies in detail. An overview of qualitative and quantitative methods adopted for the study is presented below:

3.2.1 Interview as a research method

Interviews are common in conducting a case study driven qualitative research and can be grouped into two broad categories i.e. structured interviews and unstructured interviews. Structured interviews are predominated set of questions in a particular order which can be open ended or closed ended. Unstructured interviews on the other hand are more flexible and do not have a predefined content or set of questions. A semi-structured interview includes preparing questions guided by a research theme, in a consistent and systematic manner and requiring an elaborated response (Dumay,2011). Recent literature show that semi-structured interviews have a high degree of acceptance in the research environment. For this study, a semi structured interview has been conducted to leverage the best of both the methodology.

3.2.2 Big data analysis as a research method

The data generated in the VOD industry is by far the largest compared to any other industry and hence there is a big data lake to draw the research upon. Companies often implement tools like web scraping for the extraction of a large amount of data from the websites. In addition to this, the platform is monitored, and tons of data is generated with every interaction the user makes with the platform (Gerard et al, 2016).

With the unstructured data from the data lake tuned into structured data and stored in the server, the focus is largely on variable selection and tuning in the selected variables into models. The scope of the research calls for adopting a data mining technique, namely Cluster Analysis. Cluster analysis partitions observations with similar characteristics under one cluster with a key assumption that normal observations gather to form large clusters and those instances.

Clustering Algorithm Selection

Given the wide array of clustering algorithms employed by the researchers to create segmentation, the choice of an algorithm is purely based on the pattern in which the data is distributed and the desired outcome of the algorithms. The customer segments analyzed for the study are created based on a partitioning-based algorithm, where the clusters are determined promptly. In a partitioning-based algorithm, the data objects are divided into a number of partitions with each partition representing a cluster. As per Fahad A. et. al (2014), there are two mandates the clusters should fulfill while following such an algorithm:

1. Each cluster should have at least an object.
2. Each object should be unique to a cluster.

Looking at the distribution of the data, K-means as the partitioning algorithm was used to create user segmentations. For conducting K-mean clustering, k centroids are placed at random locations and the nearest centroid for each data point is found and a datapoints which lie at a minimum distance from the clusters are grouped together. As mentioned by Wagstaff (2001)

1. An instance D_i is assigned to the closest cluster center
2. Each cluster center C_j is updated to be the mean of its constituent instances

When no further changes are observed in assigning instances to the clusters, the algorithm converges, and we have the correct value for k to represent the actual number of divergent groups existing in the dataset. Since the algorithm works on datasets with either numeric or symbolic features, we either create a numeric dataset or represent non-numerical data through symbolic features (e.g. Converting Yes or No to binary 0 or 1).

For the purpose of this study, the clusters are created based on the viewing data and the content metadata. The viewing data consists of the number of streams played by a user and the minutes watched. The content metadata comprises of the genre such as Drama, Action, TV Series, Family, Documentary etc. Each profile is regarded as a separate user in the segmentation and only profiles with 10 or more valid streams were considered (Appendix III). Once the segmentation is done, user demographic data such as age and gender and behavioral data such the device used for accessing the service, activity level of the users, and conversion rate from promo period to pay period were imposed on the clusters to understand the segments better.

3.3 Case Selection

Yin (2003) mentions that doing case study is an effective methodology to explore organizational process. A case study approach is suitable for this study as selecting a business model is indeed an organizational process which holds significant value to a firm. Case selection is one of the prominent tasks in both qualitative and quantitative research and can be treated as the starting point of conducting the research. Selection of a case has the same fundamentals as that of random sampling i.e. it should be representative of a large sample and it should have useful variations in the dimensions related to the theoretical interests of the research (Seawright et al, 2008). A broad categorization of the case study method splits into two sub categories namely single case study method and multi-case study method with researchers arguing that the latter offers more strength to the quality of the research. However, a single case study method is found to be more effective if the case is representative of a large sample size i.e. the case is highly residual and shows a high deviation from some cross-case relationship (Seawright et al, 2008). A single case study method has an advantage over a multiple case study method if there are subunits of analysis located within the large case and a deeper understanding of the concepts being researched is desired (Yin, 2003). A single case study method is appropriate for this research as the VOD industry has a more complex structure in terms of customer acquisition and network dynamics compared to any other platform-based economy. It also shows a deviation from the other platform-based business model because it moves beyond the buyer seller relationship of a platform economy making the platform in itself a service element and a value proposition. This approach is appropriate to conduct a research on dynamic capabilities because, dynamic capabilities are unique to a company (Teece, 2007) and it has three sub components which are sensing, seizing and transforming. The three clusters serve as the subunits for analysis and interact with a business model framework at an elemental level.

The case study is done on Falcon, a mid-size company in the Dutch digital media industry following the SVOD model. The case chosen well represents the problem of choosing a business model to maintain and extend its position in the market as big businesses such as Netflix have entered the Dutch media landscape and have big pockets to capture the market. Moreover, Falcon is a part of the XYZ group which has a network of other media companies making it easier to study the influence of a network in the selection of a business model using the dynamic capabilities a company. The choice of industry also aligns with the core concept of dynamic capabilities which are meant to address a changing business environment. The digital media industry has experienced extreme disruption over a couple of years and continues to be one of the most dynamic industries (Rad et al, 2017). Hence it adequately represents a case to study dynamic capabilities. A single case study approach also lets us develop a deeper understanding of dynamic capabilities which are argued to be difficult to measure in general.

3.4 Data Collection

In order to perform the quantitative research using data mining techniques, the viewing data consisting of the streams watched, minutes watched, and the device used for watching the content is merged with content metadata which consists of the genre and language of the videos. The data is mapped with unique person ID by merging the dataset with the user characteristic data such as age and gender. Once the data is retrieved from various sources and merged into a single data set, clustering was used as a data mining technique to create customer segmentation which is discussed in section 3.2. For the qualitative part of the research, semi-structured interviews were conducted. It also helped to attain additional information in the context of the research theme from the interviewees which might would not have been possible with a closed interview. The interviews were conducted face to face within the premise of the organization for a time span of an hour approximately, however, some interviews lasted for less than an hour. The interviews were recorded for the purpose of generating transcripts which are summarized in appendix (Appendix I & Appendix II). However, on confidentiality requests, the names of the interviewees are not disclosed. The table 3.1 shows the position of the interviewees in the company.

Table 3. 1: List of Interviewees

Interviewee	Position
Person A	Head of Data Analysis & Strategy
Person B	Head of Data Intelligence
Person C	Product Owner, Data Platforms
Person D	Data & Strategy Manager
Person E	Marketing Manager
Person F	Product Manager

3.5 Data Analysis

After collecting the data from various sources, i.e. the metadata server, interviews and documents, it is further analyzed for building theories. For the qualitative analysis, the interviews were recorded and then transcribed. Coding was done in order to assign the insights and statements given by the interviewee to the respective topic of research. Such an analysis helped in arriving at the results in a highly systematic fashion. The insights gathered from the quantitative analysis were also categorized under the particular research topic. The analysis was done for each research theme, sensing, seizing and transforming using the conceptual framework and literature as the basis of the analysis in adherence to the strategy of relying with the conceptual framework as proposed by Yin (2003). The results of the analysis were used for theory building with respect to business model selection by exploring the dynamic capability of a business.

3.6 Quality of the research

Yin (1989) has specified four quality dimensions to measure the quality of an empirical research. Each one of these dimensions test the quality of the research at various research phase. The four dimensions are (i) Construct validity, (ii) Internal Validity, (iii) External Validity and (iv) Reliability. Construct validity can be ensured by using multiple sources of evidence during the process of data collection and maintaining a chain of evidence. The study collects data from multiple sources which are interviews, documentation and metadata server. The data collected are documented before the analysis which can be seen in Chapter 4 and Chapter 5. Internal validity is the tactics to check explanation building and pattern matching in the research. The study does pattern matching by aligning the empirical findings with the conceptual research framework developed and explains the findings in detail in the subsequent chapters. The external validity is ensured by theory development, case selection, data collection protocol, and data analysis protocol which has been laid down in Chapter 1, Chapter 2 and Chapter 3. For establishing the reliability dimension in the research, it has to be ensured that the study would conclude with the same results if repeated and the best way to ensure it is to closely follow the case study protocol which guides the researcher throughout the duration of the research (Yin, 2003). This study has been conducted in a planned manner and before the commencement of the actual research, the research design, context, schedule and methodology were chosen which has been closely followed by documenting the findings and analyzing them with established protocols.

3.7 The Research Framework

The research framework comprises of a set of theories that are applied to develop the conceptual model towards the starting point of the research. We explore the various theories proposed by researchers on web-based business models and the higher order capabilities of an organization known as dynamic capabilities. We then look at the business model selection process by aligning with the dynamic capability framework which has three broad clusters. Figure 3.1 presents the research framework in five detailed steps.

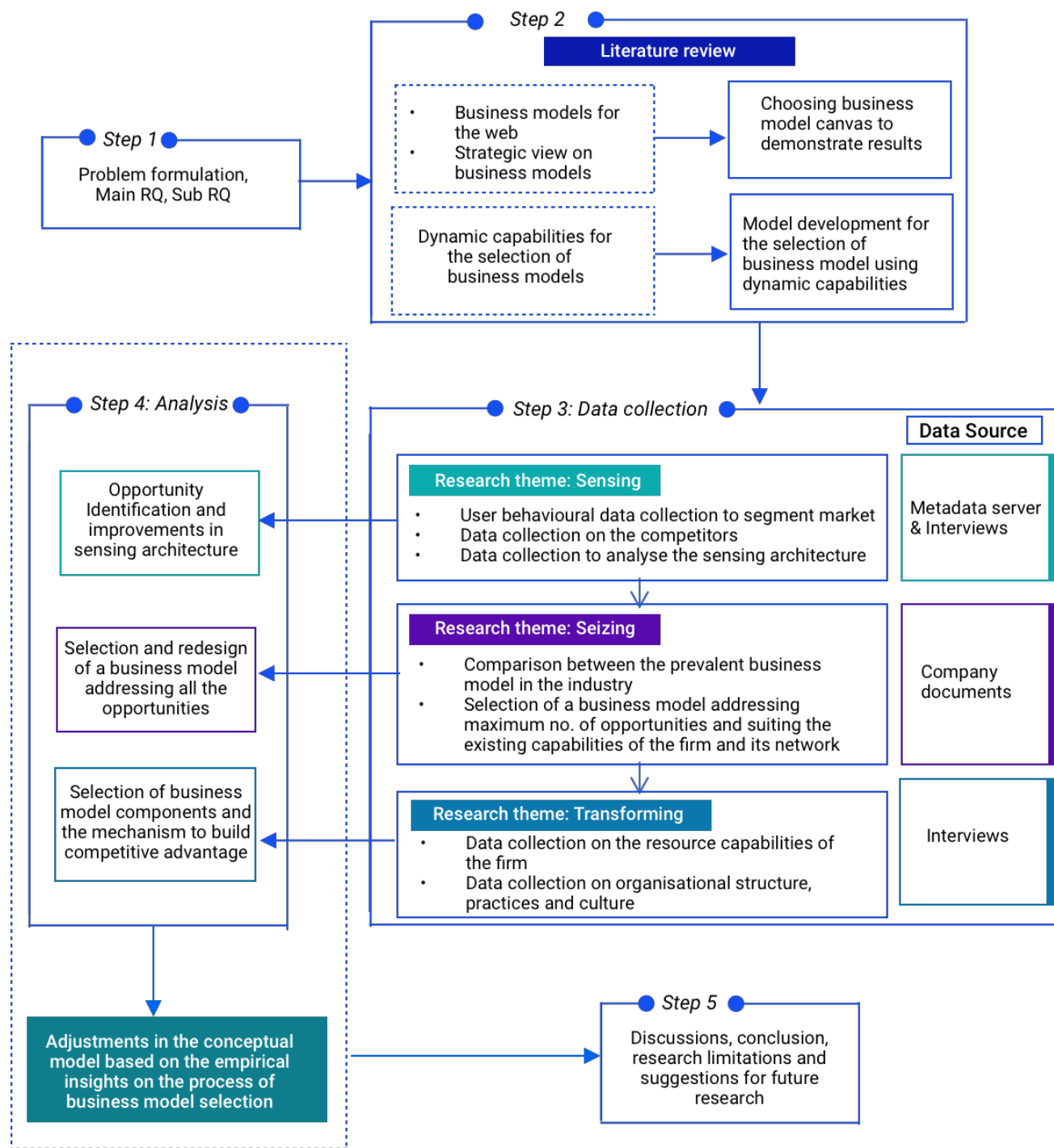


Figure 3. 1: Research Framework

The theoretical framework shows that:

- a. The relevant theories are applied to come up with a conceptual model as a starting point of the research
- b. The research explores higher order dynamic capabilities, namely sensing, seizing and transforming to select a business model.
- c. The learnings are analyzed to arrive at a proposition and modify the conceptual model.

The assumptions underlying the conceptual model are:

- a. The building blocks of the dynamic capabilities of the firm are interlinked to each other and follow a sequential order which means sensing is followed by seizing which in turn is followed by transforming.
- b. Business model selection is possible by utilizing the three clusters of dynamic capability framework, namely, sensing, seizing and transforming.

4. Results

This chapter presents the results of the three research phases namely sensing, seizing and transforming in a sequential order and summarizes the results at the end of their respective sections.

4.1 Sensing

This section aims at demonstrating the results of the data analysis that has been conducted to understand the different customer segments using the services offered by Falcon. The ideology behind the research is to explore the penetration of different customer groups and identify the business opportunities that exist with each segment. We first look at the demographics of the Falcon customers and the demographics of the population of the Netherlands to understand penetration of the service. We further compare the trends with the competitors to understand the positioning of the service in the market. We also explore the sensing capabilities of Falcon along with its network of partners on the basis of the data collected through interviews. The section concludes with the identification of market opportunities based on the sensing capabilities of the company and the technical and infrastructural change needed to improve the sensing capabilities.

4.1.1 Demographics of Falcon users vs. the Demographics of Netherland's population

Age wise distribution

In order to understand the popularity of Falcon among the different age groups, a comparative study has been done between the number of Falcon users belonging to a particular age group and the population of the Netherlands falling in each age categories as per the Central Bureau of Statistics (CBS). The figure 4.1 showcases that the people lying in the age group of 16 to 34 years have a higher affinity towards Falcon services compared to the people above 34 years of age. While this trend seems to be relevant to the fact that technology, in general, has a higher penetration among the youth, the study looks at the age wise user distribution of Netflix in the United States, the dominant player in the SVOD industry, to better understand the trend and identify the opportunities with each age group.

Looking at figure 4.2, it can be deduced that the popularity of Netflix among the people falling in the age range of 18 to 24 years and 55 to 64 years respectively is slightly lower than the popularity of the service among the other age groups, however the difference between the penetration of the service among the various age groups is not very high. Unlike Falcon, where the service is extremely popular among young people, Netflix seems to be a popular choice among people of all age groups.

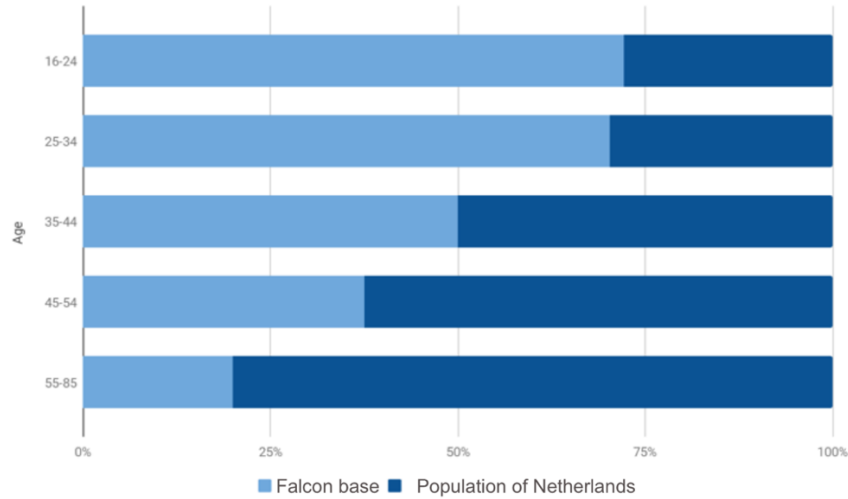


Figure 4. 1: Age wise distribution of the Falcon user base in comparison to the population of the Netherlands as per CBS (Central Bureau of Statistics, Netherlands)

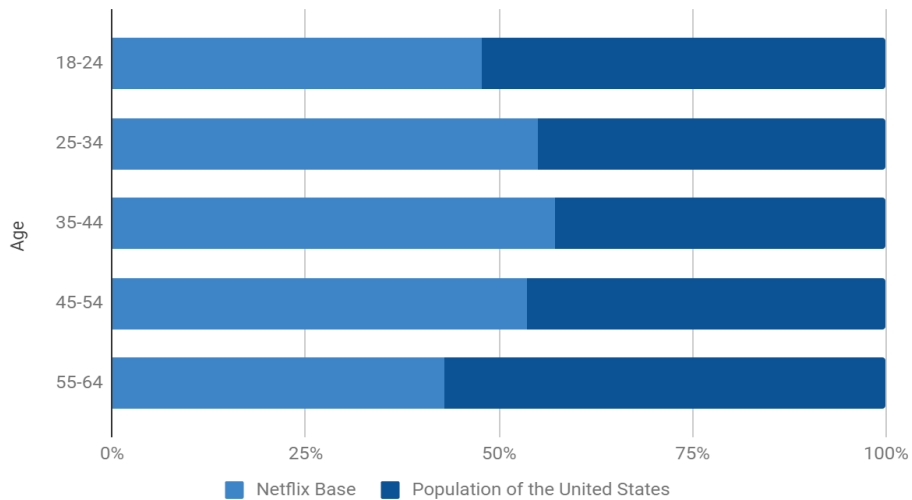


Figure 4. 2: Age wise distribution of the Netflix user base in comparison to the population of the United States (Data Source: Business of Apps, 2019)

Education wise distribution

The study further explores the appeal of the Falcon services among users with varying educational level in the Netherlands. For the purpose of simplification, users of the service are grouped into 3 categories namely, low education, moderate education and high education. The low education group consists of people who have at most attained an MBO degree. The moderate education group comprises of people who have either attained a HAVO or VWO degree or pursuing it. The people in the high education group have either completed a bachelor’s or a master’s degree or are enrolled in one.

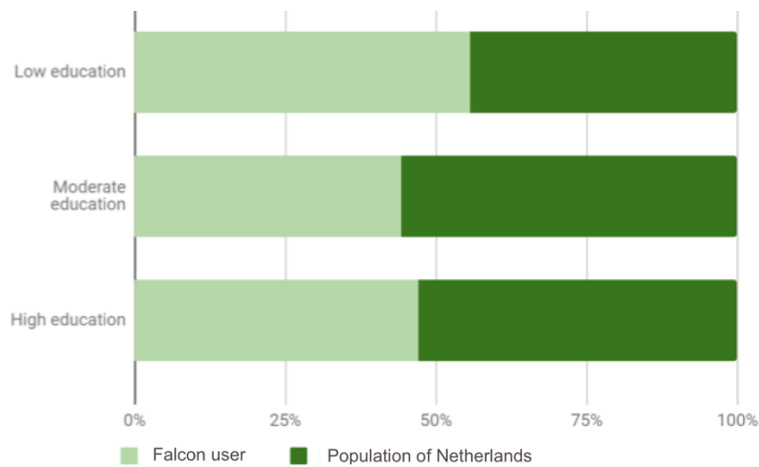


Figure 4. 3: Penetration of Falcon in the population of the Netherlands with varying levels of education.

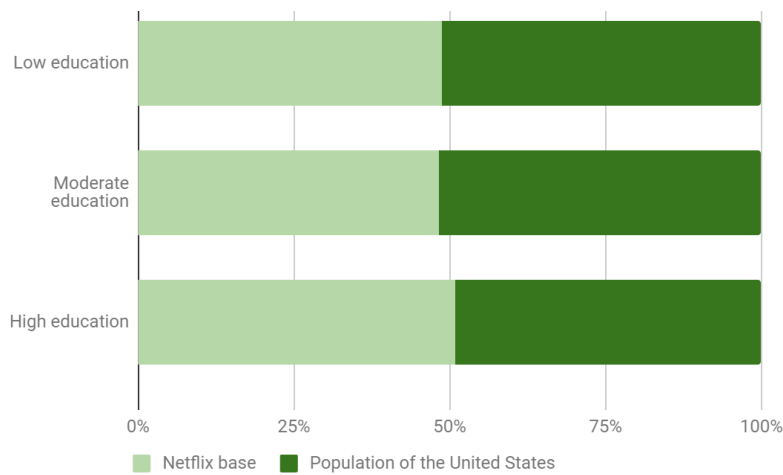


Figure 4. 4: Penetration of Netflix in the population of the US with varying levels of education. (Data Source: Business of Apps, 2019)

Taking Figure 4.3 into observation, it can be visualized that Falcon is slightly more popular among the people with a lower level of education however the difference is not much. The possible reason behind this is the presence of young audience on the platform who have lower level of education. The trend seems to follow with Netflix as well which appeals to people with different educational level, and the same has been demonstrated in Figure 4.4.

