DETERMINISM OF INNOVATION

A qualitative study of digital innovation and data innovation within the Dutch public service broadcasting landscape

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ABSTRACT

Up until the end of the twentieth century, the public service broadcasters (PSBs) owned the Dutch media landscape. It was when other broadcasters were allowed to join the market that the media landscape started to commercialize. The technological development of the internet has resulted into a globalized media landscape, allowing for international players to join the Dutch media landscape. Moreover, with the enhancement of digital transformations and media proliferation, the global media landscape has become fragmented. Besides the traditional forms of media, new media have altered the way it is consumed. Newspapers can be read online, radio has the possibility to be streamed, and television programs can be time-shifted through on-demand services. Furthermore, media services no longer just function as a source for information, education and/or entertainment. Consequently, market forces and consumer behavior are changing. Social media and other new media services have adjusted the traditional manner of media production, distribution, and consumption. In addition, businesses are becoming increasingly reliant on these new forms of media and the data they produce. As a result, businesses are becoming more data driven. With the incorporation of digital and data innovation, the media landscape got even further commercialized and personalized. Advertisements have become a key component in the experience of new media services. Moreover, with the use of smart technologies such as algorithms, advertisements have the capability to be personalized. This innovation of personalization has scattered throughout the new media landscape, provoking further digital transformations.

Furthermore, some conservative companies have become bankrupt as the new media innovations were not properly incorporated. Dutch PSBs are coping with the same transitional failures due to governmental, organizational and market influences. This study investigates the forces that challenge the adaptivity of innovation by the Dutch PSBs. Consequently, the research question is stated as the following: *To what extent are Dutch public service broadcasters subject to innovation failure, and how do they adapt to innovation failure due to the forces of challenges and opportunities of digital- and data -innovation within the changing media landscape?* This research question is answered through qualitative research methods. The method of triangulation, including document analysis, netnography and interviews, has been based on a systematic combining research approach. Consequently, the data retrieved from documents, online observations, and interviews from three national broadcasters, the government, and the overarching PSB have been analyzed through thematic content analysis.

Data showed that the Dutch PSB is experiencing multiple forces of innovation failure. These forces are threatening to compromise the public value that the PSB aims to preserve. To remain relevant in the current media landscape, the PSB needs to fight the market forces and incorporate certain new media services. Nevertheless, governmental and organizational forces are often withholding the PSB to innovate. Consequently, the Dutch PSB is trapped in a failing market. However, data has also shown that the characteristics of the failing market also create possibilities for the PSB to find their new relevance in the landscape. Nonetheless, the quest for survival in the changing media landscape due to the rapid data and digital innovations have led to the determinism of innovation.

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1. Introduction

Has the determination of new companies to innovate led to the determinism of innovation for traditional companies? With the proliferation of new media services, companies are threatened to become irrelevant. The demand for new media services is growing, and if companies do not supply the demands of the public, they risk the possibility of substitution. In 2005, V&D a traditional Dutch warehouse, was declared bankrupt. The bankruptcy was partly the result of V&Ds long delayed entrance to the online market with a web shop (Otto, 2017). Videoland experienced a comparable innovation failure. Before streaming and time-shifting were possible, Videoland physically rented out movies, first in the form of videotapes and later as DVDs. In 2004, Videoland acknowledged the online market and developed a service that allowed customers to order a video online that would be sent to them by post (AdFormatie, 2004). Over the coming years, Videoland innovated and by 2013 Videoland digitized their business by creating a pay-per-view service. Thereafter, RTL, a commercial broadcaster, bought Videoland and transformed it into an on-demand service (Hafkamp, 2013). By doing so, RTL transformed Videoland just before Netflix entered the Dutch market, saving it from replacement.

In the fear of disappearing, traditional media services such as the newspaper, radio, and television have adjusted and are adjusting their business strategies. The newspaper medium is publishing online articles, radio has become accessible through streaming and time-shifted viewing has changed the consumption of television. Notwithstanding that all traditional media went through one or multiple drastic transitions due to the rise of the internet (Storsul & Krumsvik, 2013), the broadcasting industry is currently facing great innovative possibilities but also challenges. The competition for the attention of the public as a consequence of the changing media landscape with new media services is thriving (Nelson-Field & Riebe, 2011). Major international corporations such as Facebook, Google and Netflix are changing the broadcasting game (Storsul & Krumsvik, 2013; Van Dijck and Poell, 2014; Wurff & van Cuilenburg, 2001). Commercialization of media has led to a digital age where data is the driving force behind media content and business strategies (Loebbecke & Picot, 2015; McAfee & Brynjolfsson, 2012). Humans have turned into "walking data generators" as a result of smart technology and programming (McAfee & Brynjolfsson, 2012, p. 5). Moreover, data analysis has tilted media innovation to a new area of personalization as visible on social media platforms, on-demand services and advertising.

Whilst all broadcasting companies are challenged with the possibilities of the digitized, commercialized and globalized media landscape (Bardoel & d'Haenens, 2008), public service broadcasters (PSBs) face the biggest challenges of media innovation (Storsul & Krumsvik, 2013). Restricted by the law, a centralized organization, and public duties and values, PSBs encounter multiple forces of innovation failure (Lankhuizen & Gilsing, 2005).

This thesis builds on the existing literature stating the challenges PSBs face in the changing media landscape. Moreover, the focus of this thesis is on the Dutch PSB market and their challenges and opportunities of digital and data innovation. Qualitative research of mixed method triangulation based on three case studies using a systematic combining research approach was conducted to answer the following research question:

To what extent are Dutch public service broadcasters subject to innovation failure, and how do they adapt to innovation failure due to the forces of challenges and opportunities of digital- and data -innovation within the changing media landscape?

First, it is analyzed how the media landscape is changing due to innovative forces. Consequently, this builds the foundation to understand the forces of innovation for the Dutch PSB industry. Second, it is researched what challenges the Dutch PSBs face that could possibly result in innovation failure. Lastly, it is investigated what possibilities of innovation PSBs have, despite the forces of innovation failure in the quest for survival.

1.1 Social Relevance

In the Netherlands, PSBs used to dominate the television media until 1995. From that moment on commercial broadcasters began to roam in the broadcasting landscape (NPO). The mushrooming of technological inventions and innovations have led to drastic changes in the traditional media landscape. The information highway of the internet has led to the digital highway, allowing for fast accessibility to all sorts of information sources and interaction with others (Van Dijck & Poell, 2014; Woldt, 2010). As a result, there are two main elements of social relevance of this thesis. First is the preservation of the public value. The second is the process of innovation to gain a better understanding of how to create a sustainable position for PSBs in the changing media landscape.