Gender wise distribution

The study looks at the percentage of the male and female users of Falcon and compares it with the male and female population distribution of the Netherlands. Although, there is no clear distinction between the contents watched by a particular gender. Certain shows are often catered

to appeal to a particular gender. Figure 4.5 below represents the popularity of Falcon among the male and female population of the Netherlands.

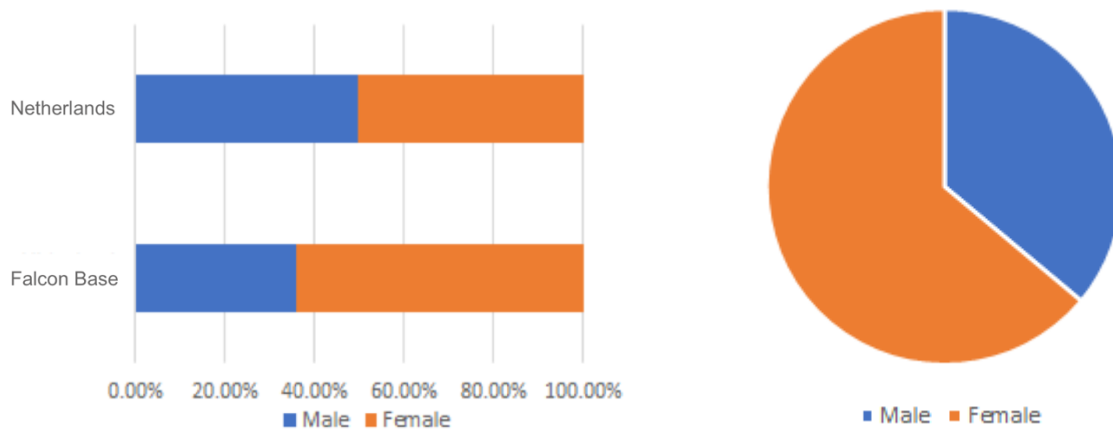


Figure 4. 5: Penetration of Falcon among the male and female population of the Netherlands

The male and the female population of the Netherlands is roughly equal; however, Falcon seems to be dominant choice among the female audience. The existing user base of Falcon comprises of 36% males and 64% females. The study looks at other SVOD services such as Netflix and Amazon Prime to ascertain if SVOD services are generally popular with the female population. The figure 4.6 below represents the gender distribution of the user base for Netflix and Amazon Prime.

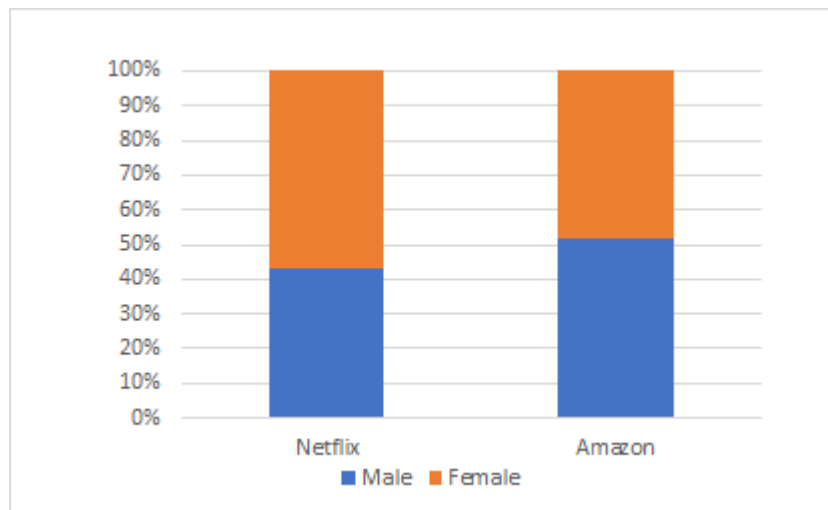


Figure 4. 6: Gender distribution for Netflix and Amazon Prime in the UK

(Data Source: Business of Apps, 2019)

While Netflix has 57% female users compared to 43% male users, Amazon Prime, on the other hand, has 48% female users as compared to the 52% male users. Looking at the figures, the study takes into consideration that the appeal of the services to a particular gender is based on the content offered on the platform.

Device wise Distribution

SVOD services have been revolutionizing the way people consume digital media. The boost in the media industry, however, came after the growth in smart devices. The compatibility of smart devices with various VOD services such as YouTube and Netflix made it possible to consume media on the go and at the ease of the users. Similar to most of the VOD services, Falcon has an application meant for both Android and iPhone users and has alliances with cable operators such as Ziggo.

Table 4. 1: Categorization of devices used to access the service

Category	Basis of categorization
Web	Falcon.com (Laptop)
App	iPhone, Android, iPad
TV	Samsung, Ziggo, Lg, Philips, PlayStation, Android TV, Apple TV, Sony TV, Panasonic, Humax
Others	Unrecognized devices

The table 4.1 above summarizes the categorization of devices based on 4 broad divisions; namely, App, Web, TV and others. Devices that are not recognized by the server are flagged as other devices for the purpose of this study.

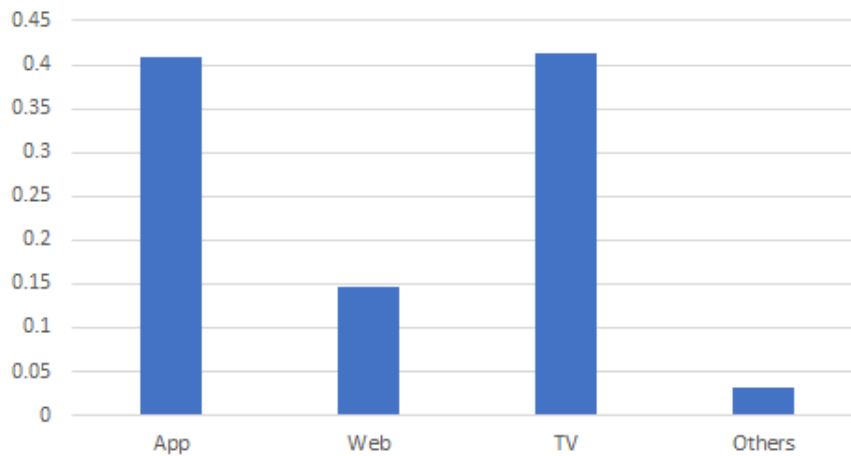


Figure 4. 7: User activity per device

The figure 4.7 demonstrates that Android & iPhone applications and TVs are the preferred sources to avail Falcon services. The percentage of audience accessing the service via web is relatively small.

4.1.2 Segment wise analysis of the Falcon users

Cluster analysis segments users on the basis of their viewing behavior. The media industry is highly content driven and identifies user groups on the basis of the shows watched by them. The simple K-mean clustering leads to a 10 clusters solution to adequately identify the customer segments on the basis of their viewing behavior. Certain demographics or user characteristics have been imposed on the clusters to identify the value proposition of the service for each segment. Figure 4.8 depicts the 10 clusters with the percentage of the users falling in each cluster. An explanation of the genres falling in each segment can be found in the Appendix III.

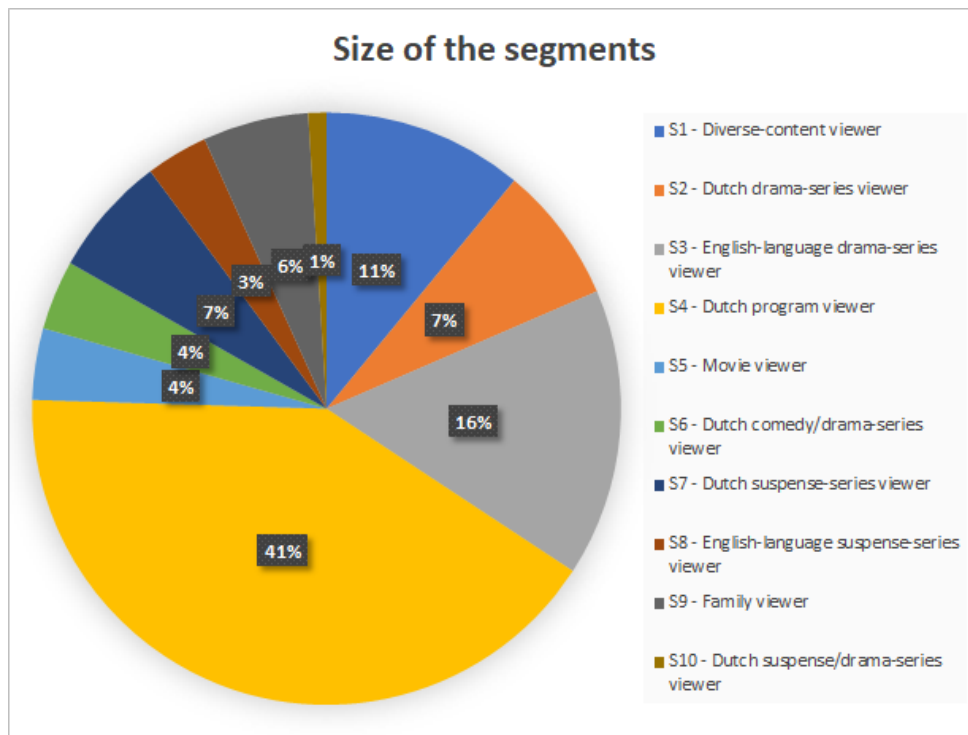


Figure 4. 8: Distribution of user groups on the basis of viewing behavior

With Dutch program/reality shows viewership being the largest group and comprising of 41% of the existing user base, the group which forms the second-biggest is at 16% with an affinity for drama series in English. This is followed by clusters watching Dutch drama and suspense series sharing a base of 7% each. Genres like Dutch comedy shows, and movies are not so popular among the existing user base. It is interesting to note that Falcon started as a movie watching platform but no longer enjoys a huge movie watching audience.

Age distribution per segment

Following the previous observation on the age distribution of the user base in general, most of the segments have a high percentage of young people in the range of 16-34 years of age. However, S4 which is the Dutch program watching segment has an exceptionally high percentage of the young audience in the age group of 16-24 years of age (Appendix IV.a). This is followed by S6 which represents the Dutch comedy and drama series. S9 which offers family content has a high percentage of people in the age group of 35-44. Segment S5 which represents the movie viewing audience has a greater penetration of population above 55 years of age compared to any other segment. Hence the young people in the age range of 16-34 years mostly watch Dutch programs, Dutch comedy and Dutch drama series. The people in the age group of 35-44 are family show viewers and people above 44 years of age watch more movies compared to the other age groups.

Gender distribution per segment

Following the previous observation of the presence high percentage of female audience compared to the market average, the percentage of female audience in most of the segments is higher except for S5 and S7 which comprises of movie and Dutch suspense series viewing audience (Appendix IV.b). The other segment which show slightly equal distribution is S8 consisting of English suspense series viewers. Content which is extremely popular among the female population falls in S2, S3 and S4. These segments mainly represent Dutch and English soap and the Dutch reality shows. The gender analysis at an aggregate level and then at a segment level points out to the fact that the content which drives men to the platform are suspense thrillers and movies and hence to increase the penetration of Falcon in the male population, the management needs to focus on these particular genres.

Device usage distribution per segment

As observed in figure 4.7, the engagement level of users with Falcon is extremely high over Android phones, iPhones, tablets, iPads, and Smart TVs. This section takes the analysis on a segment level and attempts to draw rational conclusions from the analysis. Segment wise analysis (Appendix IV.c) shows a similar trend in device usage for all the segments with a high percentage of media consumption on Apps and TVs. S9 which consists of kids and family has an exceptionally high usage of Smart TVs for accessing Falcon. The analysis hereby emphasizes that product improvisations should be done for Apps and smart TVs making the platform more stable. This trend also agrees with section 4.1.1 which shows that Falcon has a large penetration of younger audience who are tech savvy and more likely to use phones and tablets for accessing the service.

Viewing time per segment

For the purpose of the analysis, the users are grouped into three categories: Light users with viewing time less than 60 minutes a day, moderate users with viewing time in the range of 60-120 minutes a day, and heavy users with viewing time more than 120 minutes. While most of the

segments have a high percentage of moderate users, it is interesting to note that users who watch English soap and suspense series spend more time on Falcon. Falcon is tailored highly to cater to the Dutch market but the segment S2 and S4 consisting of Dutch soap and program viewers is found to be least active on the platform (Appendix IV.d). The analysis shows an opportunity to target the Dutch population who watch English serials and at the same time, stimulate the Dutch audience to have a higher level of engagement with the service.

Conversion rate per segment

Falcon currently follows a subscription model in which a user is given access to the service for a nominal price for a period of 2 weeks before the subscription fee is charged. While most of the segments have a conversion rate close to 60% or more, segment S4 and S6 which together make up for about 50% of the user base and has the highest percentage of young audience has the lowest conversion rate (Appendix IV.e). As per the observation, young people are less likely to pay for the service.

4.1.3 The popularity of original contents

One of the milestones in the success of Netflix was its decision to produce original content in order to challenge the traditional TV content that suits the changing taste of the users. The trend started back in 2011 when Netflix outbid all the other linear TV channels including HBO to purchase the rights of ‘House of Cards’ committing \$ 100 million on it (Tryon, 2015). This trend shifted the focus of Netflix and other similar businesses to produce series and movies under their own brand with unconventional story lines. The practice of producing a brand owned content allowed them to maintain their existing position in the content distribution market while at the same time compete for differentiation, setting up new standards for digital media industry and acquiring the linear TV viewers (Perryman, 2014).

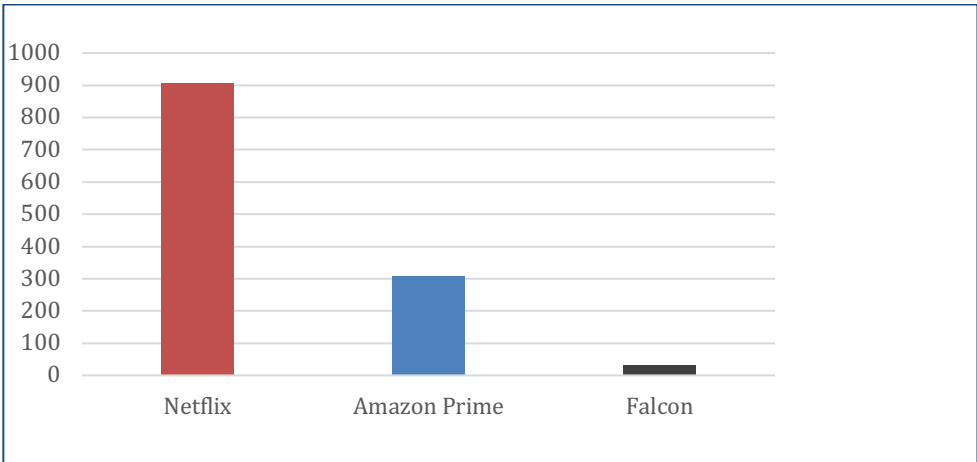


Figure 4. 9: Original titles on Netflix, Amazon and Falcon (Source: Hammil, 2019)

However, the original contents are expensive to produce, and needs dedicated financial investment for a prolonged period of time before the business can start making a profit before the return on investment is substantial. Falcon has 33 original titles whereas competitors such as Netflix and Amazon Prime have 906 and 307 original titles respectively (Hammil, 2019).

4.1.4 Analysis of the sensing capabilities of the organization

Taking into account that a platform-based economy operates with a network of actors and partners, we explore the sensing capabilities of the organization as well as its network of partners in order to suggest improvements in the sensing architecture. Companies operate in a network of strategic partnership benefiting each other and enhance capabilities by providing information and resource advantage. Network embeddedness is a multidimensional context which can be defined in terms of technical, structural and relational paradigm (Zheng et al, 2011). The information gathered through the various entities in the network offers the potential to generate granular insights of the business environment and hence a collaborative network can be viewed as a tool for exploration, potentially helping the management make accurate strategic decisions (Bock et al, 2012).

Falcon operates in a network environment consisting of internal companies and external partners such as Ziggo, KPN etc. to name a few. Ingraining the essence of networks in a business setting, the study lays emphasis on the potential advantage, the network of actors and partners has and investigates the technological capabilities of the same to sense the market opportunities and threats. We align with the definition of technological capabilities for sensing provided by Robert N. and Grover G. (Robert et al,2012) as the infrastructure to gather and analyze information. Following the broader definition of sensing capabilities given by Kindstorm D. (2013), the study explores the sensing capabilities of Falcon in terms of information collection capabilities and dissemination and the usage of the collected information. In order to generate market intelligence, the sensing capabilities of Falcon is discussed in detail below:

A. Information collection

Type of information collected

The information collected can be grouped as user data and market data. User data is generated by the interaction of the customers with the platform and comprises of their socio-demographic characteristics, frequency of consumption of content, genres, likes and dislikes for the videos, and the search history (Person A, Person B). Market data is collected by checking the brand awareness among the Dutch population and brand consideration against the competitors (Person A). While the first set of information coming from the active user base helps the company develop intelligence about the potential user groups based on similar user characteristics and customer preferences, the second set of information obtained by exploring the market helps in understanding the positioning of the brand among the mass.

Channels for information collection

There are different channels through which the data about the customers and market information is gathered. With Falcon platform being the dominant channel for data collection & generating insights, the other online channels consist of websites (web analysis) and social media data (Person A, Person C). For gathering market data, market research is conducted which includes online surveys, WhatsApp surveys, and group interviews (Person A).

Use of internal network of companies to collect data

Falcon is a part of the XYZ group which consists of sister media companies. As of now, all of these platforms operate independently with each other. Hence the data collected by each of these platforms are separate and not linked with each other (Person B). Network embeddedness is found to influence product performance through the network effect and leads to business model innovation (Bock et al, 2012), which serves as the basis of the advantage in a collaborative network, by improving the sensing capabilities. However, the platform in its current state lacks the technical capabilities to merge the independent data sets. Developing the capabilities to merge information gathered via different platforms working under an umbrella organization is filled with challenges, the most common one, being the problem with linking the web and the app data of different platforms. Combining the capabilities of the network can drastically improve the sensing capabilities and Falcon is working towards it. But, as of now, the technical infrastructure to utilize the network effect is found to be absent.

Use of external partners to collect data

Some of the key partners Falcon has, includes KPN and Ziggo which offers Falcon's services to their customers through set up boxes. The partners pay Falcon for the content that is consumed by the digital audience but adhering to the privacy regulations and legal complications, they do not share their data (Person B). Consequently, the quality of the service being offered by the external partners under the brand name of Falcon cannot be monitored. Also, the information on these customers is kept confidential blocking the network effect a platform economy is perceived to realize. The contemporary study assumes a collaborative and competitive alliance, leading to innovation as a feature of the platform ecosystem (Gawer et al, 2014). But the study argues that monitoring such interaction is extremely difficult in case of platforms concerning VOD services because of legal complications involving data sharing. Alliances are formed with a sales perspective and does not facilitate knowledge sharing.

Information collection process about the competitors

Researchers such as Fischer T. (Fischer et al, 2010) emphasize on building sensing capabilities to observe the activities of the competitors. With the VOD industry being closed about information sharing, collecting information on the competitors is difficult. However, Falcon collects information about their competitors by relying on the public reports that are published annually by the competitors, monitoring the technology blogs that often describe the technological projects taken

up by the competitors and by relying on indirect sources such as Internet Service Provider (ISP) reports on the demand and consumption of competitor's content(Person A). Another approach is to web scrap the data from the websites of VOD services and social networks (Person C). But, in most of the cases, the data gathered does not convey significant information and turns out to be redundant.

Quality of the information collected

The quality of the information collected in the current setting is found to be acceptable given the resources the company has for developing the sensing capabilities (Person A, Person B) but poor in general (Person C). The obstruction in the information collected by internal network of companies because of the technical challenges affects the quality of information. The other reason influencing the quality of data is the maturity of the system. Falcon has to go a long way in terms of improving the stability of the system and frequency of data collection in order to improve the data collection and processing architecture. In response to the changing market, steps are taken to improve the quality of the information collected by merging the data collected via XYZ network and at the same time outsource the technologies which would take time to develop internally, but it's a work in progress.

Challenges faced in collecting market information

The challenges that are faced in collecting the information about the potential market segment starts with finding the right data sources. Falcon has more than 80 data sources (Person C) and a lot of data is ingested on a daily basis. For collecting information about the brand awareness and penetration in the market, a careful selection of research partners to conduct surveys and interviews is important (Person A). The other challenges lie in improving the technical architecture of the information collection system which would mean improving the stability of the system and finding out ways to link different datasets associated with various channels. As a result of the closed nature of knowledge sharing in the VOD industry, there are multiple challenges to collect data on the competitors (Person B). Falcon is working on outsourcing the data collection API management, join hands with companies who work with similar data and are open to information sharing (Person C) and tie up with external companies with expertise in this domain such as Salesforce (Person A) to improve the sensing capabilities.

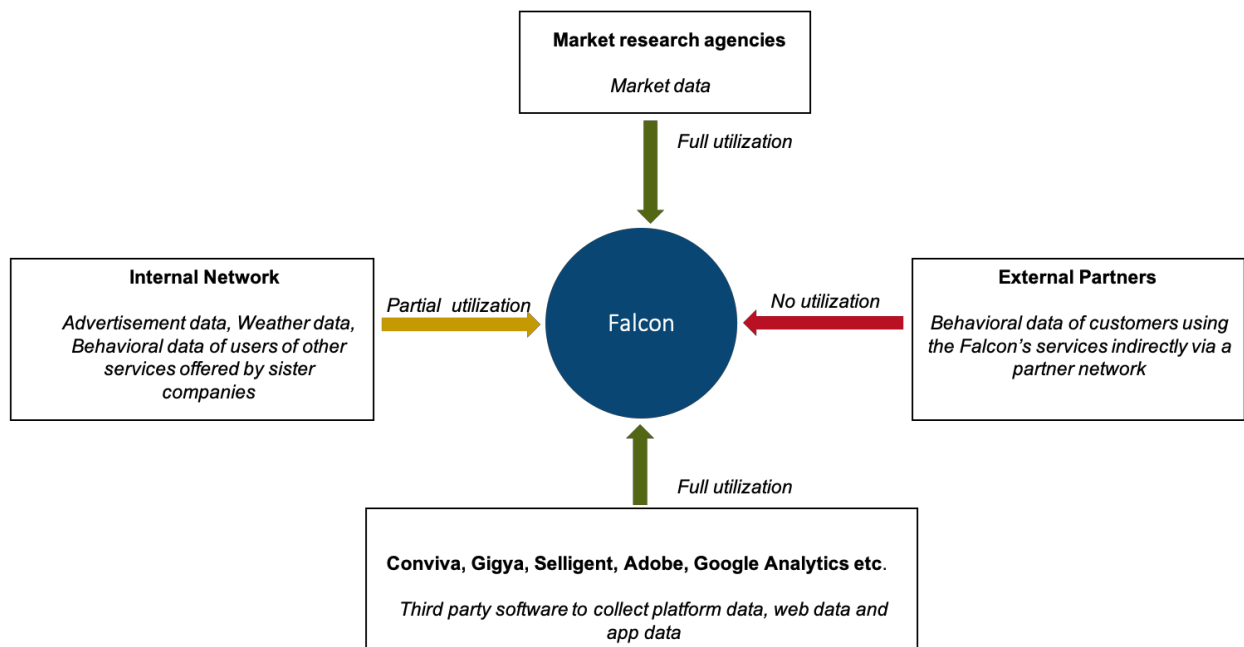


Figure 4. 10: Information collection architecture for Falcon

B. Information dissemination and usage

Stakeholders in data collection and usage

In order to analyze the flow and usage of the information collected, an analysis of the various stakeholders involved in realizing the process has been done. The stakeholders for collecting and using market information at Falcon consists of two broad divisions namely, the internal stakeholders and the external stakeholders. Internal stakeholders comprise of the data Intelligence team which has two sub teams. While one team focuses on improving the various sources through which data is collected and optimizes the technical architecture for data collection, the other team consists of data scientists who looks at the feasibility of the data collected in order to devise the appropriate business logic. The other internal stakeholders with the key responsibility of observing the market and the customer needs and coming up with the requirements to have deeper insights for validating the opportunities is the Data analysis & the strategy team. Requirements for data models to understand the customer segment is laid down by this particular team and conveyed to the data intelligence team and hence the two teams work in close collaboration with each other (Person A, Person B). The external stakeholders consist of data providers responsible for the functioning of technical architecture and data collection from the platform (Person C). Collaboration with third party market researchers is also done to conduct surveys and interviews. To include the creativity element in the information sensing process, content producers are also kept in the loop to understand the changing customer preferences and

improve the value proposition of the service. Figure 4.11 below demonstrates the stakeholder map involved in the sensing process contextual to Falcon.

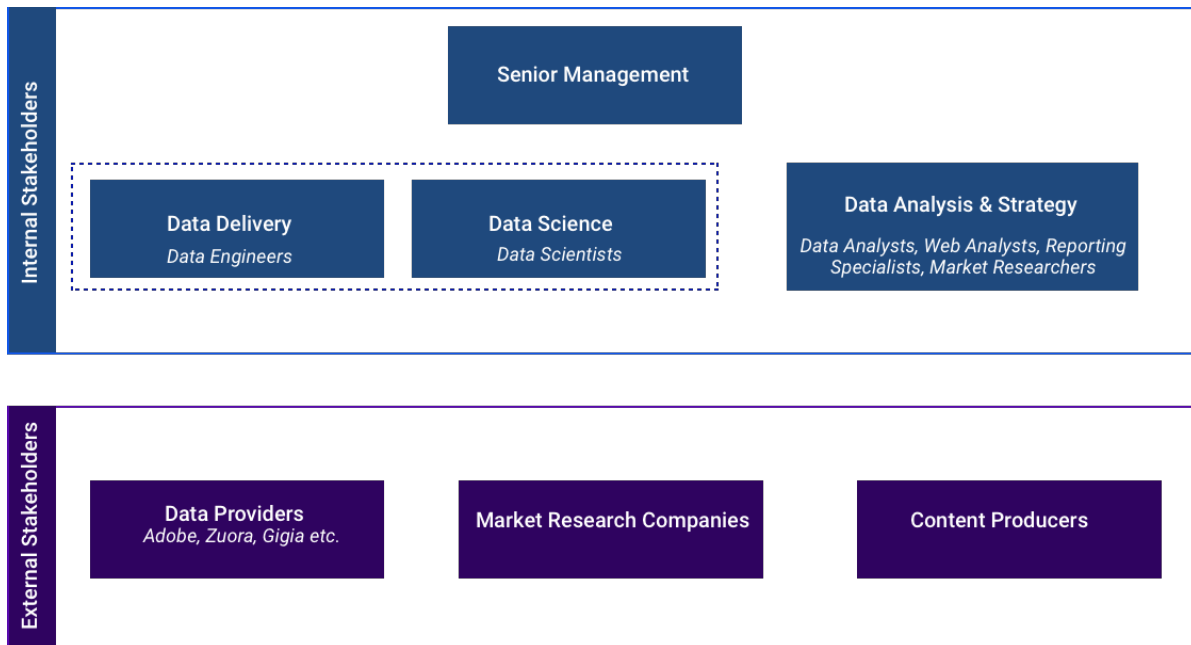


Figure 4. 11: Stakeholder map for sensing market opportunities

Use of the information collected and its impact on business model

The information collected is used for making data models for forecasting, segmenting the market, determining the churn rate, building the recommendation system and personalization of the platform after cleaning the data to avoid duplication (Person B, Person C). The other usage includes designing personalized marketing campaign and buying content to suit the taste of the users (Person A).

Challenges faced in information dissemination and use

One of the key challenges obstructing an efficient flow of information and use, is the structure of the teams in the organization. Reconfiguring the assets and realigning the structure of the team is crucial for a firm to realize new opportunities underpins the third cluster of the dynamic capability framework (Heaton et al, 2014). Product owners of the companies in the internal network work in isolation with each other (Person B), hindering the flow of information. While the organization emphasizes on working in a data driven manner, the VOD industry has a fair share of creativity as well, and to find a balance between the two is an ongoing effort (Person A). The core capability of firm network lies in deriving business intelligence from the information collected but a lot of resources is put on operational process of data collection preventing the company to utilize its core capability to differentiate itself from the competitors (Person B, Person C).

The sensing capabilities of Falcon along with the challenges faced is summarized in the table below.

Table 4. 2: Summary of the sensing capabilities

Information Collection	Type of information collected	<ul style="list-style-type: none"> • User viewing behavioral data • Socio-demographic data • Likes and dislikes of the user • Search history of the user • Brand consideration and awareness
	Channels for information collection	<ul style="list-style-type: none"> • Falcon platform (Web and App) • Social media • Online market surveys & WhatsApp surveys • Group interviews
	Usage of the capabilities of internal network of companies to sense opportunity	Not used effectively because of technical and organizational challenges
	Usage of external partners capabilities to sense opportunities	Not used because of the privacy regulations and legal complications
	Information collection on the competitors	<ul style="list-style-type: none"> • Analysis of the annual reports published by competitors • Technology blogs • Internet Service provider reports on media consumption • Web scraping
	Quality of the information collected	Acceptable given the current resources but needs improvement
	Challenges faced in information collection	<ul style="list-style-type: none"> • Identification of the right data source • Technical challenges with merging the data collected from different sources • Immature technical architecture which often breaks down • Poor collaboration between the partner networks • Problems in finding reliable market research partners
	Stakeholders	<p>Internal stakeholders: Data delivery team, Data science team, Data analysis and strategy team</p> <ul style="list-style-type: none"> • External stakeholders: Data providers, market research agencies, content producers

Information Dissemination and Usage	Use of information collected	<ul style="list-style-type: none"> • For market segmentation • Business intelligence • Improving user experience • Target setting • Designing marketing campaigns • Buying content
	Impact on business model	<ul style="list-style-type: none"> • Improved value proposition of the service • Personalized experience • Product and service optimization
	Challenges faced	<ul style="list-style-type: none"> • Horizontal team structure leading to hindrance in information flow • Poor coordination between the teams • Lack of understanding of data driven decision making process among the non-technical team members

4.2 Seizing the opportunities

Once the new opportunities are identified, the businesses are expected to realize the opportunity through new products, services and processes (Teece, 2007). This section ponders on the different business models which can be used to seize the opportunities identified as a result of sensing. The fundamental business models prevalent in the VOD industry are transactional, advertisement and subscription model which are based on the revenue collection mechanism of the business and often combined to make a hybrid model. But, a revenue mechanism is an element of business model, and it impacts the other elements as well, especially in the service domain such as the target customer base and the value proposition of the service. Additionally, it also impacts the cost structure by enforcing the need to develop new technical competencies, new business infrastructure and new alliances in order to implement the model. This section compares the prevalent business models in the VOD industry and chooses one which addresses the identified opportunities.

4.2.1 The SVOD, AVOD, TVOD and Hybrid model

The Subscription VOD model

Subscription video on demand service emerged in response, to combat pay per view or the transactional revenue model where a user had to pay on a pro-rata basis per content. A subscription VOD or an SVOD model is a popular choice among most of the VOD service providers because a flat rate per month does not only has advantages from the user perspective but from the business perspective as well. A flat fee per month gives unlimited access to a large

library of videos to the users and at the same time allows the organization to have a steady revenue flow and a stable user base. As such, the focus is on user retention, by constantly upgrading the content library and the services (Cammish, 2016). However, the quality of the service is the same for everyone and there is no incentive for customers to request lower quality services creating a saturation in demand concentration (Kim, 2006). As a result, the reach of the service is limited to a niche customer segment with paying capability.

Advertisement VOD model

An advertisement VOD model or AVOD model offers the service free of cost and the revenue generated from ads is used to cover the cost of service and earn profits. AVOD model generally produces less revenue compared to TVOD and SVOD model (Cammish J. 2016; Rappa 2006). The success of an AVOD model depends on the internet traffic received by the VOD platform and hence it works with masses (Burgess et. al, 2007). With the growing acceptance of personalized ads offered on the basis of user data available via various channels, AVOD model has the potential to be a dominant choice of the businesses in the future (Kaysen, 2015). The Dutch media market alone has registered growth in investments in digital advertisements by 40% between 2013 and 2018 (Deloitte report, 2018). With the decline in viewership of linear TV and an increase in the expenditure on digital advertisements focused on online video streaming, there could be a surge in the number of businesses employing the AVOD model in the coming years.

Transactional VOD model

The transactional VOD model or TVOD model does not charge the users for creating a profile and browsing the platform. Hence a user only pays for the content watched. The piece of content paid for, is either available permanently or for a specific period of time. TVOD services are catered around recent movie releases in general and tend to be profitable for customers who want timely access to new releases (Cammish J., 2016). In the current industrial setting, most of the businesses employing transactional model either use it in conjunction with some other revenue model or for streaming seasonal content or movies. From a consumer's point of view, the cost of the service is less as it is a onetime fee for a limited access. On the other hand, businesses strive hard to appeal to the fan base of a particular video. A TVOD model used to be a popular model with a high percentage of audience willing to pay on the go (Vinck et. al 2014) before the success of a SVOD model. It has seen a decline in popularity because of multiple issues mainly concerning piracy, the challenges to retain users and lack of personalization based on previously watch content. Hence the TVOD model is not a popular model anymore (Vdocipher report, 2017). For e.g. YouTube movies which was among the top businesses employing a transactional based model moved their focus to improve the AVOD model and launched a SVOD model in parallel to offer YouTube original and exclusive content (Bastone, 2018) thereby shifting to a Hybrid model.

Hybrid model

Hybridization of business models allows firms to target a diverse group of population and maximize profit (Teece,2018) and hence, it is a widely used internet business model (Rappa,2006). A hybrid model also solves the challenges faced by fundamental business models. For e.g. the AVOD model requires an extremely large user group to make profits and the SVOD model has its reach among the audience with paying capacity. A hybrid revenue model is often adopted targeting customers with varying paying capacities and the willingness to pay. Multiple revenue streams open up the opportunity for the audience to decide if they are willing to subsidize their subscription charges by compromising on the quality of the services and paves the way for the businesses to grow in untapped markets. A hybrid model works very similar to the concept of price bundling of services leading to an increased willingness to pay and a higher retention rate of the users (Gourville et al, 2002; Mankila 2004). The Hybrid models followed by businesses in the SVOD industry have different pricing tiers based on the service quality. For e.g. Hulu in the US has two tiers namely the ad-supported subscription with advertisements for \$7.99 and premium tier for \$11.99. Netflix in the US has three tiers for \$7.99, \$10.99 and \$13.99 (Chamberlain, 2017).

Since the SVOD model pioneered by Netflix, was developed to combat pay per view or the transactional model, it is not followed by the businesses following a Netflix-style model. We hence shift our focus to the popular model in the industry which are SVOD, AVOD and hybrid model. In the following section, SVOD, AVOD and hybrid model are compared in terms of their potential customer segment, value proposition, key activities and cost structure.

4.2.2 Comparison between the SVOD model, AVOD model and Hybrid model

This section compares the SVOD, AVOD and Hybrid model in terms of their potential customer segment, value proposition, key operations to implement the model and the change in the cost structure upon implementation

Customer Segment and Value Propositions

The SVOD model which is currently followed by Falcon caters to a young user group having the capacity and willingness to pay for a monthly subscription cost. The core value proposition of the services lies in uninterrupted video streaming and personalized user experience which is delivered by collecting user data and analyzing it to build recommendation system for the users. An AVOD model has a different user base all together, consisting of users who want to avail the service for free as the source of revenue is advertisements (Rappa,2006). The other major difference lies in terms of the value propositions where the uninterrupted ad-free streaming in case of the SVOD model, is replaced by a free service and personalized advertisements which are relevant for the users. In case, a Hybrid model is followed, the target customer segment would

be the users who can pay a higher price for a premium quality service and the users who are willing to pay less by opting for a lower quality service with ads. The key change in value proposition would be a subsidized service in compensation for watching ads.

Key operations

For SVOD model, the key operations include marketing to attract a specific audience to the platform with paying capabilities and analyze data to deliver personalized service experience. The AVOD model is only successful with a large audience (Rappa, 2006; Savio 2013) using the platform and hence would change operational activities such as marketing, from targeting a niche market with paying capabilities, to targeting the mass population as ad revenues depend on the number of users engaging with the service. Since ads are delivered through streams, a higher user engagement would have to be ensured to increase the number of streams which in turn would maximize the ad revenue. At present, the user engagement is low in segment S4 and S6 making up for half of the user base of Falcon. The user data collected would not only be used for offering tailor-made experience based on viewing behavior, but to offer relevant ads as well (Savio, 2013). New alliances would have to be made with the advertisers in order to sell ads. For a Hybrid model, marketing would be done to attract the audience with paying capabilities along with the audience who are willing to pay less. The analysis of the data collected would be to offer personalized service and relevant ads. Similar to the AVOD model, higher user engagement also needs to be ensured and new alliances with advertising networks has to be embraced.

Cost elements

Compared to the SVOD model, both the AVOD and the Hybrid model adds up to the cost structure of the service by increasing the cost of the technical infrastructure to host ads on the platform. Cost also increases in terms of the resources to personalize ads based on the profile data collected (Savio,2013). Since, it also diversifies the user base, the cost of marketing would go up. However, the cost of marketing with AVOD model is higher than the hybrid model because the target base is not entirely different as in the case of the former model. A visualization of the changes in the business model elements with respect to SVOD model, in case of an AVOD model or hybrid model implementation is presented on the opportunity-centric business model wheel below.

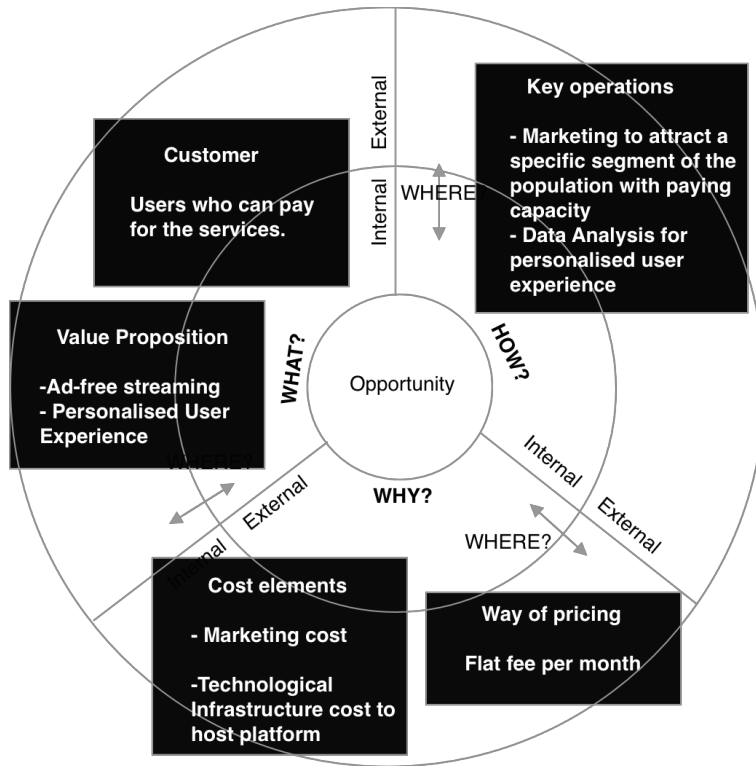


Figure 4. 12: The SVOD model

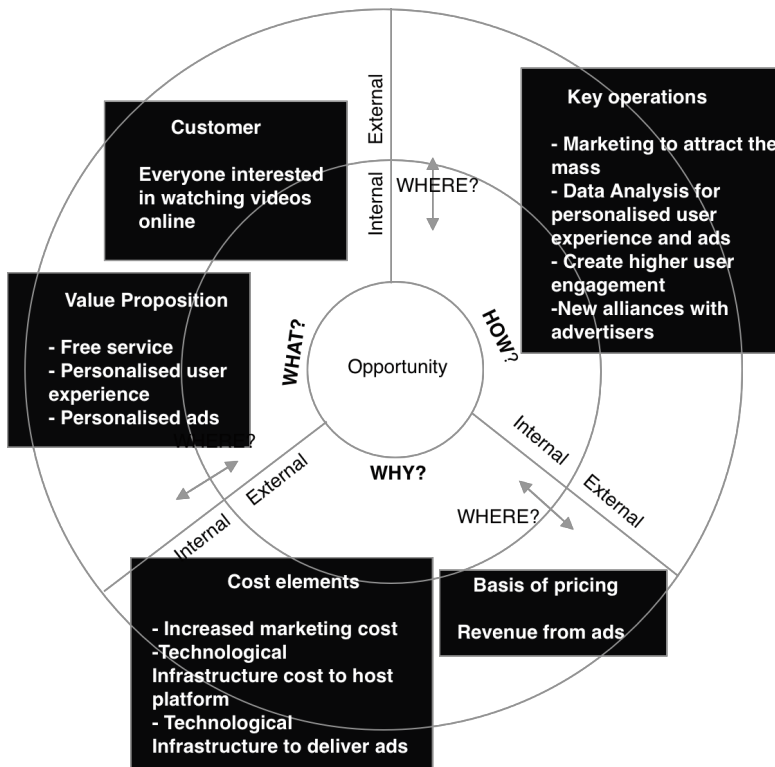


Figure 4. 13: Differences in AVOD model in comparison to SVOD model

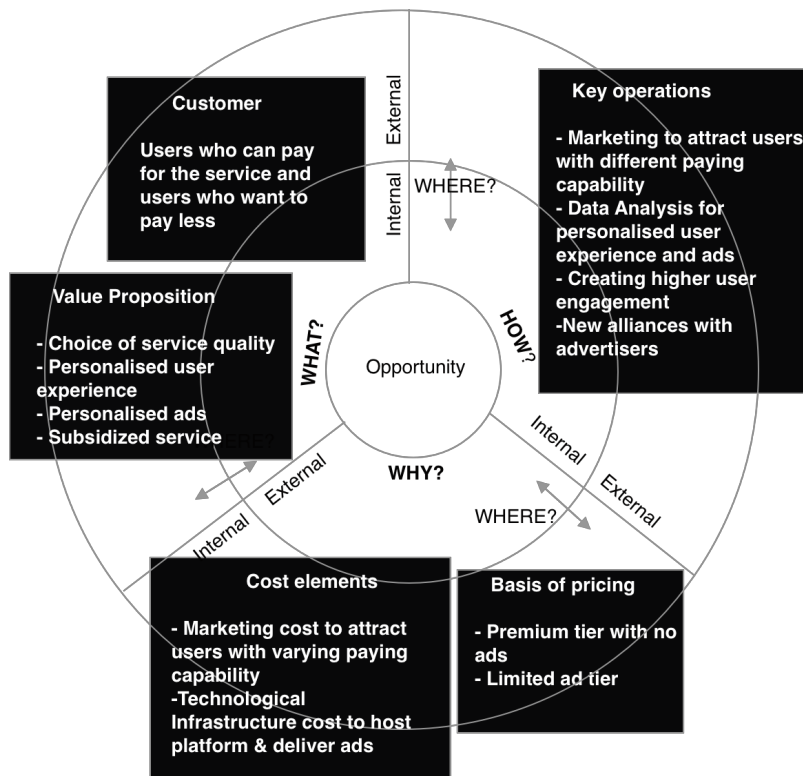


Figure 4. 14: Differences in Hybrid model in comparison to SVOD model

4.2.4 Revenue Potential of SVOD, AVOD and hybrid model

Falcon as of now follows a pure subscription model where a flat fee of 8.99 euros is charged per month. Similar to Falcon, XYZ network also owns another VOD platform Falcon X which works on an AVOD model. The analysis below takes data from Falcon to calculate the revenue potential of the pure SVOD model. Since data on advertisements is needed to calculate the revenue potential of the AVOD model, some information is taken from Falcon X platform to arrive at an approximation.