First, new media endangers the public value. As previously mentioned, the internet has created an information highway. However, access to information has also led to rising of fake news (Allcott & Gentzkow, 2017; McGrew, Ortega, Breakstone & Wineburg, 2017). The fast commercialization in all areas within the media landscape is threatening to crack the fundamental walls of institutions like PSB that protect the public from misinformation (Lazer et al., 2018). Moreover, the commercial platforms, that originate from market forces that drive on the demand of the public (Croteau & Hoynes, 2014), are developed to sell, buy and advertise (McChesney, 2013). Thereby aiming for maximum profit (Croteau & Hoynes, 2014). However, these means for broadcasting are threatening to undermine the public value due to misplaced

interest (Van Dijck & Poell, 2014). Furthermore, big international media corporations are possibly compromising national and cultural content (Flew & Waibord, 2015). The public's value of national content is challenged once more (Van Dijck & Poell). The internet has become hard to regulate as the internet has led to a global interaction-network (Van Dijk, 2012). As a result, in this era of new media, the survival of PSBs with its public values and independent content has never been more important.

Second, understanding innovational processes and its effects on PSBs provide a framework for PSBs in other countries, but also for other public institutions who experience the same challenges. In a society where data is becoming significantly important, awareness of and possibilities of data protection are of importance. Data is becoming the driving force as a business strategy for commercial corporations (McAfee & Brynjolfosson, 2012). By using data, business intelligence is established (Loebbecke & Picot, 2015), which can improve strategic decisions (McAfee & Brynjolfsson, 2012). Although it is argued that data-driven companies function better in comparison to traditional companies (McAfee & Brynjolsson, 2012) public institutions are often restricted in data usage. It is of social relevance to observe how Dutch broadcasters confront and adjust to these challenges. Some of the innovative challenges are possibly overcome and result in possibilities of digital and data innovation within the media landscape (Storsul & Krumsvik, 2013). Other challenges have resulted in innovation failure (Woolthuis, Lankhuizen & Gilsing, 2005). Institutions, nationally and internationally, public and private, can learn from this bumpy process of innovation succession and innovation failure to a sustainable position and survival of the public institution.

Moreover, in the time frame of this thesis a debate arose about advertising in the PSB industry. It was decided that commercials will be cancelled from the PSB. This demonstrates this topic current social relevance towards the Dutch society.

1.2 Academic Relevance

Many organizations are constantly innovating to remain relevant to the public. Over the last few years, data has ascribed a significant role in this innovative process. Both corporations and the public use and/or share data on a daily basis. As data is becoming a fundamental element in everyday life for both corporations and the public, so is its awareness. Over the years data scandals have covered the news, magnifying the purposes and dangers of its nature (Tuttle, 2018; Verhagen, 2019). Governmental organizations have expressed their concerns about involvement in commercial ends that they use to realize maximum profit. As a result, data has become a relevant subject for research due to its innovative character and implementation in almost every area of society (Helbing et al., 2019; Loebbecke & Picot, 2015; McAfee & Brynjolfsson, 2012).

The restrains and possibilities of digital and data innovation within the broadcasting industry (Croteau & Hoynes, 2014; Schwarz, 2015; Van den Bulck & Moe, 2018; Van Dijck & Poell, 2014) and how PSBs must adjust to remain relevant (Van den Bulck & Moe, 2018; Van Dijck & Poell; 2014), is an

ongoing debate in the academic world. Moreover, the authors note that developments in technology result in the rapid changes in the media landscape and are changing the practices of traditional media (Bardoel & d'Haenens, 2008; Croteau & Hoynes, 2014; Van Dijck & Poell, 2014). As these developments are mushrooming, research quickly becomes outdated (Hendy, 2013; Nelson-Field & Riebe, 2011). Therefore, it is of great importance that research on new media services and its effects on the broadcasting market continues.

As a result, academics predominantly focus on the question whether the term public service broadcasting is still relevant. It is argued that the term must be changed to public service media (Bardoel & Lowe, 2007; Hendy, 2013; Iosifidis, 2011; Moe, 2008: Nissen, 2006; Van Dijck & Poell, 2014). However, there is a lack of literature concerning data and PSB to the author's knowledge. Two studies have been found that have researched the relation between data and public service broadcasting (Schwarz 2015; van den Bluck & Moe, 2018). Nevertheless, digital and data innovation in combination with the Dutch PSBs have not yet been researched upon. This leaves a scientific gap this study aims to fulfil.

Although the Dutch broadcasting market has been researched a few times, this was often done in comparison, in a global overview, or specified on the Dutch media policy (Bardoel & Brants, 2003; Hitters, 2018: Van Dijck & Poell, 2014). This thesis aims to go more into depth. For that reason, diverse perspectives from the ministry, the organizational organ of the Dutch PSB and three different public broadcasters have been obtained.

In summary, this thesis aims to provide insights and answers to the questions yet academically unanswered by researching how developments in technology are changing the consumption of broadcasting media, what challenges PSBs face with digital and data innovation, and how PSBs seek opportunities to suppress innovation failure. Hereby, specifically laying emphasis on the above described forced on the Dutch broadcasting market. The qualitative case study design that focuses on one specific country instead of making an international comparison allows for a more in-depth understanding. The innovative challenges and opportunities the Dutch PSBs encounter in the changing media landscape contribute to a greater understanding of digital and data innovating in the field of PSB and can be used as a template for other public institutions and/or other countries. Finally, digital and data innovation in and affecting the Dutch PSB has, to the researcher's knowledge, not been researched before.

1.3 Outline

This section functions as a reading guide. The previous introductory chapters have demonstrated the importance and challenges of digital and data innovation in the changing new media landscape, especially in the PSB industry. Moreover, the research question this thesis aims to answer is stated. Subsequently, the social and academic relevance is elaborated on. After this outline, the theoretical framework is presented.

This framework provides the reader with an in-depth overview of existing concepts and relevant literature for this study. By doing so, the theoretical framework gives an indication of the already established knowledge within the academic field. First, the changed media landscape will be elaborated upon. This section includes the new media landscape, consumer behavior and the competitive market. Second, information will be provided about the changing services of the PSBs. In addition to the services of PSBs, the concept public service media will be discussed upon. Moreover, the background of the Dutch PSB is explained. Lastly, the concept innovation is defined. However, this section of innovation is specified to digital and data innovation, in addition to the concept of innovation failure. Followed by the theoretical framework, the methodological chapter provides an explanation on this thesis' research, including its research design, chosen methods, case studied, operationalization, data sampling and collection, and data analysis. Consequently, the results section is presented and argued on, on the basis of the previously presented literature from the theoretical framework. Finally, in the conclusion and discussion, the research question is answered and conclusions are drawn. In addition, the methodological and theoretical limitations and suggestions for future research are elaborated on.