Revenue potential of the SVOD model followed by Falcon:

SVOD model has a fairly simpler structure compared to AVOD model as the charges are fixed per month and the revenue can be forecasted based on the number of paying subscribers on the platform. The formula used for arriving at the result is:

Total revenue generation per month = Number of paying subscribers x Flat fee per month.

Table 4. 3: Revenue potential of SVOD model

Approximate number of paying subscribers on Falcon	580,000
Subscription price per month	8.99 euros
Total revenue generated per month	5,214,200 euros

Revenue potential of the AVOD model if implemented:

Unlike the SVOD model, forecasting the revenue generation is a complex process for AVOD model owing to its dependency on various factors such as the user engagement with the platform and the number of streams watched by users on an average. The average number of streams watched by a user per month on Falcon was found to be 37. The data from Falcon X showed that the average number of advertisements per streams is 4. The average length of videos for both the platform is roughly the same. The revenue generation per advertisement being displayed is 0.018 euros. Compiling the data together, the revenue generation potential of a pure AVOD model if implemented on Falcon is presented below.

The formula used for calculating the total revenue per month is: Total revenue generated per month= Number of active users (paying users + users on trial) x Number of streams watched per user per 30 days x Number of ads per stream x Revenue generated per ad.

Table 4. 4: Revenue potential of AVOD model

Number of active users	620000
Number of streams watched by a user on an average	37
Total number of streams per month	22940000
Ads per stream	4
Revenue generated per ad	0.018 Euros
Total revenue generated from ads per month	1,651,680 Euros

The revenue potential of a pure AVOD model is significantly less compared to the SVOD model, but it has the potential to attract a large user base to the platform as the service is free. However, implementing a pure AVOD model would have an effect on the existing customer because, there are users with the paying capacity who would not like to watch videos with advertisement and would perhaps switch to another platform. To negate the effect of losing customers as a result of business model alterations, a company often does hybridization of the existing models (Teece, 2018; Rappa 2006) with the opportunity to combine different models being endless. For e.g. If we

look at the existing VOD market, companies like YouTube are running a pure AVOD model and a SVOD model together in order to retain their existing customer base and at the same time, reach out to new market segments.

The Revenue potential of the Hybrid model

For calculating the revenue potential of the hybrid model, it is crucial to understand the willingness to pay for a subsidized service compared to the superior service. A non-interrupted video streaming service can be treated as a superior quality service (premium tier) compared to the one with advertisements (limited ad tier). Willingness to pay is positively correlated with the price of the service (Ely et. al, 2009). The existing research on willingness to pay based on the service quality in case of video streaming shows that, if an option to avail a superior service at a higher price and an inferior service at a lower price exists, the majority of the users (almost 76%) would move to a service with a lower price unless the quality of the service is extremely poor (Sackl et. al, 2017). For the ease of the analysis, the price of the limited ad tier is assumed to be 5.99 euro as compared to the current subscription price of 8.99 euro by looking at the pricing structure of Netflix & Hulu where the difference in pricing between two tiers is roughly 30% (Chamberlain, 2017). Aligning with the results of the analysis, Table 4.5 shows the revenue generation of the hybrid model. The number of people in the limited ad tier is assumed to be 76% of the user base and the number of people in the premium tier is assumed to be 24% of the user base. The limited ad tier pays a monthly subscription price lesser than the premium tier. Hence, the revenue from limited ad tier comes from monthly subscription per month and the advertisements.

Table 4. 5: Revenue potential of hybrid model

Total paying base		580000	
Limited ad tier base	440800	Premium base	139200
No. of streams per person	37	Flat fee per month	8.99
Ads per stream	4		
Revenue per Ad	0.018		
Total ad revenue from ad tier	1174291		
Flat fee per month from ad tier	5.99		
Flat fee from ad tier	2640392		
Total revenue from ad tier	3814683	Total revenue from premium tier	1251408
Total revenue		5,066,091	

The total projected revenue from a hybrid model is slightly less but comparable to the revenue generated via SVOD model. It not only allows the existing base to choose the quality of the service they are willing to pay for but also captures users in the trial period with lower paying capacity. As such, the model shows a high potential to generate revenue even with a minor improvement in the conversion rate of the users from the trial period to paying customer base. Figure 4.15 demonstrates the revenue potential of the 3 models discussed, as per the calculations.

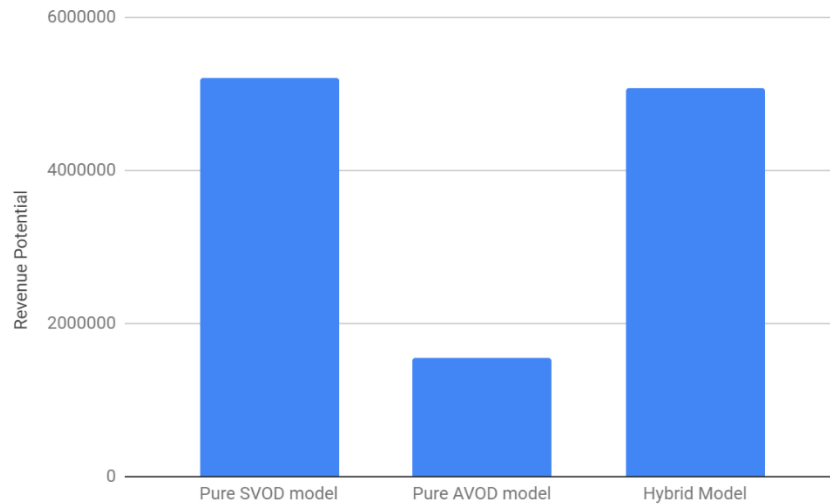


Figure 4. 15: Revenue generation potential of the business models

4.2.5 Selection of a business model based on the results of the comparison and capabilities of the firm and its network

In comparison to the SVOD model, both the AVOD and hybrid model entails new costs in terms of increased marketing budget and technology development to host ads. However, marketing budget would be significantly higher for AVOD model as it is only successful by attracting a high volume of users on the platform (Burgess et. al, 2007). Also, the revenue potential of the AVOD model is lesser than both SVOD and hybrid model. While the hybrid model lets Falcon retain its existing user base, the AVOD model addresses an entirely different user base and completely alters the existing customer segment from paying subscribers to free users. Hence the hybrid model is a better choice to follow as it projects a higher revenue potential than AVOD model and comparable to SVOD model, its implementation cost is lower than AVOD model, it allows Falcon to penetrate new segments with affinity towards VOD services and lower paying capabilities, and at the same time retain its existing user base.

From the data collected via the interviews, it was observed that the core capability of Falcon lies in using the XYZ network to collect behavioral and profile data of the users and offer them personalized experience. Besides that, XYZ network also has Falcon X which is an AVOD platform with the technical capabilities to host ads. XYZ also has an ongoing relationship with the advertisers owing of its linear TV channels and has Spot Y, which is a digital ad-serving platform

helping businesses to maximize their advertisement revenues (Company report, 2018). Hence, the hybrid business model fits with the existing capabilities of Falcon. Business model transitions fitting with the existing capabilities are easier to implement and with small tunings becomes the engine for profit generation (Teece, 2018). The hybrid business model addresses the opportunity to increase the conversion rate from trial user base to paying base, in the segments S4 and S6, having the highest penetration of young audience in the age group of 16-24 years with lower paying capabilities (Figure 4.16). S4 and S6 together make up for half the user base of Falcon and stimulating the users to pay by offering them a subsidized rate strengthens the potential to generate higher revenue than the existing SVOD model. Business models in the VOD industry are designed from a revenue perspective and hence address opportunities concerning revenue mechanism. Therefore, It has to be redesigned to account for the other opportunities identified in the sensing phase (Teece, 2018).

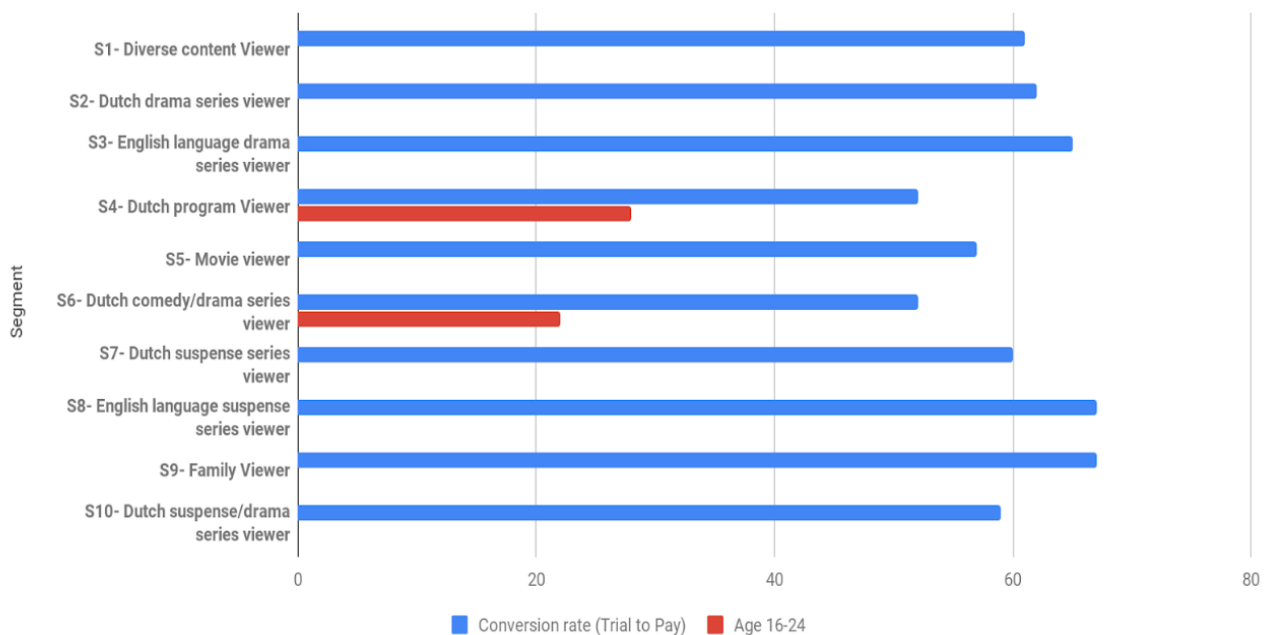


Figure 4. 16: Conversion rate per segment and the percentage of young audience in segment S4 and S6.

4.3 Transforming

Business models are closely linked to the dynamic capabilities of an organization as an organization with strong dynamic capability is able to revise, implement and test business models with changing market and technological situations. Successful implementation of a business model relies upon the architectural design, ability to orchestrate asset in light of the dynamic business environment and the learning function (Teece, 2018). From the full menu of the business model selected, an organization selects one which fits with its core capabilities and can be

achieved with the present resource base either via reconfiguring the existing capabilities or by building new capabilities. Transforming capabilities are also underpinned by organizational structure and practices and the presence of learning curve to respond to threats quickly (Teece, 2018; Wang et. al, 2007). In this section, we measure the transforming capabilities of Falcon by accessing its ability to reconfigure resources and build additional capabilities, in order to select the final elements of the business model. We also measure the ability to respond to changes by exploring the organizational structure, practices and presence of a learning function. Lastly, we look at the organization's ability to manage threats posed by the competitors.

4.3.1 Alignment of existing capabilities and investment in additional capabilities

Core capabilities of Falcon

A business model requires existing capabilities to be aligned with the elements of the model and often needs investment for building additional capabilities for a successful implementation. A company with strong dynamic capabilities generates profits by aligning the existing capabilities and responding to the market with additional capabilities (Teece, 2018). The existing capabilities of Falcon includes a large library of local content and their ability to understand the local market (Person D, Person E). The other capabilities are to offer a personalized user experience to the local audience based on the user data collected from the platform (Person E) and deliver smooth customer journey to the app users (Person F).

Weak Capabilities of Falcon

Falcon does not have a mature technical infrastructure and has a relatively small base of software developers dedicated to working towards improving its platform (Person D, Person E). The platform also suffers from certain technical problems which are not being addressed timely, given the scarcity of technical human resource (Person F). Some of the propositions the company has in order to build additional capabilities includes alliances and partnerships. Entering into alliances could help the company share the cost of developing technology and would enable entry into a new market (Person D). Effective utilization of the existing resource base can also help to build a better technical infrastructure (Person E).

Availability of resources to build additional capabilities

A business model requires major resource investment and a steely commitment for successful implementation (Teece, 2018). In the current setting, the teams are allotted a fixed budget, 50% of which is for improvement, while the remaining 50% goes towards maintenance and issue resolutions, making it difficult to invest in additional capabilities (Person F). The XYZ group has the necessary resources to spend on Falcon, however, they spend only when there is a high potential of return (Person D). The current allocation of resources allows the firm to make small progress but is insufficient to undertake bigger projects (Person E).

Availability of the resources to target new market

In the current setting, Falcon does not have the resources to target a completely new market, however, a market which lies within the existing user group can be targeted for e.g. Dutch males (Person D). From a marketing perspective, new groups can be targeted but the major challenge lies in building additional value propositions for the new target group. Therefore, Falcon lacks the resources to develop its services for catering to an entirely new market (Person E, Person F).

4.3.2 The Organizational structure, managerial practices and flexibility for responding to the changes in the business ecosystem

Organizational structure and managerial practices

An organizational design that has decentralized authority and a smaller number of management levels undergoes a faster transition in the dynamic business environment and profits better from its dynamic capabilities (Teece, 2007; Gavetti, 2005). Falcon operates in a matrix structure consisting of three levels of management which are the product owners, the product managers and the board of directors (Person E). Although the structure is decentralized, there are multiple levels of hierarchy to follow (Person D). In order to respond to the changing business environment, the team coordinates with the product owner who coordinate with the managers. The managers can take a decision if the change is small, however, if the change is substantial, the board has to be involved (Person F). Hence, the response to changes is slow because of the multiple levels of management. The project management style is a combination of agile and waterfall methodology. While some teams follow an agile method with weekly scrum, others follow a waterfall methodology causing clashes in responding to changes because of their interdependencies on each other (Person E).

Learning function

The ability to respond to opportunities and threats also draws upon the learning functions of an organization and the one which effectively utilizes its learnings from the past responds faster to transitions (Wang et. al, 2007). Falcon has a central system for documenting the reflections from the past experience, but it is not used effectively (Person D). It is up to the teams to document and pass on their learnings (Person E). Given the dynamic nature of the industry, learnings from the previous projects are difficult to follow (Person F)

Challenges faced in responding to changes

Interdependencies between the teams makes it difficult to restructure in response to a market transition (Person D). In order to seek out new opportunities, it is crucial for everyone to understand the importance of changing (Teece, 2018) which is missing in the teams at Falcon

(Person E). The scarcity of resources in terms of technical human resource obstructs transformation (Person F). The current focus of Falcon is on stabilizing the platform and improving the technical infrastructure (Person D) which makes the company less flexible to respond to changes in the market. The response also depends on the nature of the transition which is barred if the transition requires technical expertise and big investments (Person E). In general, the company is slow to respond to changes.

4.3.3 Managing threats and maintaining a sustained competitive advantage

Ability to manage threat

The ability to manage threat is a micro foundation of the transforming capabilities of a company and failing to effectively manage threats can turn the newly designed business model redundant (Teece, 2007; Teece 2018). In order to manage threats, a company should continuously scan the market and act on the information collected. Given the resources and the capabilities of the infrastructure, Falcon’s ability to identify threats in the market, by collecting and analyzing market data, is satisfactory but needs improvement (Person D, Person E). The company timely foresees trends in the market and correctly identifies the threats posed by its competitors (Person F). However, it lacks the ability to respond to these threats by experimenting and testing innovative product propositions and business models because of shortage of resources, thereby affecting its ability to timely act on the information collected (Person F).

4.4 Summary of the findings

The summary of the results of the transforming capabilities are mentioned in Table 4.6 under three broad headings explaining the resource reconfiguration capabilities, analysis of the organizational structure and practices and, the ability to manage threats.

Table 4. 6: The summary of transforming capabilities

Alignment of existing capabilities and investment in additional capabilities for honing the business model	Core capabilities	<ul style="list-style-type: none"> • Strong library of Dutch content • Personalized user experience based on behavioral data • Smooth service delivery on Apps • Understanding of the Dutch market based on market data
	Weak capabilities	<ul style="list-style-type: none"> • Technical infrastructure • Human resource base of software developers
	Availability of resources to build additional capabilities	Not available at the moment

	Availability of resources to target new markets	Available for target groups within the current customer base but not available for targeting an entirely new base
Flexibility to respond to changes	Response to changes in the business environment	Slow at the moment
	Organizational Structure	Team Structure: Semi-autonomous teams working in a matrix structure with multiple levels of hierarchy Management style: A mix of agile and waterfall management
	Use of learning function to respond to the changes faster	Not used effectively
	Challenges faced in responding to changes	<ul style="list-style-type: none"> • Interdependencies between the teams • Lack of motivation in teams to restructure and change • Lack of resources
Managing threats	Threats faced currently	<ul style="list-style-type: none"> • New entrants in the Dutch market with innovative business models and a focus on niche markets • Big businesses entering the Dutch market with better service quality and huge library of international content
	Ability to collect and analyze information to identify threats	Satisfactory and can be improved
	Ability to act on the threat	Poor because of the lack of resources and the large number of decision makers to go through

5. Analysis of the Results

This chapter demonstrates the analysis of the results obtained in the previous chapter and explores how the dynamic capability framework leads to the selection of a business model. On the basis of the findings, the chapter suggests improvements in the conceptual framework designed in chapter 2 and presents empirical insights on the process of selecting a business model by utilizing the dynamic capability framework as a tool.

5.1 Analysis of the sensing cluster for selecting a business model

5.1.1 Identification of market opportunities on the basis of existing technological possibilities

Market Opportunities

The research commenced by creating customer segments based on the user data available (Teece, 2018) leading to the identification of potential target segments along with the determination of the value propositions which needs to be built in order to attract and retain these segments. However, in order to validate the identified opportunity, analysis of the market data on the competitor's service is found to be useful. Hence, customer segmentation supported with market information helps in identifying new markets to target, improves product offerings and helps in staying competitive by aligning with the market dynamics and changing user behavior.

In the context of the case studied, the results show that the penetration of the services is extremely high in the Dutch population lying in age group of 16-34 years and undergoes a gradual decline as we move to the mature age groups. While, it can be argued that the penetration of technology, in general, is higher among the millennial population, the age wise distribution on one of the competitor's platform showed that the penetration of its service has uniformity in the age groups lying below 55 years (Section 4.1.1). The gender distribution on the platform showed a high percentage of female audience compared to the male audience which is highly uneven compared to the competitors. Hence, the opportunity lies in increasing the penetration of the service among matures and the male audience. It was found that the percentage of people with low educational level is slightly higher compared to competitors. The possible reason for this is the presence of a young user base on the segment. In terms of service consumption, it was found that most of the users consume the service on mobile apps and smart TVs and hence, should be the focus to improve service delivery. Analysis of the market documents on the competitors also showed opportunities to add original content and international content to the platform to stay competitive and attract international audience.

Value propositions for the potential segments

In order to identify the characteristics of the user base to understand the value propositions for existing users, segments were created based on the type of content watched by the users and the language of the content, given the reason that the VOD industry is content driven. Additional

demographics were imposed on the segments to understand the value propositions for each segment in detail which is mentioned below:

Age wise distribution per segment: It was observed that the young audience in the age group of 16-34 years have a high affinity towards Dutch program and drama series. The mature audience comprising of 35-44 years mostly watches family shows and people above 44 years of age are more interested in watching movies (Section 4.1.2).

Gender wise distribution per segment: All the segments have a higher percentage of female audience except S5, S7, and S8 which had 61%, 52% and 50% (Appendix IV.b) of males compared to females respectively and the segments represents movies, and Dutch and English suspense series viewers. The popular genre for male audience is movies and suspense series and since these aren't the core focus of the business, the penetration of male audience is low.

Device wise distribution per segment: A device level distribution showed a high percentage of App and Smart TV usage for all the segments. Most of the segments had a near equal percentage of App and Smart TV usage, however, the segment S9 which consists of family audience used Smart TVs more to access Falcon (Section 4.1.1, Section 4.1.2).

Activity level distribution per segment: The activity level distribution per segment showed that most of the users spend 60-120 minutes on the platform. The activity is high for people watching English content on the platform. The biggest segment S4 is second least active segment on the platform (Section 4.1.2).

Conversion rate of the users from trial base to paying base: Most of the segments have a conversion rate of 60% or more except segment S4 and S6 which represents the Dutch program viewing segment and Dutch comedy/drama series viewing segment respectively (Section 4.2.1). Both S4 and S6 have a higher penetration of young audience compared to any other segment (Section 4.2.5). Hence it was observed that the young population on the platform is less likely to pay for the services.

Table 5. 1: Opportunities identified with the respective value proposition

Market Opportunities	Value propositions & Offerings
Increase penetration of male audience	Building a strong library of movies and suspense thriller
Target mature audience above 34 years of age	Building a strong library of family shows and movies
Increase conversion rate in existing segments comprising of young audience in the age group of 16-24 with lower paying capabilities	Offering a subsidized service
Increase the penetration of international users and original content viewers	Investment in international & original content

Table 5.1 above, summarizes the identified target segments along with their value proposition or key offerings on the basis of the customer segmentation and analysis of the market data. In terms of service opportunities, the delivery of the service on App and Smart TVs should be prioritized compared to web and a higher user engagement with the service should be created.

5.1.2 Analysis of the sensing architecture enabled by the company and its network of partners

The sensing capabilities are explored under the broader definition of sensing presented by Kindstorm D. et. al (2013), by looking at the ways of collecting information about the market and competitors and the mechanism for the usage and dissemination of information to arrive at the technological development needed to improve sensing.

Information collection

Falcon collects information about the market by analyzing the data generated on the platform which consists of behavioral data, profile data and socio-demographic information to understand the preferences of the existing user base. It also collects qualitative market data to understand the brand awareness and positioning in the Dutch market. Data collection is done via various online channels such as the service platform and social media platforms and offline channels such as surveys and group interviews. The information about the competitors is collected through secondary sources by analyzing the annual reports published by the competitors, technology blogs, ISP reports and web scraping. However, such data is hard to interpret and deemed redundant quite often (Section 4.1.4.A)

In order to improve the sensing architecture for information collection, certain challenges need to be addressed ranging from the identification of right source to the technical challenges in merging them. Also, the existing architecture often breaks down slowing down the frequency of data collection and hence needs improvement in its overall maturity. The challenges faced, affects the company's ability to utilize its internal network of partners effectively and thus compromises on the advantages of network embeddedness in the business architecture which inculcates product innovation and knowledge sharing (Bock et. al, 2012). The other challenges faced spans beyond the technical issues to organizational problems. The external partners do not share customer information with the company because of their closed nature. Moreover, managers in the internal network do not coordinate with each other to improve the architecture collectively.

Information dissemination and usage

For an effective analysis of the information collected to identify opportunities, it is crucial to understand the ways in which the information is disseminated and used. To start with, the stakeholders in Falcon for realizing the sensing process consists of internal stakeholders which includes data delivery team, data science team and data analysis & strategy team. The data delivery team is responsible for collecting information from the platform and the other two teams are responsible for the analysis and implementation. The external stakeholders in the process consists of data providers, market research agencies and content producers. The information

collected is used for market segmentation, business intelligence, improving user experience, and designing marketing campaigns, impacting various elements of a business model such as determining the target group and improving the value propositions by offering personalized experience and optimizing the product and services (Section 4.1.4 B)

However, the current architecture for information dissemination needs improvement at organizational and cultural levels. Companies in the XYZ network work in isolation with each other in a horizontal team structure which obstructs an effective flow of information and effects coordination between the teams. Owing to the creative nature of the industry, there exists a lack of understanding of data driven decisions in the teams which impacts the sensing process. A summary of the higher order capabilities to be developed to improve the sensing mechanism is summarized in Table 5.2 below.

Table 5. 2: Capabilities to be developed to improve sensing mechanism

Development to improve opportunity identification process	Current Issues	Nature of Improvement
Complete utilization of internal network of companies to sense opportunity	<ul style="list-style-type: none"> Companies in the XYZ network work in isolation with each other, Technical challenges with merging information collected from various sources 	Technology and Organizational domain
Use the capabilities of external partners to sense opportunity	External partners do not share customer and market information	Organizational domain
Develop capabilities to collect information on the competitors	Reliance on indirect and inefficient sources	Technology domain
Improve maturity of the current technical architecture to identify opportunities	Often breaks down and the frequency of data collection is low	Technology domain

5.2 Analysis of seizing cluster for comparing and selecting a business model

The seizing phase is linked with the value capturing mechanism in the business model design and involves coming up with a business model to address the opportunities identified as a result of sensing (Teece, 2018). The sensing phase resulted in the identification of the new target groups and the underlying value propositions to stay competitive in the market. In order to exploit the opportunities, the study explored the various business models existing in the VOD industry in terms of the potential customer segment they address, their value propositions, key activities, cost elements and the corresponding revenue potential. Based on the analysis, a hybrid model showed a near equal revenue generation potential to the SVOD model with the possibility to increase the conversion rate from trial base to pay base in the younger user segments with lower paying capacity and accounting for 50% of the total base (Section 4.2.5). A hybrid model incorporates two value delivery systems (Fuller et. al, 2013), one for the users who are willing to

pay for higher quality services and the other who do not mind the lower quality services at a subsidized rate letting the company retain its existing user base. For implementing the hybrid model, personalized ads have to be offered to the users and hence requires new investments to setup a technical infrastructure to host ads and new alliances with advertisement companies to manage the ad inventory. Further, it entails a higher user engagement with the service to maximize the ad revenue. However, the requirements were found to be in line with the core capabilities of Falcon to gather granular user data from the wide array of companies in the network for delivering personalized user experience and could possibly be extended to deliver relevant ads. The technical requirements of building an infrastructure to host ads can be fulfilled by leveraging the technical capabilities of Falcon X which is a sister company of Falcon and follows a pure AVOD model. The other company in the network, Spot Y with the core focus to manage ad inventories of businesses could be utilized to support the Hybrid model. Since, the core design of the existing model is based on the revenue mechanism (Rappa, 2001), it addresses opportunities concerning growth in revenue and needs to be fine-tuned to account for the other opportunities in the sensing phase.

5.2.1 Business model to seize the identified opportunity and maintain a sustained competitive advantage.

The business model chosen from the results of the comparative analysis would not address all the opportunities owing to its generic design and needs redesigning to account for other opportunities. The elements of the business model accounting for all the opportunities is presented below:

Customer Segment

The current segment of Falcon has a high penetration of users in the age group of 16-34 years who watch local Dutch content on the platform (Section 4.1.2). This is in alignment with their target market segment. However, the niche market is vulnerable to dilution with big businesses like Netflix starting to produce original Dutch series (Netflix media center, 2018). Since Falcon already has a young base with low paying capability, a hybrid model retains the existing base and would conquer the segment with a lower paying capacity. The existing base also has low penetration of male audience and mature audience above 34 years of age (Section 4.1.1; Section 4.1.2). Because of the high focus on local audience, the international viewers form a small percentage of the user base. The proposed business model diversifies the target segment to male audience, mature audience and international audience.

Value Proposition

The current value proposition of the service is uninterrupted video streaming with personalized user experience. The new business model retains the existing value proposition and widens it by giving its users, the flexibility to opt for a subsidized service.

Key offerings

With reference to Table 5.1, the key offerings in terms of content which currently comprises of a big library of Dutch programs has to be extended to movies, suspense series and family shows to increase the penetration of males and mature audience (Section 4.1.2). For attracting international users to the segments, international content has to be added to the platform. Since, original content is becoming a differentiator in the SVOD industry, the model recommends investment in original content to attract the segment for which it is a criterion in choosing an SVOD service.

Key operations

To target the potential user segments, marketing has to be broadened to extend the reach to males, matures and international audience. The data for offering personalized user experience also widens for offering personalized ads to the lower paying tier (Section 4.2.2). To maximize the ad-revenue, higher user engagement needs to be created.

Key alliances

The business model also entails new alliances with advertising companies to manage ad inventory, which can be fulfilled by leveraging the expertise of Spot Y, a sister company in the XYZ network (Section 4.2.5). The data collection architecture also needs improvement as the quality of data impacts personalization of both, user experience and advertisements. Therefore, the existing alliances with internal and external partners should be improved and strengthened.

Way of delivery (Channels)

The results of sensing process showed that mobile Apps and smart TVs are the preferred mode for media consumption on the platform and hence the service delivery on these devices should be improved (Section 4.1.1). Service is delivered currently on the Web, App and Smart TVs with a focus on the App users. The proposed business model recommends improved service delivery on Smart TVs as well along with the App.

Cost elements

Compared to the existing cost elements, the proposed business model adds up to the cost structure by entailing new cost avenues for running marketing campaigns in order to target the additional segments, increased cost of the content to cater to the acquired segments, cost of improving the data collection architecture and the cost of developing the infrastructure to host ads (Section 4.2.2). While most of the costs are inevitable, the cost for running ads can be shared with sister company, Falcon X which already has the requisite infrastructure.

Way of pricing.

The way of pricing in the proposed business model is hybrid with two tiers. The first tier is the premium tier with no ads and the second tier is the subsidized tier with advertisements (Section 4.2.2).

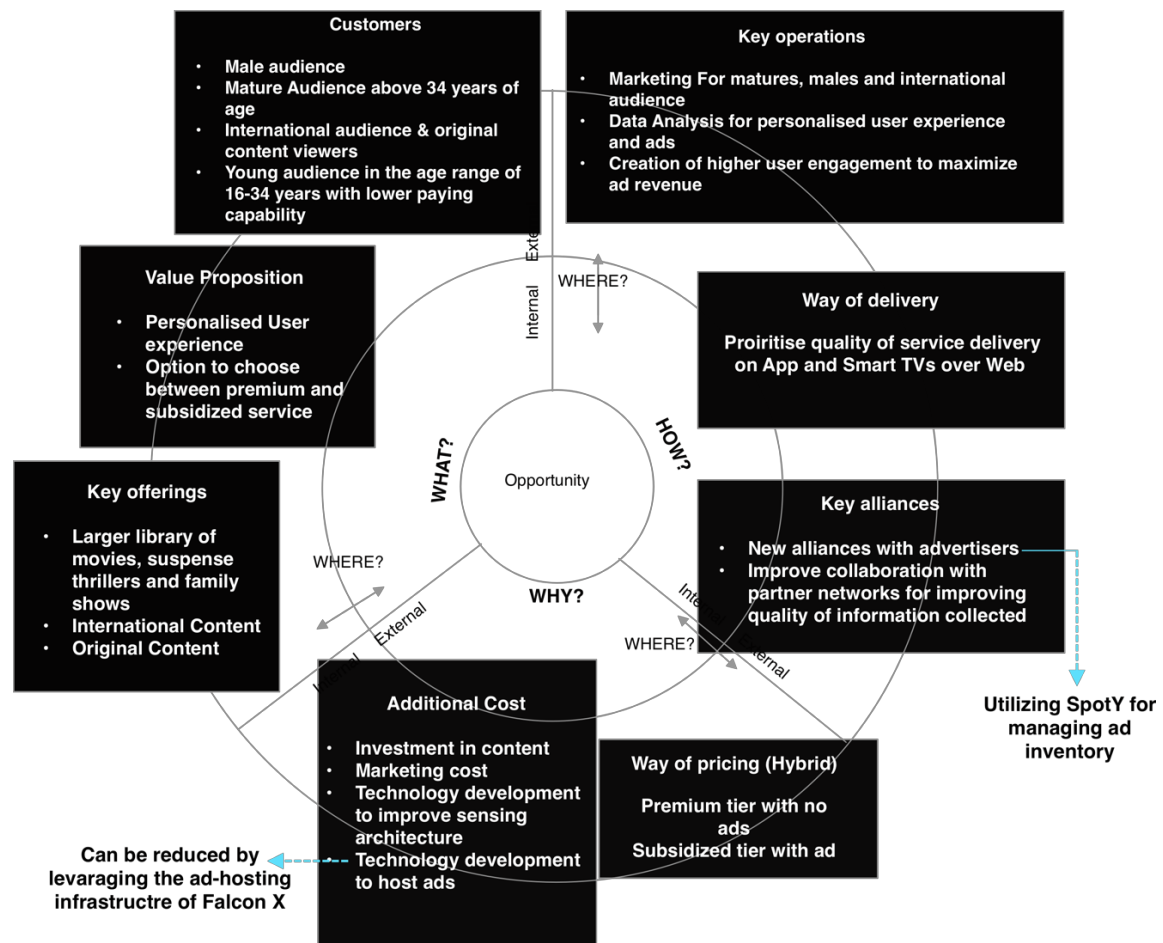


Figure 5. 1: Business model to seize the identified opportunity and maintain a sustained competitive advantage

5.3 Analysis of transforming capabilities for selecting a business model and building a competitive advantage

A business is very unlikely to choose the full menu of the business model and the choice depends on the dynamic capabilities of the organization (Teece,2018). The transforming capabilities helps in selecting the final component of the business model by exploring the ability of an organization to reconfigure existing capabilities and resources or build additional capabilities to implement the model. The other dimension of interaction is the organizational structure, practices & culture and the ability to manage threats in order to stay competitive in the business environment. This study

explored the transformation capabilities of Falcon to understand realignment of the existing capabilities and building additional capabilities to hone the business model. For maintaining a sustained competitive advantage, organizational structure, managerial practices and the ability to manage threats were also explored.

5.3.1 Reconfiguration of existing capabilities and investment in additional capabilities to implement the business model

The core capabilities of Falcon comprise of a large library of local content, their understanding of the Dutch market, personalized user experience based on the data collected via the platform, and their service delivery on Apps. While the existing capabilities can be aligned with the proposed business model. The capabilities that Falcon lacks, in comparison to the competitors involves a mature technical infrastructure and a base of software developers to improve the platform in an accelerated manner. Some of the propositions to build these capabilities includes partnerships with other companies such as XYZ France and XYZ Germany, to distribute the cost of the technology and an efficient use of the human resources the company has at present.

The proposed business model needs resources to target new customer segments and build product offerings and value propositions to attract the potential segment. It also entails resources to improve the technical architecture for data collection to improve opportunity identification, personalized service experience and personalized ads, opening up new avenues for investment. It was found that Falcon does not have the resources to build additional capabilities at the moment. However, it has the resources to target and increase penetration of the users within the Dutch market segment. Hence the potential customer segments in the business model is revisited to align the existing capabilities and identify elements which mandates building additional capabilities. Since the males, matures and the young audience lie within the Dutch market, the existing resources can be aligned to focus on the target groups. However, the international audience and the original content viewing segment requires considerable resources and additional competencies to be built and hence difficult to realize. A descriptive analysis of resource reconfiguration and additional investment needed to market the potential segments is presented in the table 5.3

Table 5. 3: Analysis of resource reconfiguration capabilities to tap the potential segments

Potential Customer Segments	Value Proposition/Key offerings to increase penetration	Resources needed to build additional capabilities	Resource reconfiguration/ Additional Investment to build competency
Dutch audience in the age group of 16-34 years with lower paying abilities	Subsidized service by offering personalized ads	<ul style="list-style-type: none"> Aligns with the core capabilities of Falcon to offer local content and better understanding of the market than the competitors 	Resource reconfiguration: The existing resource base to analyses data for personalized experience

		<ul style="list-style-type: none"> Additional capabilities needed are: Technical infrastructure to host ads, human resource to analyses data for personalized ads 	can be extended to deliver personalized ads as well
Male audience	A strong library of movies and suspense thrillers	Investment in content, Marketing budget and efforts	The target group lies within the Dutch market segment and resources can be reconfigured to increase penetration
International Audience & Original content viewers	International content & Original content	Huge investments in content, Marketing budget and efforts	Needs additional investments and difficult to realize at the moment
Mature Audience	A strong library of movies and family shows	Investment in content, Marketing budget and efforts	The target group lies within the Dutch market segment and resources can be aligned to increase penetration

The business model also requires resources in dimensions other than the customer segment. The technology dimension needs improvement as suggested in the proposed business model in terms of improving the quality of services on Apps and Smart TVs. Since, it was found that service delivery on App is already the focus at the moment, the remaining resources can be aligned to focus on Smart TVs over Web. As mentioned before, the resources needed to host ads can be shared with Falcon X, however, to improve the overall maturity of the data collection architecture, investments are needed. The table 5.4 presents a descriptive analysis of the possibility to align resources or build competencies to realize the other dimensions of the business model.

Table 5. 4: Resource reconfiguration capabilities to realize other dimensions of the model

Other dimensions of Business model	Resources needed	Resource Reconfiguration/ Investment in building additional competencies
Improve the quality of service on Smart TVs	Investment on Technology	Resource reconfiguration to focus on Smart TVs over Web
Technology Development to host ads	Investment on Technology	Utilizing the resources of Falcon X to host ads
Improvement in data collection architecture to improve sensing and personalization	Investment on Technology	Aligns with the core capabilities of Falcon to offer personalized services and investments are currently being made.

On the basis of the modular analysis of the business model fitting the existing capabilities of Falcon and achievable through resource reconfiguration, the figure 5.2 shows the final design of the business model achieved in comparison to the currently followed model.