2. Theoretical Framework

In this theoretical framework, existing literature on the concepts of 'new media landscape', 'public service broadcasting' (PSB), and 'innovation' are contextualized and defined through previous research and literature. The first concept, changed media landscape, demonstrates the changes of technological advancement and its effects on the new media landscape, consumer behavior, and competitive market. In the second section of this chapter, the services of the PSBs are elaborated on. Additional emphasis is laid on the academic concept of public service media, and the Dutch PSB system. The last concept of innovation consists of digital and data innovation, and innovation failure.

2.1 Changed Media Landscape

In the last decade, the media landscape has gone through tremendous changes. Besides traditional media, new media also made an entrance to the market due to digital, commercial and international forces (Bardoel & d'Haenens, 2008). These forces changed the consumer behavior (Nissen, 2006). Consequently, these themes are discussed with additional literature in the sub-section *new media landscape*. In the following sub-section, *competitive market*, all the areas of competition PSBs face, are discussed through multiple academic sources.

2.1.1 New media landscape

2.1.1.1 Digitalization, Commercialization and Internationalization

The media landscape is rapidly changing due to the forces of digitalization, commercialization and internationalization (Bardoel & d'Haenens, 2008). Rapid developments in technology have resulted in the proliferation of media and have influenced the practices of the traditional media (Van Dijck & Poell, 2014). As mentioned by Croteau and Hoynes (2014) the models and technology that drive the production and distribution of media content are constantly changing. In the first decade of the twentieth century, the first broadcasting medium in the form of radio broadcasting was invented. After the first development of mass audio broadcasting video broadcasting through television entered the market. Throughout the years the programming of broadcasters has digitized. This resulted in the convergence of different forms of media (Croteau and Hoynes, 2014). Moreover, due to digitalization media content is no longer bound to a specific media device. In the current television broadcasting landscape, there is linear-broadcasting and time-shifted viewing, which is accessible through on-demand services and through social media platforms (Croteau & Hoynes, 2014). Nevertheless, it is argued that linear channels are still equivalently active in the landscape (Bardoel & d'Haenens, 2008). In addition, the differences between media channels have become less important (Brooks et al., 2012). With the development of the internet, the distribution, accessibility, and

quality of content have enhanced even further (Croteau and Hoynes, 2014). Moreover, the convergence of television broadcasting and the internet broadband are erasing the boundaries between media channels even more (Horst, Murschetz, Brennan & Friedrichsen, 2018).

Furthermore, broadcasting through new media services has resulted in the possibilities to privatize and individualize media content, thereby altering its consumption (Croteau & Hoynes, 2014). However, with the evolution of the internet, it has developed into more than just an information highway. Commercial platforms have merged with major new media businesses that developed platforms to sell, buy and advertise in advanced ways (McChesney, 2013). Hence, new media innovations have led to increased commercialization (Van Dijck & Poell, 2014). As described by Croteau and Hoynes (2014), commercialization is not a phenomenon of 'technological law of nature' and are thus not the result of the broadcasting industry. The people and the market forces have driven the commercialization, which focuses on making profits.

Moreover, digitalization and commercialization are not the only factors that are changing the media landscape. Internationalization has created 'global media'; allowing cultural products to become available globally (Croteau and Hoynes, 2014). Where the printed media was limited in their international spread due to the language barrier (Croteau and Hoynes, 2014), this barrier is less significant for the new media due to its advanced programming. Moreover, English spoken media is broadcasted on linear television but also on new media platforms, "due to its popularity, the international content that includes cultural elements is spread globally, resulting in the erosion of local cultures and values" (Croteau & Hoynes, 2014, p. 343). Moreover, the domination of major corporations also creates barriers for national content creators to promote cultural products (Leyshon, 2001).

2.1.1.2 Consumer Behavior

The new media landscape, a landscape dominated by digital, commercial and international market forces has been elaborated on. However, these forces also have an effect on the consumer behavior, and consequently, the consumer behavior has an effect on the development of the market forces. As a result, consumer behavior and the market forces are bound in a reinforcing loop. As mentioned by Nissen (2006) media consumers have developed from a passive mass audience to interactive individuals. The manner media content is consumed is changing due to the digital revolution (Nissen, 2006). Broadcasters no longer determine what is viewed, when it is viewed or where it is viewed. As demonstrated in figure 1, 89% of the Dutch consumers view content through a television, 7% through a tablet/PC/Laptop, 3% through a smartphone, and 1% through other devices. In addition, figure 2 and 3 show what kind of content the public is watching. Like previously argued by Bardoel and d'Haenens (2008) linear television is still a key element in the media landscape. However, over the years the viewing activity of 'live television' has decreased

while 'delayed television', 'streamed, downloaded or bought videos', and 'other' consumed content has increased.
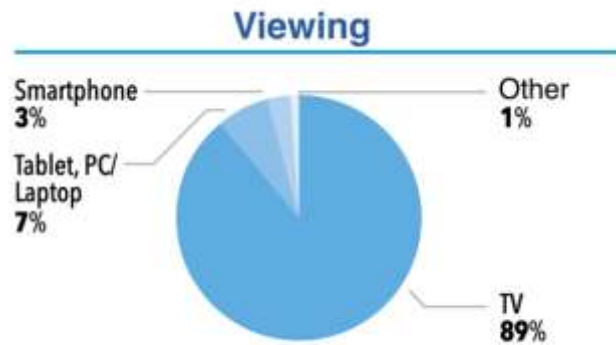

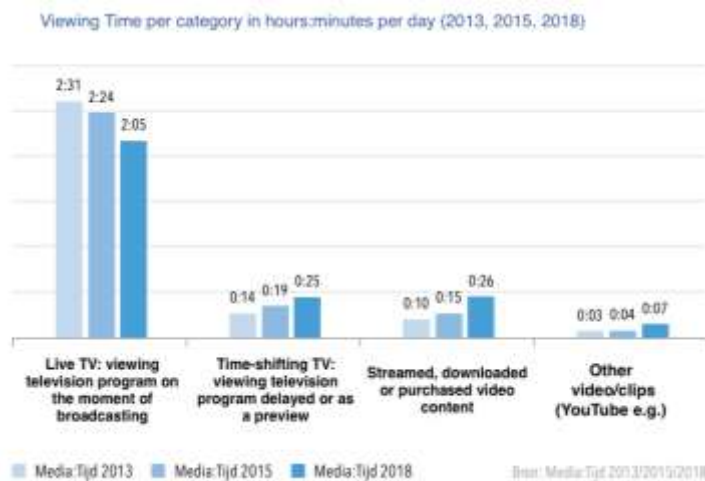*Figure 1, source: Media:Tijd, adapted Maxime de Jonge*