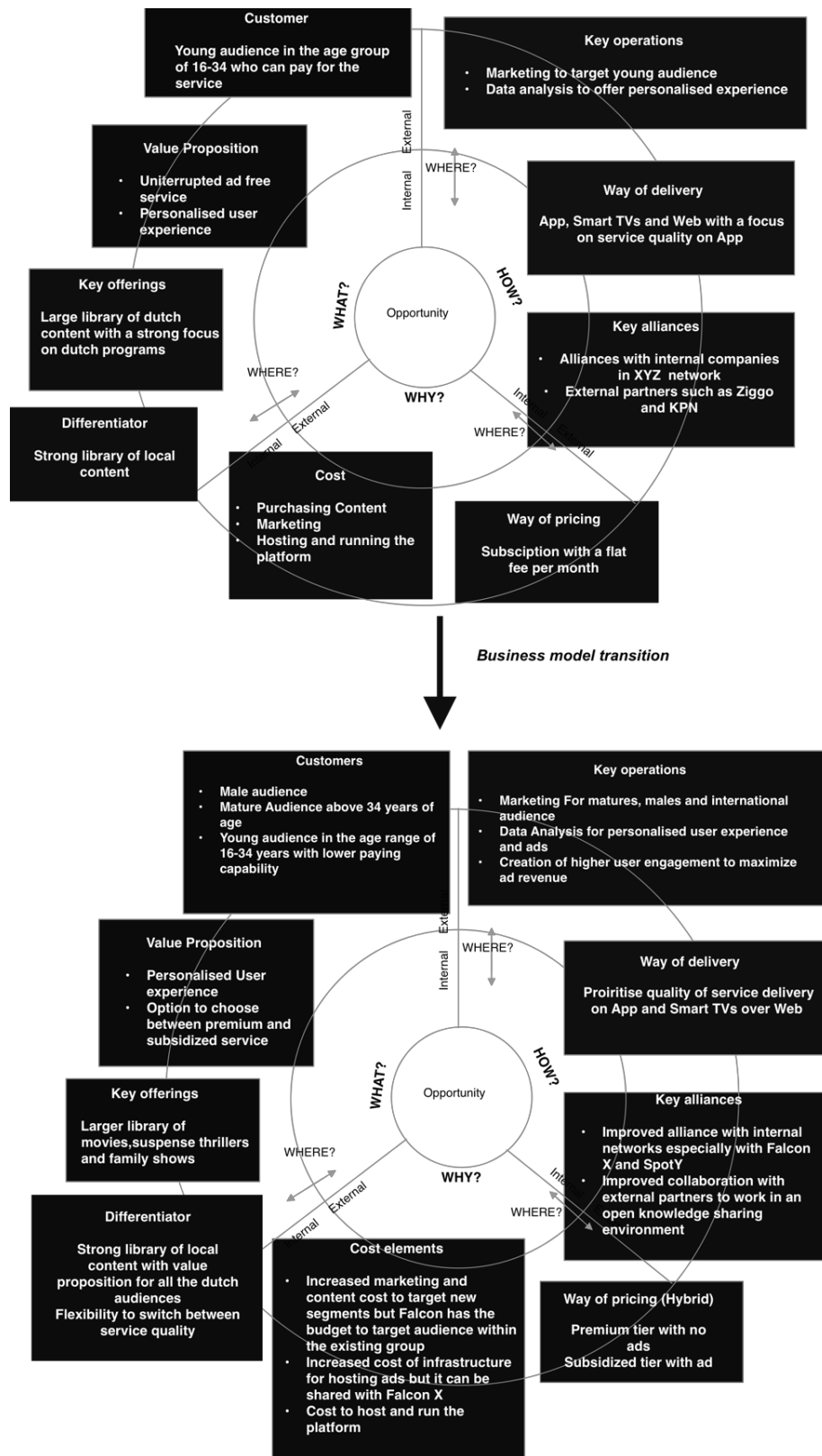


Figure 5. 2: Final design of the business model achieved by following the dynamic capability framework in comparison to the currently followed business model.

5.3.2 Realigning organizational structure and practices

Falcon operates in semi-autonomous teams in a matrix structure with multiple levels of managerial hierarchy and the style to manage new projects is a mixture of agile and waterfall methodology. The multiple levels of hierarchy make it difficult to implement projects faster and the mixture of agile and waterfall methodology creates interdependencies between the teams. Although, there exists a system to document learnings from the previous project, it is not utilized effectively. As such, the responses to big changes in the business environment is found to be slow. The other challenge from a cultural point of view is the lack of understanding of the need to change, within the teams which further influences the transforming capability of the company. The challenges can be mitigated by having loosely coupled decentralized decision-making units (Teece,2007) and implementation of an agile methodology of managing projects for all the teams. The core principle of an agile methodology is based on the ability to manage and adapt to changes. It also advocates to stimulate the collective abilities of an autonomous team for problem solving (Augustine et al, 2005). Implementation of an agile work culture would encourage teams to collectively respond to changes in the business environment in a rapid fashion. The agile method also promotes the learning curve by promoting self-documenting designs and self-describing code instead of the heavyweight documentation which is seldom used by the companies (Chau et. al, 2003).

5.3.3 Managing threats and maintaining a sustained competitive advantage

The proposed business model foresees threat by emphasizing on the need to diversify product offerings for international customers and investment in original content. The managers at Falcon correctly identify threats by mentioning the need to improve service quality and build a bigger library of international content as there are new entrants in the SVOD industry with larger product propositions, and with a focus on the niche market with innovative business models. With the current sensing architecture, Falcon is able to identify threats in the market, however, to respond to the threat, they are faced with challenges because of the large number of stakeholders involved in the decision-making process and the lack of resources. While changes in the organizational structure can decrease the time to respond to the threat, the bottleneck is always the resources. The propositions the company has in order to overcome the resource barrier is to develop new partnerships with other companies in Europe such as XYZ Germany and XYZ France. Such an alliance would also help in addressing the target segments which couldn't be served at the moment because of the inability to invest in building additional competencies. New potential segments such as the international audience and original content viewers can be targeted with the resources of the partner network. It will also allow the company to expand in new markets such as Germany and France, and diversify the content library, creating the possibility to target international audience living in the Netherlands. It was observed that a company might be good in sensing the opportunities and coming up with a business model to exploit the opportunities but in order to implement the business model, additional competencies have to be built which is dependent on the availability of resources. An alliance helps in reconfiguration of the existing resource base of the company and provides a way to utilize the technical capabilities of the partners (Cui et. al, 2011; Mamedio et. al, 2018). Hence, in order to stay competitive and improve

the ability to manage threat, the study emphasizes the need for building alliances to ensure resource availability for targeting potential segments and develop the technical capabilities in order to respond quickly to the changing market dynamics. The comprehensive results of the three clusters of dynamic capability leading to the selection of a business model is presented in the following page.

Development to improve sensing	Nature of development
<ul style="list-style-type: none"> Technology development to merge data collected from different sources Better collaboration between the managers of internal network of companies Better collaboration with external partners who do not share data currently 	<ul style="list-style-type: none"> Technical Organisational Organisational
<ul style="list-style-type: none"> Development in technical capabilities to collect information on the competitors Improvement in technical maturity of the current sensing architecture which breaks down offently 	<ul style="list-style-type: none"> Technical Technical

Technology development needs to be coupled with realignment in organisational structure to improve sensing

Development to improve sensing

Opportunity Identification

Leads to opportunity identification on the basis of existing possibilities and serves as the starting point for the selection of business model

Seizing

- Comparison & Selection of a business model fitting smaller transition in the existing business model, showcasing higher revenue generation potential and aligning with the capabilities of the firm & its network enabling lower cost of implementation and addresses opportunities

- Redesign to account for all the opportunities

Mechanism to build competitive advantage

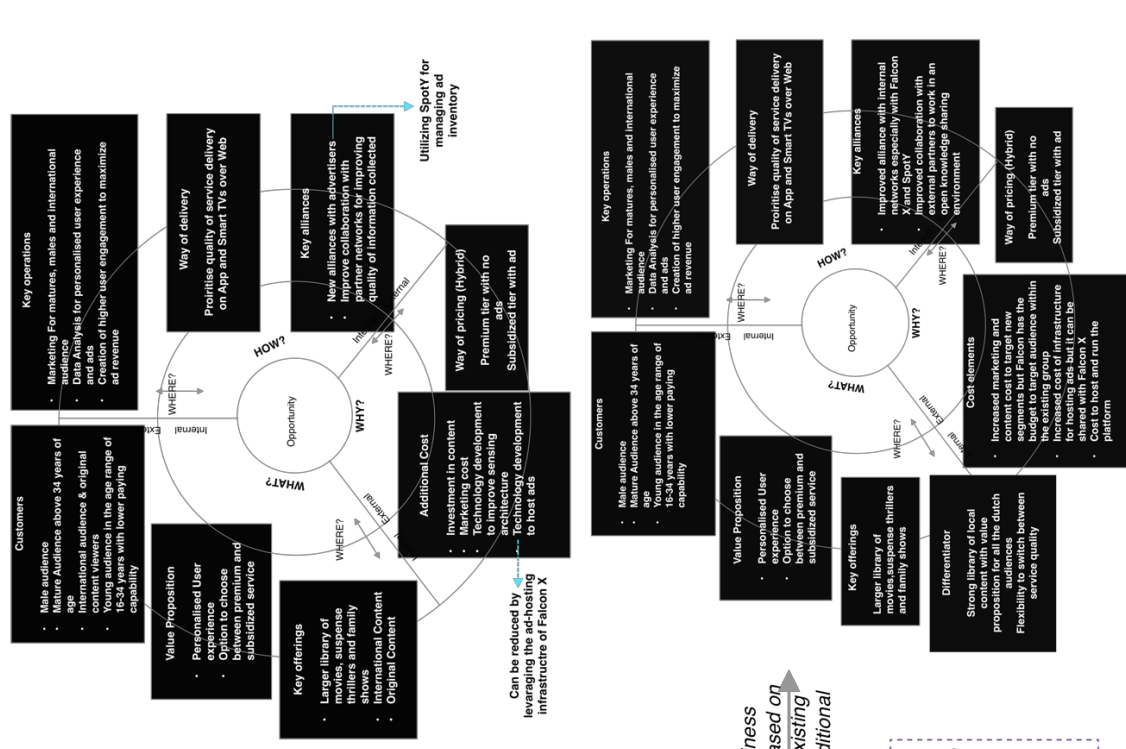
Transforming

Final selection of business model components based on the ability to realign existing resources or build additional capabilities

Transforming comprises of two sets of capabilities.

- Resource reconfiguration/asset orchestration helps in selection of the final components of the business model
- Realigning organisational structure, practices and the ability to manage threats underpins a mechanism for sustained competitive advantage

Market Opportunities	Value propositions and offerings
<ul style="list-style-type: none"> Increase penetration of male audience Target mature audience above 34 years of age Increase conversion rate in existing segment comprising of young audience Increase penetration of international audience and original content viewers 	<ul style="list-style-type: none"> Building a bigger library of movies & suspense thriller Building a bigger library of family shows & movies Offering subsidized service Investment in international & original content



Comparing AVOD and Hybrid model w.r.t SVOD model	
AVOD model	Hybrid model
<p>Additional cost elements</p> <ul style="list-style-type: none"> -Marketing budget -Tech. development to host ads <p>Customer segment</p> <p>Changes the customer segment from paying users to free users</p> <p>Revenue Potential : Lowest</p> <p>Key operations & alliances</p> <ul style="list-style-type: none"> -Data analysis to deliver personalised ads -New alliances with advertisers 	<p>Additional cost elements</p> <ul style="list-style-type: none"> -Marketing budget (lower compared to AVOD) -Tech. development to host ads <p>Customer segment</p> <p>Retains the existing user base and addresses the opportunity to increase conversion rate in younger user segments</p> <p>Revenue Potential : Equivalent to SVOD</p> <p>Key operations & alliances</p> <ul style="list-style-type: none"> -Data analysis to deliver personalised ads -New alliances with advertisers

Factors impacting transforming capabilities	
<p>Organisational structure & managerial practices:</p> <ul style="list-style-type: none"> Matrix team structure with semi autonomous teams Management style is a mixture of agile and waterfall method Learning function is not used effectively <p>Managing threat & maintaining a sustained competitive advantage</p> <p>The capability to manage threat by continuously scanning the market is impacted by a large number of stakeholders in decision making and lack of resources to respond to threats</p>	<p>Propositions to improve capabilities</p> <ul style="list-style-type: none"> Loosely coupled decentralised decision making units. Agile method of management Self autonomous teams and strategic alliances to overcome the resource barrier

5.4 Empirical insights on the process of selecting a business model using dynamic capability as a tool

Sensing, being the first cluster of the dynamic capability framework is the starting point for the selection of a business model. As per the current study, the sensing cluster in the dynamic capability framework, interacts with the process of selecting a business model for an internet based business by identification of market opportunities achieved by doing a customer segmentation on the basis of the data collected via the existing technical possibilities of the sensing architecture. The cluster also proposes technology development to improve the sensing process. (Teece, 2018). While the research agrees with the existing study that a customer segmentation done on the basis of the data collected from the current technological state of sensing architecture leads to the identification of potential customer segment, their underlying value proposition and service improvements, the study differs from the existing study on two points. Firstly, identified opportunities needs to be validated by analyzing the market data on the competitors (Section 4.1.1). For e.g. the study found that the penetration of mature audience over 35 years of age shows a gradual decline. The finding can go unnoticed on the reasoning that older generation have a lesser affinity towards new technical services. However, an analysis of the market data showed that, the mature audience up to 55 years of age have a penetration nearly equal to the younger audience on the competitor's platform and hence could be targeted by developing the respective value proposition for them. Therefore, customer segmentation would lead to opportunity identification and an analysis of data on market and competitors would help in identifying new trends, for e.g. original content (Section 4.1.3) and opportunity validation.

Secondly, the existing framework suggests technological development to improve sensing on the basis of the analysis of the sensing architecture (Teece, 2018), however, improvements in the sensing architecture does not only relies on technological development but spans to changes in the organizational structure and culture (Section 5.1.4). Therefore, to improve sensing, technological development needs to be coupled with changes in the organizational structure and culture. An organization with better delegations, culture and vertical communication between the teams and better collaboration with the network of partners would be more likely to effectively utilize the sensing architecture and stay competitive. The divergence from the existing study, possibly happens because the existing framework does not take into account, the complexity of working in a network. For e.g. in the context of the case study, it was observed that managers in the internal network of companies Falcon has, work in a horizontal manner without an effective collaboration, obstructing the company to utilize its sensing capabilities to the fullest. Also, the external partners also do not share customer and market data with the company, further impacting the sensing capabilities. Taking the network dynamics into account, the true potential of information collecting mechanism can be realized and hence the framework needs necessary corrections to account for the network-based business environment.

Seizing which is the second cluster of the dynamic capability framework is the value capturing mechanism in a business model and helps address the opportunities that have been identified in the sensing phase. The comparison of existing business model prevalent in the industry could be seen as a way to determine a commercialization strategy in order to capture the new target

segments. However, the business models in comparison would address a specific customer segment, have their own value propositions, would mandate changes in the key activities, new alliances and new cost structure upon implementation and show different revenue potential. The study observes three criteria for the selection of a business model. The first criteria align with the existing study that a business model which would fit small transitions in the existing model should be chosen as it is easier to implement (Teece,2018) and does not completely overhauls the existing customer base and business architecture of the firm. The second criteria is to choose a business model which demonstrates an equivalent or a higher revenue potential by directly addressing some opportunities identified (Section 4.2.5). The third criteria is to take into account the capabilities of the partner network during the selection process as it helps in choosing a model which might entail new technical or business infrastructure leading to resource commitment which is achievable by drawing upon the capabilities of the partners. In the context of the case study, the internet based business model which made its way in the VOD industry are inherently designed from a revenue perspective (Rappa,2001) and would address opportunities directly concerning a new revenue method to capture new markets and hence needs fine-tuning to account for the other opportunities. The selection of a business model entails resource commitment (Teece,2018) , and since in a network environment, resources are shared between the partners, the selection of a business model is influenced by the presence of a value network as drawing upon the resources and capabilities of the partner network could greatly reduce the cost and effort to implement the model in the later stages.

Transforming capabilities which makes up for the third cluster of the dynamic capability framework can be viewed as a cluster comprising of two sets of sub capabilities. The first one being the capability to re-orchestrate assets, helps in the selection of the final component of the business model by analyzing the achievability of each element of the model through realignment of the existing capabilities or investment in additional capabilities. The outcome of the seizing cluster is a business model which would account for multiple opportunities to cater to, creating the need to align existing capabilities or build additional capabilities to implement the model. But owing to the resource constraints a firm has, it is not possible to capture all the opportunities at the same time and hence, the final selection would depend on a firm's capability to re-orchestrate assets. The second set of the sub capabilities which includes realignment in organizational structure, culture and practices and the ability to manage threat does not influence the selection of a business model but is oriented towards building a mechanism to continuously scan the market for opportunities and threats and have the agility to respond to changes in the business environment quickly. As suggested in the existing studies (Teece 2007; Wang et. al 2007), it was observed that a firm with multiple levels of hierarchy, and centralized decision-making units, would be slow to respond to changes in the business environment (Section 5.3.2). The other factors impacting the transforming capabilities of a firm would include the presence of a learning curve and the culture within a team which jointly values the ability to change in the light of threats and opportunities. The first set of sub capabilities can be seen as tangible assets while the second cluster of sub capabilities can be seen as intangible assets which builds overtime and helps in maintaining sustained competitive advantage. However, it was observed that unavailability of resources does not only restricts a firm from implementing all the elements of the business model but also affects its ability to manage threats and build a mechanism through which a competitive

advantage can be maintained. While, a firm could build a mechanism to continuously detect opportunities and threats in the market and have an organizational structure and managerial practices which enables it to rapidly respond to changes, but the unavailability of resources would turn the mechanism obsolete as responding to opportunities and threats would need resources. In the context of the case study, the company rightly foresees threats in the market but cannot respond to it in absence of resources. It was observed that a firm can improve its capabilities to respond to changes by strategic alliances, as it can overcome the resource barrier by utilizing the capabilities of the partners (Section 5.3.3). Hence, transforming capabilities are supported by strategic alliances which does not only helps in developing tangible assets but also intangible assets by allowing the firm, develop a mechanism to continuously select, implement and test a business model to respond to opportunities and threats. New alliances are found to make the network heterogenous which not only enables a firm to have a diverse set of capabilities but also diversifies the information collection system (Zheng et. al, 2011). As such, the sensing architecture would improve, leading to a new set of opportunity identification which would require new business models to be selected to address the opportunities creating new requirements of capabilities and resources. Hence, the framework would follow a cyclic order if implemented. The figure 5.3 presents the improvements in the conceptual framework, on the basis of case study findings.

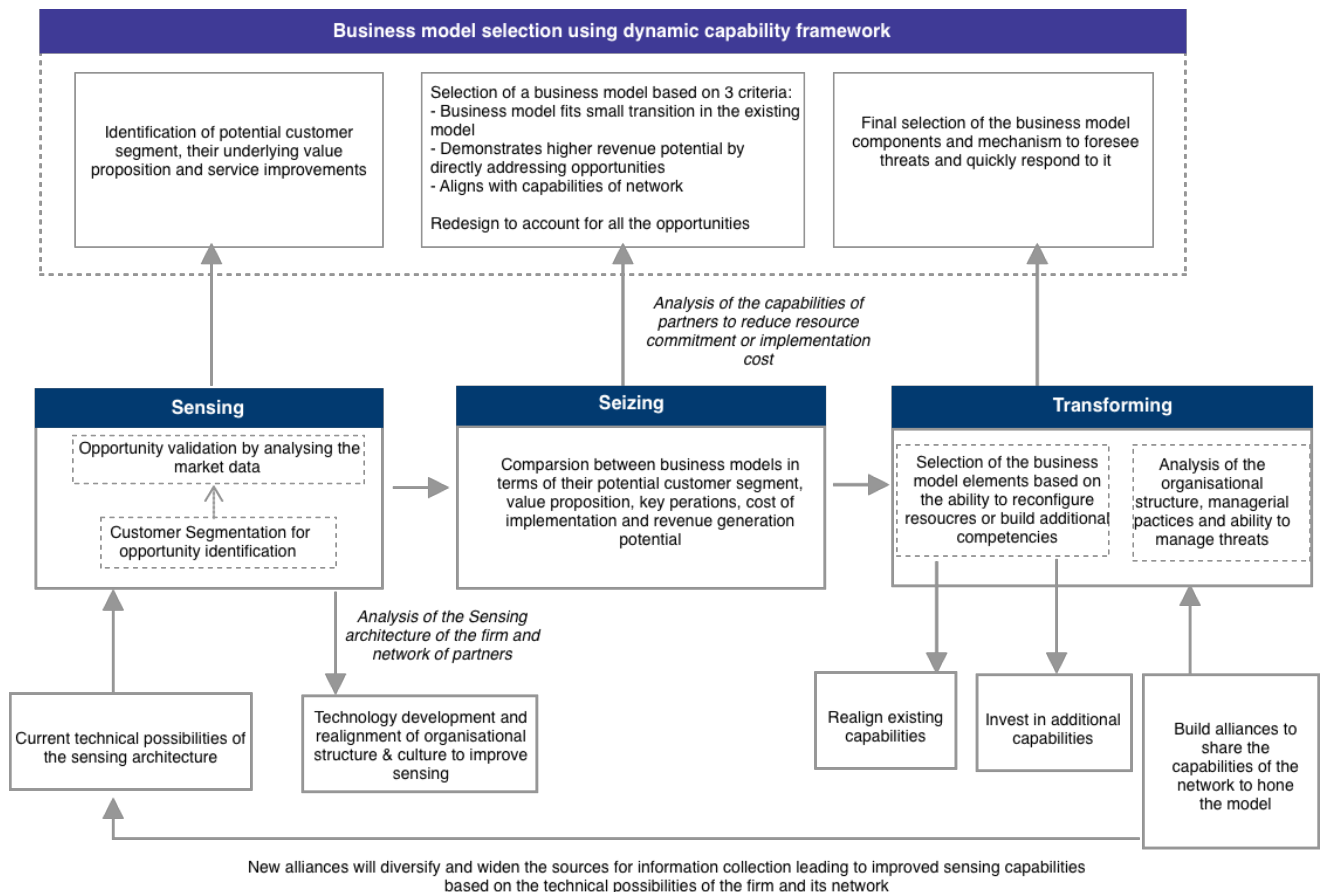


Figure 5. 3: Improvements in the conceptual framework

6. Discussion and Conclusion

The study has explored dynamic capabilities as a means to select business models in the dynamic business environment. It explores the three clusters of dynamic capabilities to understand how they help in identifying the market opportunities, selecting business models, and implementing it, to stay competitive in the market. This chapter provides theoretical and practical contributions of the study and proceeds to answer the research questions. The chapter concludes with discussing the limitations of the study and provides suggestions for future research.

6.1 Theoretical contribution of the study

Dynamic capabilities have been a well-known concept in the literature concerning strategic management, but there exists a shortage of empirical studies on using the dynamic capability framework as a tool for selecting a business model. Reflecting on the findings from the case study, a detailed framework for selecting a business model using the three clusters of dynamic capability namely sensing, seizing, and transforming, has been developed which has the potential to support future research on dynamic capabilities and business models (Figure 5.3).

Helfat & Ruth (2007) stated that knowledge capabilities co-evolve if a dynamic capability framework is used to sequence the deployment of new products in the market. Pitelis & Teece (2010) argued that firms using dynamic capabilities to shape business ecosystem also reshape the capabilities in the process. On the similar lines, the study argues that the three clusters of dynamic capabilities also evolve if they are used for the selection of a business model. The first cluster of sensing capabilities directed towards opportunity identification also constitutes technical development and improvements in the organizational structure to improve the sensing infrastructure and as such sensing capabilities develop simultaneously. The second cluster seizing, which involves business model comparison and selection can be perceived as a learning mechanism through which an organization develops its ability to continuously select and refine a business model. As mentioned by Teece (2007), seizing capabilities depends on the skills of a firm to choose a business model which correctly accounts for the identified opportunities. Hence, following the framework to select a business model would strengthen the seizing capabilities by improving the skills, through a learning curve (Wang et. al, 2007) which develops in the process. The third cluster transforming, through which iteration are made in the selected business model on the basis of the firm's ability to reconfigure resources or build additional capabilities helps in determining the new alliances to be made in order to overcome the bottlenecks obstructing transforming capabilities. New alliances would not only help in the implementation of a business model which accounts for all the opportunities identified but would also improve the transforming capabilities. It will also enable the firm to achieve new resource reconfigurations through network effect. Furthermore, an alliance would widen the information collection mechanism by bringing in new channels and capabilities to identify market opportunities, hence underpinning and improving the sensing capabilities. Improved sensing capabilities would lead to new opportunity identification and hence a new business model which would further improve the dynamic capabilities. As such, the continuous cycle of business model selection through co-evolving dynamic capabilities can be seen as the basis for maintaining a sustained competitive advantage

(Figure 6.1). The study further argues that the mechanism of building a sustained competitive advantage, to an extent, does rely on the transforming capability (Teece, 2018), however, each cluster contributes towards building a sustained competitive advantage by co-evolving in the process of choosing a business model by following a dynamic capability approach. Jurgita & Lolita (2015) discussed that organizational learning in itself is a dynamic capability enabled by organizational processes and have a positive correlation with the performance of an organization and innovation which together helps in maintaining a competitive advantage. Helfat & Peteraf (2003) argued that dynamic capabilities are process based and seated in organizational routines. The study builds on these two propositions to state that, selecting a business model is an organizational process deeply linked with improving the performance of an organization in the market. Hence, a firm routinely utilizing the framework to revisit its business model in order to address new opportunities and threats, would keep developing its learnings making the process of selecting a business model, a dynamic capability.

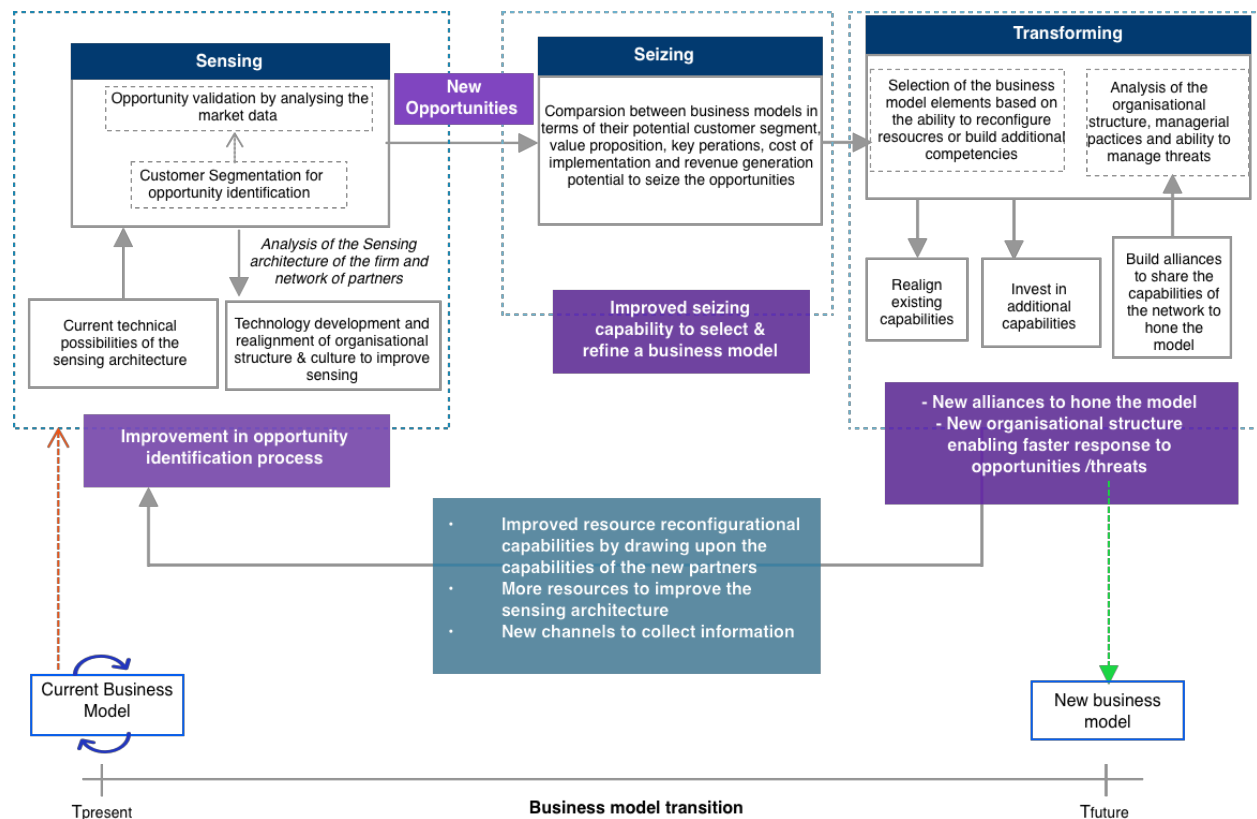


Figure 6. 1: Co-evolution of dynamic capability with business model transition leading to sustained competitive advantage

However, dynamic capabilities, similar to the technology lifecycle, follow a development curve with three stages namely the foundation stage, the development stage and the maturity stage (Helfat et. al, 2003). The pace with which a capability matures depends upon the consistency with which it is exercised (Zuzul et.al, 2016). As such, the capabilities will develop with every business

model iteration till it reaches maturity. Once maturity is attained, the capabilities could be maintained and transferred to a new market with different dynamics until a major socio-technical disruption occurs in the business environment. Depending upon the nature of the disruption, it could either pave way for a firm to develop its capabilities further or it could lead to the retirement of the capabilities making the firm shift to the foundation stage.

6.2 Practical contribution of the study

In general, the study offers practical contribution by assisting the managers of internet-based businesses to overcome the dilemma of selecting a business model in the dynamically changing business ecosystem, once the market starts to saturate because of a large number of businesses following a similar model. However, because of the nature of the case selected and single case study approach, the results of the analysis are directly applicable to on demand services such as VOD industry and Music on Demand [MOD] industry (ex: Spotify).

The study is useful for the managers of the VOD and MOD industry which is undergoing a rapid transition and witnessing the entry of big businesses making the market space crowded and the customer base saturated. Since, most of these companies follow a business model which has been proven to be successful in the past by their market leaders, realizing organic growth in certain market segment has been challenging. Firms operating in these industries foresee the need to experiment with business models to register growth in new markets. This study would hence be useful to them for identifying new opportunities, comparing business models and selecting one which suits their resource reconfiguration capabilities. Both VOD and MOD industry can be categorized as Type C industries (Hartmann et. al, 2014) which means they generate huge amount of data themselves. The relative ease of data collection makes it easy for these industries to do market segmentation which serves as the starting for the application of the framework and hence, the study is directly applicable to them.

Secondly, the research is also useful for the software industry which follows identical business models such as the transactional model, advertisement model, subscription model and the freemium model which is a hybrid model and face a similar dilemma to experiment with new business models as there exists a plethora of companies delivering analogous software services to the users, making the market saturated. However, further research would be needed in order to extend the results of the study to software industries. Unlike on demand services, where the user interacts with the platform continuously, creating tons of data to identify potential customer segment and ascertain the revenue potential of different business models, a software service (for e.g. Adobe Photoshop which follows a hybrid model and competes with Sketch following a subscription model) does not have a similar level of granularity in the data collected. As such, the analysis would have to take into account secondary data sources to arrive at business propositions, shifting the focus from developing sensing technology to building alliances with market research companies in order to improve the opportunity identification process. Also, the criteria established for choosing a business model (Section 5.4) might vary from one industry to other depending upon the nature of the business and the availability of data.

Lastly, the research can also help new entrants in the market who tend to replicate the business models of the successful companies in the pursuit of registering similar growth to realize that business models are enabled by the dynamic capabilities of a company which are unique to it and is deeply seated in its technical, managerial, and organizational capabilities .

6.3 Conclusion

To conclude with the research, the answers to the main research question and the sub research questions which were posed in chapter 1 is presented in this section. The objective of the research was to explore the feasibility of using dynamic capability framework as a tool for the selection of business model. The main research question was:

Whether and how can dynamic capabilities be used for the selection of a business model?

Dynamic capabilities have three clusters namely sensing, seizing and transforming which interact with the process of selection of a business model at different stages and are found to help the selection process as per this study. To answer how each cluster of the dynamic capability framework helps in the selection of business model, the answers to the three sub-research questions, framed in chapter 1 are discussed below.

How can we use sensing capabilities to identify the business opportunities for growth?

The first cluster of the dynamic capability framework sensing serves as the starting point for the selection of a business model by identification of the market opportunities. The cluster advocates doing a market segmentation on the basis of the existing technological possibility of the sensing architecture (Teece,2018) enabled by the firm and its network. The data collected on the customers can be used to do customer segmentation and leads to the identification of the potential customer segments to be targeted and the respective value proposition which has to be built in order to attract and retain these segments. It was observed that, sensing capabilities are underpinned by collecting information about the market trends and competitors. Doing a customer segmentation leads to identification of target segments which lie within the existing customer base and does not represent all the opportunities. Collecting information about the market and the competitors helps in opportunity identification in two ways. Firstly, the opportunities can be validated by studying the affinity of a specific segment towards the industry, on the competitor's platform (Section 4.1.1). Secondly, there could be trends in the market creating opportunities which is not reflected through the user data collected via the sensing architecture (Section 4.1.3). Following the observation, the study argues that the sensing cluster comprising of an architecture to collect data on the existing customers, competitors and market trend helps in selecting a business model through the identification and validation of the potential customer segments to be targeted, the value propositions to be built in order to increase the appeal of the service to the target segment, and align with the market trends to stay competitive.

In context of the case study, customer segments were created by doing a cluster analysis based on the profile data and behavioral data to find the reach of the service among the different customer groups with varying demographics such as age, gender, education level and device used to access the service (Section 5.1.1). The segments with a lower penetration of the service were identified constituting for the target segment. An analysis of the market data on the competitors helped in validating the opportunities and identifying trends in the market for e.g. offering original content, which was not reflective through customer segmentation. A deeper analysis of the segments helped in identifying the value proposition that has to be built in order to increase the reach of the service among the target segment (Table 5.1).

The cluster also entails doing an analysis of the sensing architecture to propose technological development in order to improve the opportunity identification process (Teece,2018). An analysis of the sensing architecture to collect, disseminate and use information to identify opportunities (Kindstorm et al, 2013) was done to identify the challenges faced, however, it was observed that factors impacting the sensing architecture are not just technical but organizational in nature (Section 5.1.2). Hence to improve sensing, technological development has to be coupled with realignment in organizational structure and hence the conceptual framework was modified to account for the findings. With the identified opportunities and the underlying value propositions, the study progressed to answer the second research question which is:

[How can we compare the prevalent business models in the industry and select one to seize the identified opportunities?](#)

Once the opportunities have been identified with the underlying value propositions to be built. The seizing cluster advocates selecting and refining the business model which could account for the opportunities identified in the sensing cluster (Teece, 2018). It was observed that comparing and selecting an internet-based business model prevalent in the industry to capture the identified opportunity is analogous to finding a commercialization strategy which shows the highest potential to capture the opportunities. However, different business models prevalent in the industry would also address dimensions other than the revenue mechanism and can be compared on the basis of the customer segments they address, their key value propositions, changes in the key operations, alliances, and the additional cost they entail upon implementation. Further, the revenue potential of the models can be determined to arrive at a conclusion. A business model which addresses opportunities, fits small transitions in the existing business model elements (Teece,2018), entails a lower cost of implementation by aligning with the existing capabilities of the firm and its network and shows a higher revenue potential compared to the other models in consideration, should be chosen. It was observed that the selected business model would not account for all the opportunities identified because of its generic design and hence, it needs to be re-designed to seize the identified opportunities (Section 5.2).

In the context of the study, the business models successful in the VOD industry namely AVOD, SVOD and the hybrid model were taken into consideration and compared on the basis of the customer segments they address, their value proposition, changes in key activities and cost elements in case they are implemented, and their corresponding revenue generation potential. A

hybrid model was selected because it showed higher revenue potential and fits small transition in the existing business model by offering two revenue streams and retaining the existing customer base, along with showcasing the potential to increase penetration in the younger segment of the customer base which makes up for half the total user base. Taking the network capabilities into account helped the selection process as it was observed that the additional cost of implementing the model could be reduced by drawing upon the resources of the partner network (Section 4.2.5). Since the models in the VOD industry are designed from a revenue perspective, they were found to address opportunities related to revenue generation and hence the selected model was fine-tuned to account for all the opportunities.

How does the transforming capabilities of an organization be used to select the final component of the business model and build competitive advantage?

The last cluster of the dynamic capability framework namely transforming has two sets of sub-capabilities. The first set of sub capabilities is directly related to the selection process of a business model as it allows for the selection of the business model components from the chosen business model in the seizing phase. It is highly unlikely for a firm to choose the full menu of the business model and the final selection of the business model components depends on firm's ability to realign existing capabilities or build additional capabilities (Teece, 2018). Hence, the selected business model was analyzed under the lenses of the resource reconfiguration capabilities of the firm (Section 5.3.1) to arrive at the final design of the business model.

The second set of capabilities are directed towards building a mechanism through which a sustained competitive advantage could be maintained and advocates exploring organizational structure, managerial practices (Teece, 2018, Gavetti, 2005), presence of a learning curve (Wang et. al 2007) and the ability of the organization to manage threats. It was observed that multiple levels of hierarchy, absence of a learning curve, and centralized decision-making units affects the ability of the firm to respond to changes in the business ecosystem and maintain a competitive advantage (Section 5.3.2; Section 5.3.3). However, it was found that unavailability of resources does not only affects the resource reconfiguration capability but also affects the mechanism to build sustainable competitive advantage. In order to overcome resource limitation, a firm would look for new partnerships to draw upon the capabilities of the partners and as such, alliancing capabilities are found to support transforming capabilities. New alliances would also improve the sensing capabilities by widening the channel for data collection and improving the sensing architecture leading to new technological possibilities through which new opportunities can be identified, entailing revisiting the business model to account for the identified opportunity creating a cycle through which competitive advantage is maintained.

6.4 Limitations of the research

The study attempts to add value to the field of dynamic capabilities and business models by showing a step by step approach for business model selection using dynamic capability framework as a tool. However, because of the small sample size and reliability of the data sources, the study suffers from certain limitations which are discussed below:

- A single case study approach is followed for conducting the research and hence the research should be treated interpretive in nature and as an exploratory study towards making a detailed framework which can be validated by doing empirical studies in the future.
- Multiple cases selected from different industries might change the details presented in the framework and the criteria for choosing a business model. Depending upon the nature of the industry, the poor availability of data might obstruct market segmentation to identify the potential customer segment which is the starting point in the application of the dynamic capability framework for selecting a business model. As such, the feasibility of the framework for business model selection would have to be explored further by establishing certain factors and situations under which the framework can be deemed usable.
- The outcome of the research is subject to the validity and reliability of the data sources of the firm on which the case study is conducted and a deviation in the data collected would change the results of the research
- The market segmentation is done using k-mean clustering as the data mining technique and hence, the drawbacks of using an unsupervised data mining technique applies to the research. Further, sensitivity analysis is done to determine the value proposition for each cluster and hence the drawback of such an analysis, being nonrelative in nature applies to the research.
- The time constraint to complete the study and the availability of the interviewees inhibits the number of interviews conducted. To understand the managerial structure and culture, more interviews can be taken from each member of a team to derive a complete understanding of the structure and culture and suggest propositions to transform quickly with changes in the business environment.

6.5 Recommendations to the firm

The research lead to a usable dynamic capability framework which can be used for comparing, selecting and redesigning business models to address the changing customer needs, in a dynamic environment. Since the propositions are developed by doing a case study on Falcon by using real data, the results address the current opportunities and challenges faced by the

company. The niche SVOD market is threatened by the big and small entrants in the industry and subject to dilution in the coming years and hence, the company should focus on strengthening its position within the existing base by targeting male and mature audience, who at the moment make up for a small percentage of the user base, by building the respective value propositions for them. At the same time, the company should focus on extending its reach to the other segments by strategically alliancing with other media companies. Since most of the customers using Falcon's services are young and have lower paying capabilities, a hybrid business model, which subsidizes the current subscription cost and can be implemented by utilizing the capabilities of the partners in the network, shows potential to be successful and generate higher revenue than the current SVOD model it follows. The hybrid model also aligns with the core capability of Falcon which lies in using the multi-channeled data collection mechanism, its partner network offers and the relationship with advertisers it has, to deliver personalized ads.

Going further, the architecture for collecting and using information about the customers' needs to be developed by improving the technical maturity, improving collaboration within the internal network of companies and finding external partners who are willing to work in a knowledge sharing environment mutually benefitting each other. The company should also follow an agile management style with all teams and de-centralize the decision-making process in order to quickly respond to opportunities and threats in the market.

6.6 Suggestions for Future Research

The limitations and the findings of the study points out to the future research that can be conducted to add more value to the study.

- To overcome the limitations of single case study, a future researcher can validate the framework by conducting empirical studies on multiple firms operating in varying industries. Such an approach would help in generalizing the framework and laying the factors under which the dynamic capability framework can be utilized in selecting a business model.
- The co-evolution of dynamic capability in the process of selecting a business model was deduced on the basis of the insights gathered on using the dynamic capability framework as a tool and could be studied in detail by conducting an exclusive research on it.
- Co-evolution of dynamic capabilities would continue for a time period until they reach maturity and at some stage, the capabilities might retire owing to a drastic change in the socio-technical market environment. A future research could present the framework by accounting for the maturity and retirement of dynamic capabilities with changing business environment.

- To better understand the transforming capabilities of a company, two versions of the business model can be made based on the short-term and long-term possibility of implementing. Such an analysis would enable the researcher to understand the response of the company to small and big changes in the business environment and add more dimensions to the framework.
- It was found that an agile way of management shows similarity with the desired transforming capabilities an organization must have to better respond to changes and stay competitive. The concept of agility and transforming capabilities can be studied in detail to understand the similarities and the extent to which agile methodology impacts competitive advantage.

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Appendix I: Interview questions for the analysis of sensing capabilities

Interview questions: Sensing

- How has the digital market changed over the past few years?
- What is your function in the company?
- What is your vision for the company?
- What are the key areas of focus of your team?
- What is your target market segment?
- What type of information do you collect to understand your market segment?
- What are the different channels through which you collect this information?
- How do you collect information about your competitors?
- Do you use the companies in your internal networks to understand and target the market? If so, how?
- Who are your external partners?
- Do you use the data collected by your external partners to understand and target the market? If so, how?
- What do you think about the quality of the information collected in the current setting?
- What do you do with this data and how does it change your business model?
- Who are the people you talk to inside and outside the organization to make the whole process happen?
- How do you think the whole process of information collection can be improved?
- Is there something you would like to add in the context of the interview?