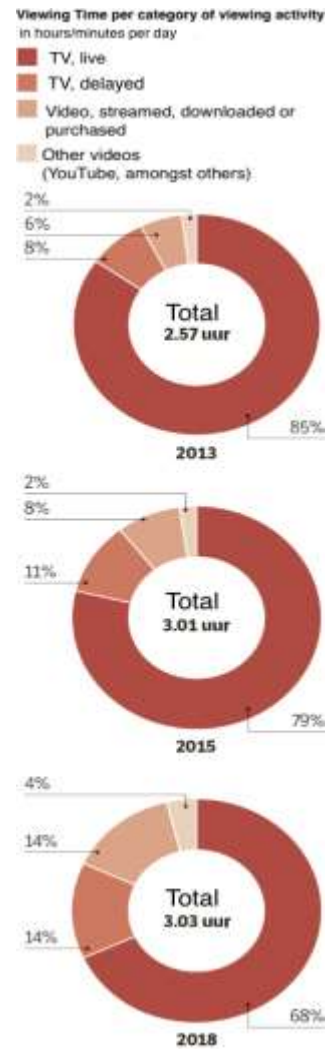*Figure 3, source: Media:Tijd, adapted Maxime de Jonge*

Figure 2, source: NRC, Media:Tijd, adapted Maxime de Jonge

However, as argued by Nissen (2006, p. 13) media consumption is a cultural habit, and a "cultural habit does not change overnight but in the course of generations". The new media landscape is currently facing a generational consumer behavior shift. As argued by Van Dijck and Poell (2014) this might be because the older generations in the current society grew up in a media landscape which was primarily dominated by traditional media, while the youth grow up in a social media dominated media landscape. The older population has an expectation of public television and its content, while the youth experiences an appeal towards a more social, interactive but also individualistic content consumption (Van Dijck & Poell, 2014). However, the rapid technological developments have forced all generations in society to adapt to innovative forces. Nevertheless, a clear division can be made amongst the generations that grows into these developments and the generations that are adapting and incorporating these changes, as demonstrated in figure 4.
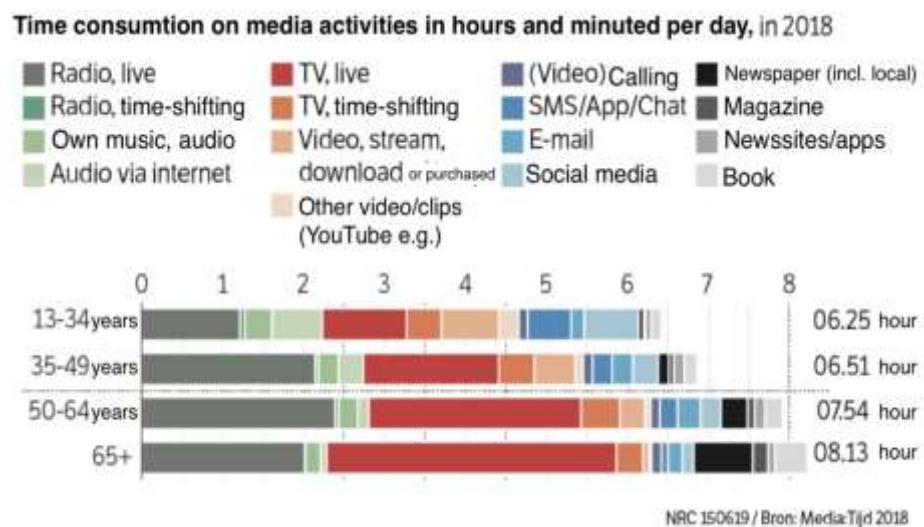
Figure 4, source: NRC, Media:Tijd, adapted Maxime de Jonge

Prensky (2011) observed a 'singularity' in the 'new' generation. This singularity moved beyond a change in clothing style or slang that occurs amongst every generation shift. The observed singularity is the rapid developments and distribution of digital technology in the late 1900s. Moreover, Prensky (2011) noted that there is a significant difference in this generation and the older generations. Where the younger generations are "'native speakers' of the digital language of computers, video games and the Internet", the elders have "at some later point in our lives, become fascinated by and adopted many or most aspects of the new technology" (Prensky, 2011, p. 1). As a result, the current international terms *digital natives* for the younger generations, and *digital immigrants* for the older generations developed. Nevertheless, as argued by Lowe and Maijanen (2019), the future or the PSB is determined by the youth and their media consumption.

2.1.2 Competitive market

The broadcasting market has always been a failing market (Collins et al., 2001; Donders, 2012). The broadcasting market is not like any other economic market, it is a non-excludable and nonrival market. A non-excludable and nonrival market is a market where no one can be excluded from the services, even when the services are simultaneously used, and where the services are free of charge. The market fails as PSBs invest more in social welfare than economic welfare is returned. Investments in social welfare include investment in talent, infrastructure and innovative programming (O'Hagan & Jennings, 2003). Commercial broadcasters invest less in these above factors as their priority does not lay with these factors but with the returned economic welfare. Moreover, PSBs are more concerned with the ends of these investments than the means and therefore might not be too interested in the costs (O'Hagan & Jennings, 2003). However, PSBs are prohibited to let the growing commercialization influence their services. Nevertheless, the public is active on the new media platforms and for that reason so are the PSBs. It is argued that commercial platforms are threatening to compromise the public value of the PSBs (Van Dijck & Poell, 2014) and are undermining the democratic values (McChesney, 2013). Consequently, PSBs struggle between continuity and change (Lowe & Maijanen, 2019). The competitive market is challenging their core values, making them unsustainable. However, these core values are also essential for the PSB institutional legacy (Lowe & Maijanen, 2019). Nevertheless, Hendy (2013) disagrees with these arguments. He argues that the disappearance of public service broadcasting would harm liberal democracy. According to Hendy (2013) due to the proliferation of new media channels and new media, the strong public dimension of the media has been magnified instead of reduced.

Regardless, as the result of a commercializing, internationalization, and fragmentation within the media landscape, people are searching for transparent, unbiased and reliable content (Tsetsura & Kruckeberg, 2017). Fake news has become a fundamental concept within the media landscape, especially after the American elections of 2016 (Allcott & Gentzkow, 2017; McGrew, Ortega, Breakstone & Wineburg, 2017). Politicians, scholars and citizens are confronted and challenged with fake news which "highlights the erosion of long-standing institutional bulwarks against misinformation in the internet age. Concern over the problem is global" (Lazer et al., 2018, p. 1094). Consequently, it is the PSBs challenge to enter this market to spread its horizons and protect the public's value with valuable content.

Furthermore, the proliferation and fragmentation of media consumption have resulted in a competition for the attention of the public (Croteau & Hoynes, 2014; Nelson-Field & Riebe, 2011). As mentioned by Hendy (2013) the United States and many more countries in the world, "[have] been dominated by a commercial model in which profit has undoubtedly been the key objective for those running the industry and in which, consequently, creativity and ambition have sometimes come a poor second". Therefore, the lack of success of making European content popular, is the result of the success of popularity

of commercial content (Kolokytha & Sarikakis, 2018). The broadcasting market is an oligopoly, indicating that the market is dominated by a few major (American) players (Wurff & van Cuilenburg, 2001; Van Dijck and Poell, 2014). However, the American PSB tradition is weaker in comparison to other countries (Hendy, 2013). Hence, the domination of commercial broadcasters is less of a concern for America than countries that have a more dominant PSB.

As a result of the domination of commerce, the internet has become hard to regulate especially nationally, due to its global communicative system (Van Dijck & Poell, 2014). Moreover, new media content is becoming increasingly international and policymakers have become concerned. The United Nations Conference on Trade and Development (UNCTAD) for example, argues that the national culture and media policies are deregulating due to the growth of the global creative industries (United Nations, 2004). It is stated that the regulation and ability to manage the national culture is challenged (Flew & Waibord, 2015). As a result, the European Union enforced a law that states that at least 30 percent of the media content must be of European origin (European Parliament, 2018). This law aims to regain control over international on-demand services, such as Netflix, and prevents cultural content from vanishing to the background. These international media corporations are more interested in generating maximum profit than promoting cultural diversity (Raats, Schooneknaep & Pauwels, 2018).

However, YouTube is also becoming increasingly international (Flew & Waibord, 2015). YouTube is a stateless platform that has become popular due to the globalization of media. As a result, nations experience difficulty in protecting their national content from international content. Cunningham and Craig (2016), on the contrary, argue that YouTube allows for more cultural diversity than traditional media could have done.

Flew and Wairbord (2015) argue that the globalization of media is more of a business world than a world of politics. However, as mentioned by Hendy (2013) the regulations enforced by the government to protect the PSBs are also experienced as 'attacks'. PSBs experience diverse forces that urge them to withstand competition, be more entrepreneurial and well organized. These forces generally cause PSBs to be more like their commercial competitors (Hendy, 2013).

2.2 The services of Public Service Broadcasting

Public service broadcasting (PSB) is a public institution that aims to serve the public with valuable content. In the first sub-section of this section the services of PSBs based on existing literature, are discussed. In the second sub-section, the academic concept of public service media is discussed. Finally, the last sub-section elaborates on the Dutch public service system.

2.2.1 Public Service Broadcasting

Within the broadcasting industry, there is a division between PSB and commercial broadcasters. PSB systems are diverse over the world. However, in Western and Northern Europe, India, Australia, New Zealand, and Canada PSBs are not influenced by the state nor by the interest of private commercial corporations (Hendy, 2013). Moreover, the PSBs are run by public bodies who broadcast content that to their belief is in the public's interest (Hendy, 2013). Nevertheless, most public broadcasters in Europe receive public aid and regulations from the government (Croteau & Hoymes, 2014). Commercial broadcasters, on the contrary, are privately owned and seek maximum profit (Croteau & Hoymes, 2014).

This is also echoed in O'Hagan and Jennings (2003), where it is argued that commercial broadcasters focus on making a profit while public broadcasters aim to educate the public. According to Van Dijck and Poell (2014, p. 149), it is the PSB's mission to create television, or content, "as a form of speaking to, and engaging with, viewers as *citizens*". However, as PSBs are publicly funded, they are also expected to protect the public values. PSBs are generally obligated to contribute to nation building, educating, entertaining and helping social cohesion (Khajeheian &Tadayoni, 2016; O'Hagan & Jennings, 2003; Van Dijck & Poell, 2014). This includes the "universality of service, pluralism, diversity of programming, promotion of democratic processes, and strengthening of national language and culture" (as mentioned in Khajeheian & Tadayoni, 2016, p. 118). By integrating all citizens to increase the social cohesion, public discussions, diverse opinions, and views can be expressed and are encouraged (O'Hagan & Jennings, 2003).

Moreover, in O'Hagan & Jennings (2003) it is noted that PSBs should not allow the quality of the PSBs to be influenced by market forces. PSBs are, in most European countries, not permitted to engage in the same commercial means and ends as commercial broadcasters. This is because PSBs have the responsibility to produce and maintain quality (NSOB, 2018). According to O'Hagan and Jennings (2003), this aspect is lost if PSBs were to engage with commercial market forces. Their argument is that commercial content cannot be trusted "with providing anything of value" because the interests of third parties can influence the content (O'Hagan & Jennings, 2003, p. 33).

2.2.2 Public Service Media

With the rise of social media, the media has become more 'social', referring to the growing popularity of its interactiveness (Van Dijck & Poell, 2014). Interaction is established through the possibility of feedback and dialogue (Sjovaag, Moe & Stavelin, 2012). The relationship between the communicator and the audience is changing (Hendy, 2013). As a result, corporate communication is becoming an important element in the business strategies of corporations. Due to the growing ecosystem of connective media

through social media (Van Dijck & Poell, 2014), more engagement amongst the corporation and its audience is accomplished (Cornelissen, 2017). As argued by Cornelissen (2017), corporations show a more human-like profile through social media, allowing for a more approachable experience for the audience. Moreover, social media allows for a safe and stable strategy for corporate communication to find its way through the changing new media landscape (Cornelissen, 2017; Krumsvik, 2018).

Furthermore, due to the growing corporate culture within the interactive media landscape the division between online spaces of public organizations and corporate online spaces are becoming increasingly porous (Van Dijck & Poell, 2014). Media proliferation and fragmentation has led to changed content consumption and has, as a result, become selective instead of dictated (Hendy, 2013). Moreover, the phenomenon of interaction has transferred from social media towards other media channels. As mentioned in Van Dijck and Poell (2014), social media platforms have changed the practices of television, both culturally and socially. As a result, the traditional manner of production and distribution has altered. As described by Bonini and Pais (2017) the interest of user participation has also transferred onto the PSB landscape. It is mentioned that this form of user participation where citizens decide in which programs to invest, goes beyond the influence in content. It is also altering the structure of the PSB.