Summary of answers for Sensing

Concept	Subtopic	Person A	Person B	Person C
Information Collection	Target Segment	Young population of Netherlands in age group of 20-34 years who like to watch local content and international content and are similar to VOD services	The young Dutch population	The Millennials and the kids
	Type of Information collected	Can be grouped in 2 categories: (i) Information about existing user base comprising of socio-demographic information, viewing patterns, video consumption behaviour (ii) Information about the population not using Falcon to check brand awareness and brand consideration	Behavioural data, likes and dislikes, search queries, social media data	All the data that can be used for customer profiling

	Channels for the information collection	The platform, Website data, Group interviews, Online surveys	The platform, Social media	Through video streams on the platform, web scraping, APIs
	Use of internal network of companies to collect data	Offers potential but not used effectively as of now	Weather data from buienradar can be linked with Falcon Z user data via a common App ID or browser cookies. So, we use it sometimes but it is challenging and not fully in place	We have a project undergoing to merge Falcon X with Falcon which will improve information collection. We are looking for ways to connect buienradar weather data with customer data but its a work in progress
	Use of external partners to collect data	-	We share our content with KPN and Ziggo but they do not share data with us because of privacy regulations.	Currently under talks to utilize the information collected by them but data is not shared as of now
	Information collection process about the competitors	(i) Analysis of the company figures published annually (ii) Monitoring tech blogs (iii) Internet service provider reports on media consumption	-	Web scraping through open-source APIs for e.g.: likes, dislikes, and number of views for a content on competitor's platform, number of people who went to competitor's website through some advertisement, etc.
	Quality of information collected	Satisfactory	Acceptable given the resources but needs improvement	The quality of information is not up to the mark
	Challenges faced in collecting information and scope for improvement	(i) Finding the right data source (ii) Finding the right research partners (iii) Improving the data architecture for collecting information	(i) Linking the different data sets of internal network of companies (ii) Data collection architecture breaks down frequently	(i) Maturity of the system has to go a long way (ii)Connecting separate data sources (iii) Poor quality of data comes from the data sources,

			(iii) Challenges with collecting data on competitors	delays in data collection
Information dissemination and usage	Stakeholders	<p><u>Internal</u>: Data intelligence team, data analyst, market researchers, and reporting specialists and senior management</p> <p><u>External</u>: Third-party market researchers, Market intelligence companies e.g. Salesforce</p>	<p><u>Internal</u>: Stakeholders in business</p> <p><u>External</u>: Data providers such as Adobe, Zuora, Gigia by giving them data requirements</p>	<p><u>Internal</u>: Business to the business team, Business to Customer team and Data scientists</p> <p><u>External</u>: Data providers</p>
	Usage of the information gathered	Product Optimisation, Improving customer experience, Buying the right content, Planning marketing campaigns	Building a recommendation system, Personalisation of the platform, marketing, data-driven operations	Applying business logic based on stakeholder's requirement and creating better user engagement through personalization
	Impact on the business model	Improves product and service offerings and target potential market in a data-driven manner	Increases the value proposition of the service by offering a personalized experience	Improves revenue collection (e.g.: personalized emails to collect monthly subscription fee), Improves User experience, Can be used to create a competitive advantage
	Challenges with information dissemination and usage	<p>(i) Making everyone in the team understands the importance of data</p> <p>(ii) finding the right balance between data-driven decisions and creativity</p>	<p>(i) Focusing on data operations rather than business intelligence which is our core capability</p> <p>(ii) Product owners for different RTL platforms work in isolation with each other</p>	<p>(i) Less focus on business analysis and more on operations</p> <p>(ii) Absence of a long term road map</p>

Appendix II: Interview questions for the analysis of transforming capabilities

Interview Questions for Transforming

- What is your function in the company?
- What are the key areas of focus for your team?
- In which areas of business do you think Falcon is good at?
- In which areas of business do you think Falcon is not good compared to the competitors?
- How could you improve in these areas?
- What do you plan to do in order to improve within the next year?
- Would the company have resources to invest in these areas to improve?
- Would the company have resources to target a new market in case an opportunity comes up?
- Would you be willing to spend on the opportunity?
- Assume something substantial changes, how would you respond to the changes?
- Who would take the responsibility in your team to respond to the changes?
- With whom would you coordinate to respond to the changes?
- Do you have a particular procedure to make change happen? (ex: past learnings)
- How would you describe Falcon's ability to collect information on the market?
- How would you describe Falcon's ability to analyse the information collected?
- How would you describe Falcon's ability to act on the results of the analysis?
- Is there any bottleneck you face to respond to the change?
- What are the challenges you expect from your competitors in the coming years?
- Do you think you are equipped well to face these challenges?
- Would you like to add something in the context of the interview?

Summary of answers for Transforming

Concept	Subtopic	Person D	Person E	Person F
Realignment of existing capabilities and investment in additional capabilities	Core capabilities	Big library of local content, Understanding the local market	A better understanding of the Dutch market than the competitors, Fast delivery of small projects, Personalization for users	Quality of the service for the customer journey is good.
	Weak Capabilities	Technological infrastructure to improve the platform, Technical human resource base, Technical infrastructure to improve the quality of service	Technical Infrastructure to make the platform stable, Team of software developers	Capabilities to identify issues on the platform quickly. Infrastructure to test and deliver new features on the platform faster.

	Measures to build additional capabilities	Ongoing talks for an alliance with partner companies in France and Germany to share the cost of building a better platform, Business expansion in Europe by partnering with external companies to have the resources to improve service quality	Talent management program to use the human resource effectively	Instead of targeting everyone, the services can be narrowed down
Availability of resources for building additional capabilities and targeting new market	Availability of resources to build additional capabilities	Resources are available but spent only when there is potential for a high return on investment	Resources are available to make small progress but not available to build additional capabilities	Teams are given a budget of 50% to improve and innovate the product and the remaining 50% goes on maintenance. So, resources are not available to build additional capabilities.
	Availability of resources to target new market	Resources are available to target new segments within the Dutch audience, for ex: Dutch males but not available to target a completely new market	Resources are available to target a completely new market from a marketing perspective but not enough to build new value propositions for the new user segment	Resources are not available to target a completely new base
Flexibility to respond to changes	Response to changes in the business environment	Slow at the moment because the current platform needs improvement which is the focus right now	Depends on the nature of the change. A change in the business environment which requires technical capabilities would be extremely slow to respond to.	Falcon is good in terms of building product propositions as soon as there is a signal to change, however, it is difficult to bring the proposition to market on time
	Organizational Structure	Vertical structure and there are multiple layers to follow to respond to the changes	Falcon works in a matrix structure. There are multiple levels of hierarchy which can be broken down into 3 managerial levels, the board, the product managers, the product owners and a new level of project managers are also being added. The managerial style is a combination of agile and waterfall management style.	The team brings it to the product owner who brings it to the manager. The manager can then take it to the CXOs. The teams managers are autonomous to implement small changes but for a bigger change ex: implementation of a new strategy or business model, there is a hierarchy

	Learning function to respond to changes quickly	Learnings from the past are documented and stored but not used effectively	Reflections from the previous projects are documented and used in my team	Maintaining a learning function is hard
	Challenges faced responding to changes	Dependency on other teams, Availability of resources, especially human resource	Flow of information is difficult. It is hard to align with each other and everyone does not understand the need to change quickly.	Lack of technology developing capacity and overload of stakeholders to respond to changes
Managing threats	Threats faced in the market currently	Big businesses entering the Dutch market with international content, More local businesses entering the niche Dutch market with local content	Competitors are offering a higher quality of service in terms of video quality. Better international content on competitor's platform	Innovative business models, International content, More competitors with a focus on the niche market, Higher service quality
	Ability to face the threat	Not good at this moment but could be improved by increasing the value proposition of the services to the existing user base.	It is poor in general but better in the niche market.	Not well equipped at the moment. To manage threat, one needs to test continuously and resources are scarce right now.

Continuously Scanning the market for addressing opportunity and threat	Ability to collect information continuously	Limited from a technical perspective, Good from a qualitative market research perspective	A lot of insights is available from both qualitative and quantitative analysis and so it is good	On a market level, it is good but there is room for improvement. We are making an ideation board for people to come up with ideas based on their market knowledge.
	Ability to analyse information continuously	Good compared to most of the competitors but can be improved	It is satisfactory however there is confirmation bias and sometimes the insights are overlooked	It is fast and as soon a trend is seen, the team starts working on it
	Ability to act on the information	Lean team structure and agile way of working makes small implementations easier compared to the big competitors	Small implementations can be done quickly but implementations which need technical support and big in nature is tough to realize.	It takes time to implement something. For e.g. We have been trying to build a family category for Falcon for 5 months now

Appendix III: Grouping of variables for K-mean clustering

Variable map for K-mean clustering and optimal cluster solutions

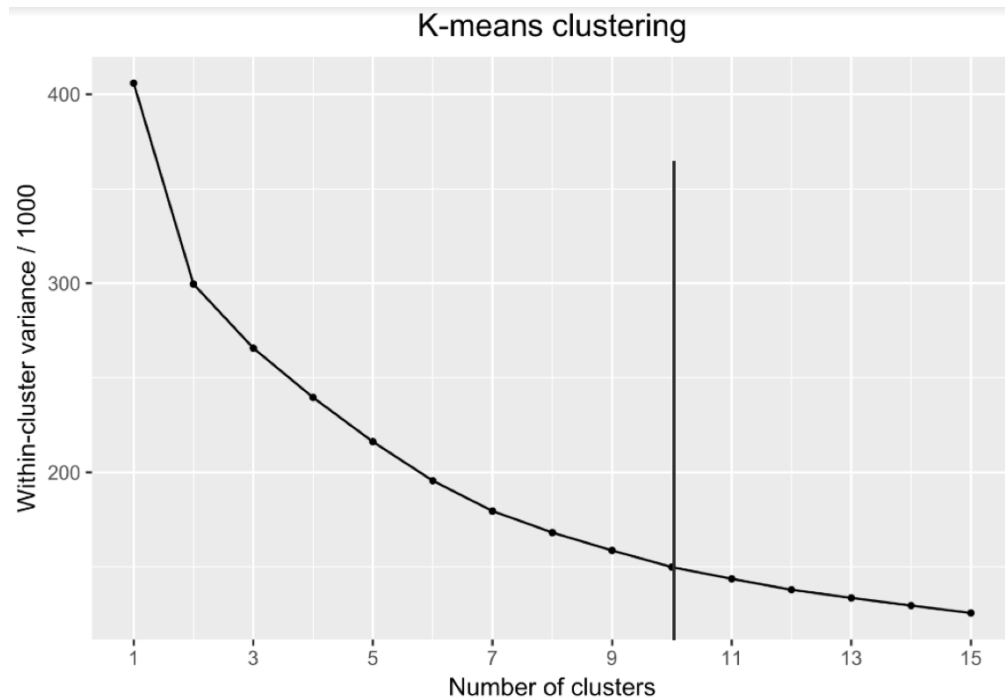
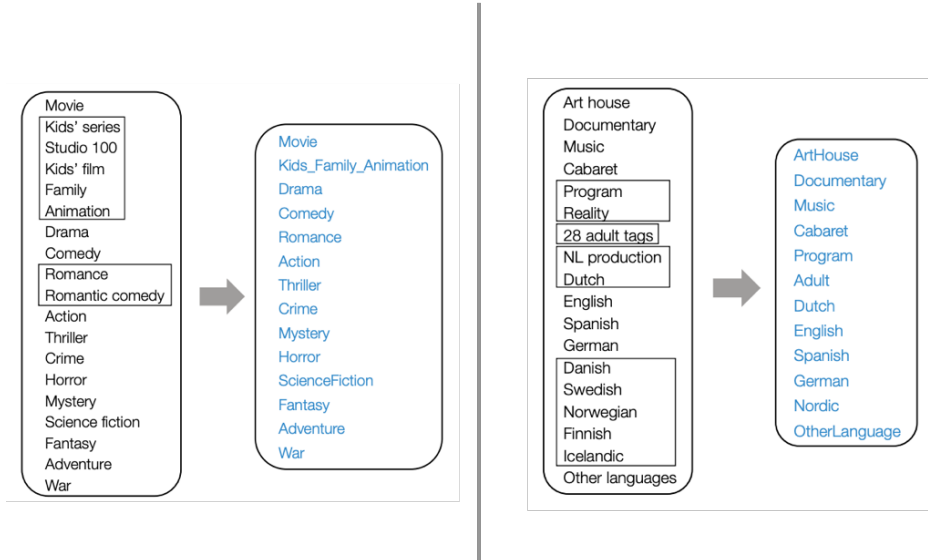
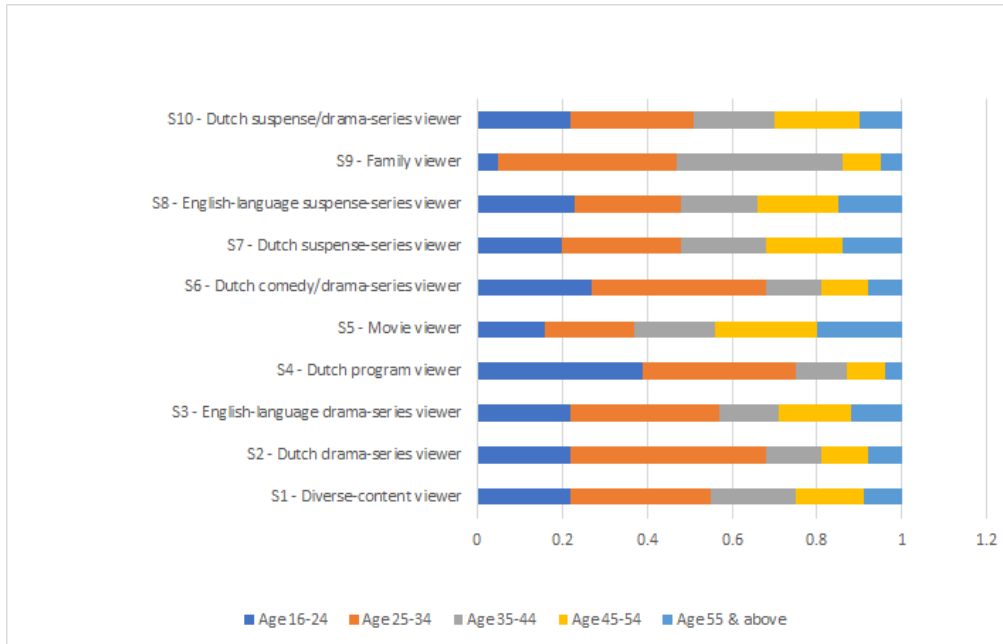


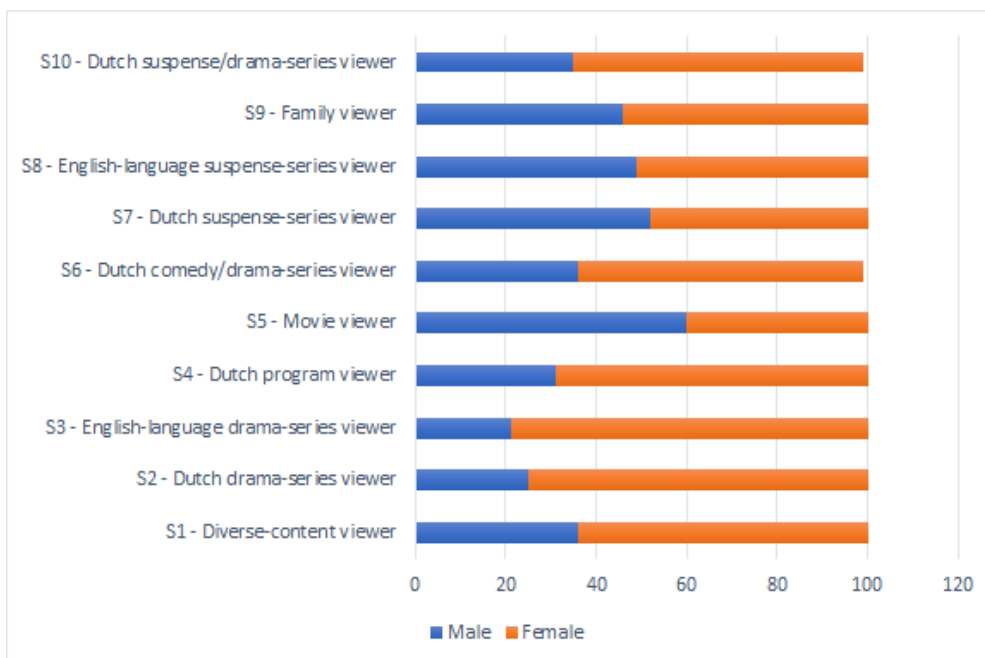
Figure: 10 cluster solution was chosen which appropriately represented the segment from the other possibilities of 8 and 9 cluster solution.

Appendix IV: Segment wise analysis of the users

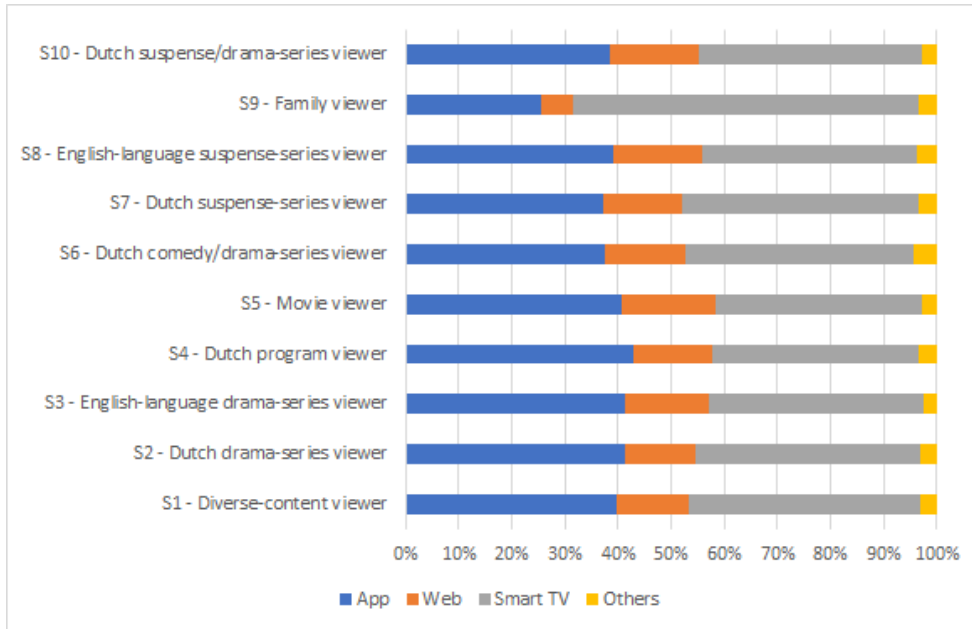
a. Age wise distribution per segment



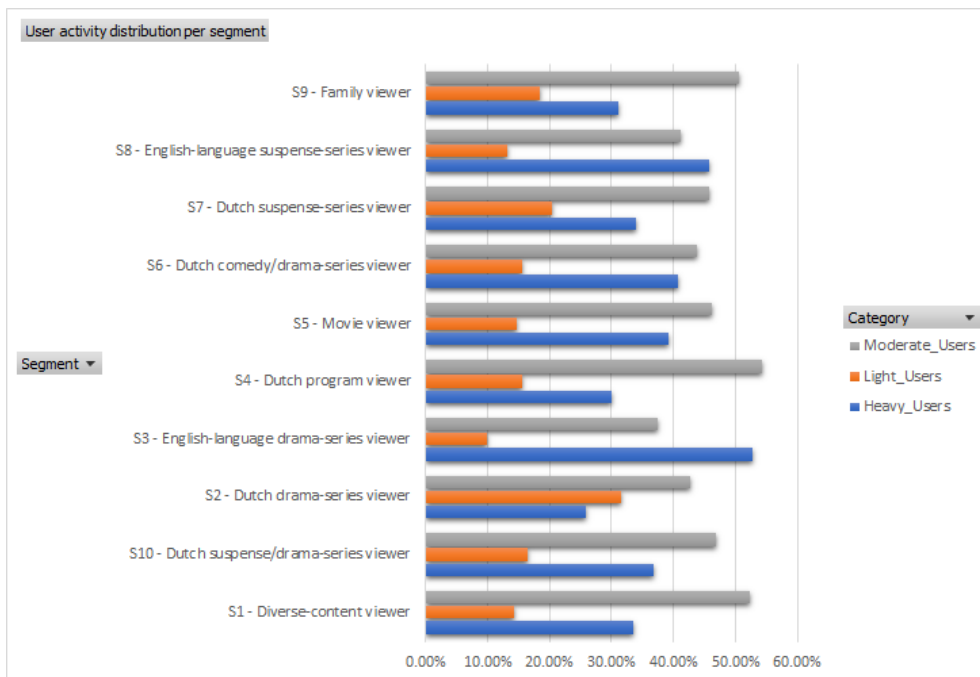
b. Gender distribution per segment



c. Device usage distribution per segment



d. Activity distribution per segment



e. Conversion rate (trial period to pay base) per segment