Academics question if it is the PSB's duty to extend its obligations of generating public value outside its structure (Van Dijck and Poell, 2014). As a consequence, the definition of 'public' is challenged and adjusted on multiple areas (Van Dijck & Poell, 2014). It is argued that it is the PSB's role to redefine 'public' and 'social' within this new environment. Consequently, the term PSB might become outdated in the current internet penetrated and interactive era. Some academics argue that it would seem more logical to adjust the PSB to a more suiting term like 'public service communication' or 'public service media' (PSM) (Bardoel & Lowe, 2007; Hendy, 2013; Iosifidis, 2011; Moe, 2008; Nissen, 2006; Van Dijck & Poell, 2014). However, the term PSM also receives critiques. According to some, new media can be a challenge for PSBs. It is argued that PSM is not compatible with the term 'broadcasting' (Nissen, 2006). Nevertheless, others argue that there is a danger for the recognition of content with public values in the evolvement from PSB to PSM. As reported by Van Dijck and Poell (2014) the youth no longer possesses a historical framework that allows them to separate commercial content from public content. For that reason, it is of importance for the PSM to remain in reach of the youth. Moreover, PSBs need to involve in interactive services to remain relevant for the youth (iMMovator, 2017; Lowe & Maijanen, 2019; Van Dijck & Poell, 2014). If PSB were not to engage with the audience in online social spaces, such as YouTube, it would result in a loss of this particular audience (Van Dijck & Poell, 2014). Regardless, interactive services can also result in a positive effect of the values of PSB. With the rise of interaction, it "also inspires hopes for the democratic value of the internet" (Sjovaag et al., 2012). The internet creates the opportunity to easily access information and provide feedback. As a result, according to Van Dijck & Poell (2014, p. 158), if

PSBs move to online spaces, "public service values of deliberation, reciprocity, and free and universal access are realized".

Furthermore, it is not only essential to move to online social spaces to remain relevant for the public or enhance the public value. On-demand services are changing media consumption. As a result, PSBs will find relevance in incorporating this new form of media in their programming. Moreover, as discussed by Van den Bulck and Moe (2017), PSB can be made compatible with the enhancement of digital media innovations.

Nevertheless, the shift from PSB to PSM demands a critical discourse between producers, policy makers and academics, in order to establish a new definition of public value and how these public values must be created and distributed through (new) technologies and practices (Van Dijck & Poell, 2014). It has been argued that within the contemporary media studies the transformation from PSB to PSM is one of the most challenging debates (Iosifidis, 2011). Nevertheless, for this study the term PSB is used.

2.2.3 The Dutch System

Technological developments are not the only factors that have changed the Dutch media landscape. The Dutch PSB is different from other European broadcasters due to its system of broadcasting corporations (NSOB, 2018). The Dutch PSB rest on the foundations of its pillarized political culture. The pillars were based on religious and ideological separations (Brants, 1985). At first, there were four pillars each representing an ideology with accompanied broadcasters: catholic (KRO), protestant (NCRV), socialist (VARA), and liberal (AVRO) (Engelbert & Awad, 2014). Eventually, more broadcasters joined, also representing a pillar of society. All broadcasters were and still are, broadcasted on either Nederland 1, Nederland 2 or Nederland 3. However, in the sixties, the Dutch society started to individualize. As a result, the pillarized system starting to tremble (Bardoel, 2003; NSOB, 2018). In 1965 it was decided that other public broadcasters that did not necessarily possess an ideology could join the market. Consequently, more public broadcasters entered the market. Over the years the Dutch PSBs received less public aid from the government and from the Ster, the PSB advertising corporation (Budget report NPO, 2018). As a result, broadcasters were asked to infuse amongst each other (NSOB, 2018).

At the end of the 20th-century commercial broadcasters entered the market (Hitters, 2018), that resulted in more television channels. At the beginning of the 21st century, a more centralized and overarching structure was incorporated in the Dutch PSB called the NPO (Dutch public broadcaster) (NSOB, 2018) (Figure 5). The NPO has responsibility over all national broadcasters. These responsibilities include the coordination of the cooperation among national broadcasters, programming of the offered media, budget division and supplying broadcasters with distribution methods (NSOB, 2018). In general, this implies that the NPO is responsible for the safekeeping and functioning of democracy and freedom of

speech. Even though the NPO is responsible for the programming of online and offline platforms, it is not allowed to interfere with the content created by the broadcasters (NSOB, 2018). In addition to the broadcasting corporation, there are also broadcasters who have a specific task to fulfil. These are the NOS (Dutch Broadcast Foundation) and NTR (Broadcasting television network). These broadcasters are independent of the NPO. The current Dutch broadcasting system is demonstrated in figure 5.

Figure 5, source: Verleisdonk, 2014

Furthermore, in a rapport from 2005 from the Scientific Council for Government Policy, it was advised to the government for PSB to stop producing entertainable content and focus on the gaps of culture, education, and information as a result of the commercialization of the market (Hitters, 2018). In other words, the Dutch PSB got obligated to enhance its failing market with more social welfare (Collins et al., 2001; Donders, 2012). Eventually, it became clear that commercial broadcasters and public service broadcasters are operating in the same market, competing for audiences, advertisers and the same specialized labor (Hitters, 2018). Moreover, in the coming years, the Dutch PSBs encountered a new challenge, namely media innovations. Although the new Media Law (2008) allowed for the PSBs to provide more online services, PSBs were starting to lose its audience to online content, user-generated content and international on-demand content (Hitters, 2018). Consequently, it was argued that the organizational structure of the PSB was no longer tangible, and resulted in the above-mentioned centralized structure by the NPO. Moreover, as argued by Hitters (2018) the strict laws and obligations, that do not allow the PSBs to cooperate with commercial platforms for content distribution, enforced by the Dutch government, restricting the PSBs in their innovation possibilities, and might result in innovation failure in the future.

2.3 Innovation

Innovation can be a positive but also a negative driving force for corporations. The sub-section digital and data innovation discusses the possibilities and challenges of data use. The second sub-section and concept innovation failure elaborates on the definition of innovation and the possible factors that can lead to innovation failure.

2.3.1 Digital and data innovation

As mentioned by Van Dijck and Poell (2014, p. 151), with the rise of social media it soon became clear that new media "developed into commercially exploited data-driven platforms". The rapid growth of diversity in media and its availability, in combination with the growing developments of personalized content, has brought broadcasters into a new era (Hitters, 2018). Smart technology such as algorithms, data collection, and data analytics, have turned humans into "walking data generators" (McAfee & Brynjolfsson, 2012, p. 5). Due to technological advancements, digital data storage has grown, the velocity of data creation has accelerated, and the variety of data has increased (McAfee & Brynjolfsson, 2012). As a result, more business intelligence can be generated (Loebbecke & Picot, 2015). As mentioned in McAfee and Brynjolfsson (2012) this business intelligence can be put to use to improve and justify decision making. McAfee and Brynjolsson (2012) argue that data-driven companies perform better than 'traditional companies'. It is stated that the use of big data results in more accurate audience predictions. Consequently, these predictions lead to better organizational decisions. However, for big data use to be functional, decision-makers have to value the possibilities data have to offer for the company (McAfee and Brynjolfosson, 2012).

Even though, big data and big data analytics both offer opportunities, they also bring challenges for PSBs. PSBs are challenged with restrictions of social and public values that are closely connected with data and data analytics. These challenges are, for example, the privacy of citizens, the trustworthiness of information, freedom of speech, and advertising (NSOB, 2018). As mentioned before, it is essential for the Dutch PSBs such as the NPO and NOS to maintain its independent identity and not be influenced by third parties (iMMovator, 2017; NSOB 2018). Cooperation with commercial corporations is allowed when no profit is generated. Moreover, the involvement in algorithms and search engines, and the resulting independence of PSBs are constantly questioned (IMMovator, 2018). However, there are multiple possibilities in which the PSBs can involve in data analytics within the existing limits of the Mediawet (2018) (NSOB, 2018). These possibilities are, for example, adjusting to innovative technologies and the use of the new media.

In addition, as mentioned by Krumsvik (2018), the awareness of 'big data' as a strategic approach is growing. A Swedish case study conducted by Schwarz (2015) researched the compatibility of data-driven personalization and PSB. Media personalization is the personalization of content through algorithmic use of data of the users and has become a popular innovation within the media landscape (Schwarz, 2015; Van den Bulck & Moe, 2017). Personalization can both be experienced as beneficial but can also arouse privacy concerns resulting in a personalization-privacy paradox (Aguire, Roggeveen, Grewal & Wetzels, 2016). Schwarz (2015) found that there are multiple forces that create obstacles for personalization within the PSB. These are the conservative beliefs about algorithmic personalization, the institutional carefulness to data positivism, the preference to conduct interpretative analyzes by editors to obtain knowledge about the audience, and the structural consequences of making the users individualistic and unique (Schwarz, 2015). Although Schwarz (2015) encountered the significant challenge of the personalization-privacy paradox within the PSB industry (Aguire, Roggeveen, Grewal & Wetzels, 2016), more challenges were encountered. These challenges will be elaborated on in the next section.

2.3.2 Innovation failure

Innovation is the introduction of a new phenomenon. However, innovation is different from an invention as an innovation typically is a new combination of already existing concepts and thus is an implication of inventions (Storsul & Krumsvik, 2013; Tushman et al., 2002). Existing technologies, resources, skills and ideas can be implemented in different situations and can generate new possibilities. Like mentioned by Fagerberg (Storsul & Krumsvik, 2013, p. 14): "New combinations of existing knowledge and resources, open up possibilities for new business opportunities and future innovations, and in this way set the stage for continuing change". Moreover, innovation must include an economic and/or social additional impact (Storsul & Krumsvik, 2013).

Storsul and Krumsvik (2013, p. 18) argue that there are ten specific influences that have an effect on media innovation: (1) technology, (2) market opportunities and user behavior, (3) behavior of competitors, (4) regulation, (5) industry norms, (6) company strategy, (7) leadership and vision, (8) organizational structure, (9) capacity and resources, and (10) culture and creativity. This study combines these influences into four major forces: new media landscape, market forces, law regulations, and organizational forces. Nissen (2006, p. 7) developed a diagram demonstrating the *Four determining factors in the development of electronic media* (Figure 6) and its effect on PSM. Although Nissen (2006) generalized the influences of media innovation as described by Storsul and Krumsvik (2013) differently than this research, they carry the same relevance. For this research number 1 and number 4 are combined. Number 5 is added to the figure.
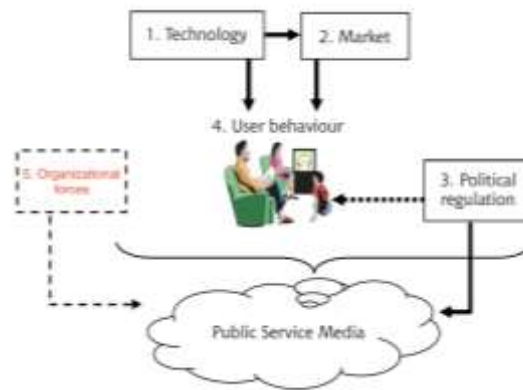
Figure 6. *Four determining factors in the development of electronic media*
(Nissen, 2006, p. 7; adapted Maxime de Jonge)

Media innovation involves innovation in all areas within the media landscape (Storsul & Krumsvik, 2013). As mentioned in Storsul and Krumsvik (2013), innovation can occur in the form of product innovation, process innovation, position innovation, paradigmatic innovation, and social innovation. Although most innovations are subtle and do not cause a major reaction on the market, some innovations have radical consequences (Storsul & Krumsvik, 2013). The internet has, for instance, led to new innovations, allowed major media companies to change the advertising industry, and changed the traditional form of watching television due to the introduction of on-demand services. The game and the rules are changing "and in order to survive, they [television] must innovate their products, processes, positions or even their paradigms" (Storsul & Krumsvik, 2013, p. 18).

As demonstrated by Woolthuis, Lankhuizen and Gilsing (2005) there are multiple areas in which innovation failure can occur within the above-mentioned innovative types (Storsul & Krumsvik, 2013). Relevant for this study are transition failure, hard institutional failure, and soft institutional failure. Transitional failures reflect the lacking ability to adjust to the new technological or innovative developments. Hard institutional failure refers to the inability to innovate due to regulation and legal systems, as argued by Hitters (2018). Finally, soft institutional failures are failures within the political culture and/or social values (Woolthuis, Lankhuizen & Gilsing, 2005). An example of soft institutional failure is the personalization-privacy paradox (Aguire, Roggeveen, Grewal & Wetzels, 2016). Another area where innovation failure can occur is organizational failure. It is argued by Tushman et al. (2002), that the organizational design of a corporation is an important determinant for the evolvement of innovation. Moreover, as argued by Baumann (as mentioned in Storsul & Krumsvik, 2013) business organizations must fit the innovative market in order to be dominant and to be a competitor. As demonstrated by Tushman et

al. (2002), an ambidextrous organization that exists of exploitation and exploration department is most optimal for successful incorporation of innovation, consequently, withstand innovation failure.

However, there is no perfect suiting business organization (as mentioned in Storsul & Krumsvik, 2013). Nevertheless, there are necessary developments for businesses to adapt to media innovation (Storsul & Krumsvik, 2013). These include a small-scaled and a more open to change organization, flexibility, decentralization, and prioritizing data ownership as a business strategy (Krumsvik, 2018; Storsul & Krumsvik, 2013). Moreover, it is argued that PSBs are inefficiently structured as a result of its historical background (Larrondo, Domingo, Erdal, Masip & Van den Bulck, 2016). PSB often tend to be bureaucratic and massively organized as a result of its past monopoly and later duo-monopoly over the broadcasting landscape (Larrondo, Domingo, Erdal, Masip & Van den Bulck, 2016; Nissen, 2006). Consequently, the problem of innovation failure does not necessarily lay with the failure to innovate to technological innovations, it is the disability of firms to change their strategy (Christensen & Bower, 1996).

3. Methodology

As demonstrated in the previous chapters, the broadcasting media landscape has been and is changing drastically. The public broadcasting industry experiences pressure from multiple angles. In order to generate a full understanding of the Dutch PSB situation, further research was conducted besides literature study. To approach this complex topic, the method of systematic combining with three cases was conducted (Dubois & Gadde, 2002). Systematic combining is a research approach that continuously reassesses the framework, theory, the cases, and the empirical world (Dubois & Gadde, 2002). The evolving sub-units of the systematic combining method were researched through the methodology of triangulation for a greater interpretive paradigm (Flick, Kardorff, & Steinke, 2004; Hennink, Hutter & Bailey, 2011). In addition, qualitative triangulation of careful document analysis and netnography, in addition to in-depth interviews with experts on the topic, have created a rich amount of information and resulted in more credence in the findings (Bryman, 2012). This chapter elaborates on the systematic combining approach, discuss the method of triangulation, present the selected case studies, operationalize concepts, explain the process of sampling and data collection, followed by the manner of data analysis.

3.1 Systematic Combining

Systematic combining is an intertwined research approach. Within this approach different elements are constantly reassessed as other elements evolve (Dubois & Gadde, 2002). The main objective of research is the application of theory on empirical observations (Dubois & Gadde, 2002). Systematic combining goes beyond the objective and confronts empirical data with theory during the entire process of research. Moreover, unlike other case study designs, the systematic combining approach does not describe case studies in a linear process. Dubois and Gadde (2002) argue that the linear approach does not reflect all potentials and advantages of the use of case studies. Systematic combining intertwines all the different activities of the research process: the framework, theory, case, and empirical world (Dubois & Gadde, 2002). By combining all activities of research and constantly reassessing the elements, the researchers understanding of both theory and empirical phenomena are expended. The theoretical framework consists of preconceptions of the research topic. However, discoveries through empirical fieldwork, interpretations and analyzes result in the constant evolvement of the framework. As argued by Dubois and Gadde (2002, p. 555) "theory cannot be understood without empirical observation and vice versa".

As systematic combining is a research approach, it is not directly visible in this thesis. Nevertheless, at the beginning of this research a theoretical framework with the emphasis on big data and PSB was constructed. However, empirical observations, interviews, and document analysis resulted in unanticipated data. As the research period continued, these issues were further explored. Nevertheless, as a consequence

of new unpredicted findings, the theoretical framework had to be redirected. This process is what Dubois and Gadde (2002) refer to.

Furthermore, this research incorporated three case studies. However, although the cases were separately researched, they were not treated as distractive in the analyzes. In the sub-section 'case studies' the sampling criteria is discussed.

3.2 Method of Triangulation

As mentioned by Gentels et al., (2015) it is of the essence to understand a case in its own context to gain a greater analytic understanding. To do so, a variety of data is collected. This research is based on the systematic combining of case research (Dubois & Gadde, 2002) which was researched through the triangulation of data, as mentioned in Flick, Kardorff, and Steinke (2004, p. 178). Triangulation of data is "the combination of methodologies in the study of the same phenomenon" (Denzin, 1970, p. 291). It can be defined as data that is drawn from various sources at different points in time, in diverse locations or from unalike people (Flick, Kardorff, & Steinke, p. 178). Consequently, triangulation was applied in this study by combining diverse methodical approaches such as document analysis, netnography, and interviews. Not only did this result in a detailed level of understanding (Flick, Kardorff, & Steinke, 2004; Gentles, Charles, Ploeg, & McKibbon, 2015) it also provides greater evidence to the analysis which also increases its credibility (as mentioned in Bowen, 2009; Yin, 2003).

3.2.1 Document Analysis

As mentioned by Denzin (1970, p. 291) "document analysis is a systematic procedure for reviewing or evaluating documents—both printed and electronic (computer-based and Internet-transmitted) material". For this study, diverse and multiple documents were analyzed. Documents were gathered from numerous sources, these include official state documents and official document deriving from a private source and mass-media outputs (Bryman, 2011). The tables 1, 2, and 3 in Appendix A demonstrate the analyzed documents, their sources and number of pages. Official documents derived from the state, as mentioned in Bryan (2011, p. 549) "produce a great deal of statistical information". Documents analyzed from the state are the MediaLaw (2008) and Government Gazette nr. 24288. Furthermore, official documents from private sources were derived from the Dutch public broadcasters. As mentioned in Bryan (2011, p. 550) documents derived from these sources are generally heterogeneous sources and are primarily company or organizational documents. These documents are obtained through the public domain such as annual rapports, concession policy plans, budget plans, mission statements and retrospect's. However, during analysis, it has come forth that the MediaLaw (2008), the mission statements and in particular the

commission statement were the most resourceful. Moreover, Mass-media outputs, like newspaper articles and other articles, were analyzed (Bryan, 2011).

3.2.2 Netnography

The internet has grown to be an important development in the everyday lives of many people. As people are using and creating online communities, the internet has become an important research site (Bowler, 2010). As mentioned by Kozinets (2015), the method of ethnography has transferred towards the internet. This specific approach is called netnography. Ethnography is a method that observes and described phenomena, consequently this method is often used by anthropologists (Hammersley & Atkinson, 2007). This research has used the method of netnography to observe and describe how the Dutch PSBs present themselves online. This has been conducted by observing the broadcaster's social media accounts, YouTube accounts and their own platforms. In addition, a podcast by Wilde Haren de Podcast, has been listened to and observed. Although the podcast was not a direct observation of the online behavior of the Dutch PSB, it elaborated on the online platforms on which the broadcasters are active. To conduct the online observations, a guide was prepared (Appendix A; Appendix C).

3.2.3 Interviews

In addition to document and netnography, expert interviews were held. Expert interviews were held with relevant stakeholders to this research. The selected people possess knowledge about the complex situation of the Dutch PSBs and work with or in one of the selected cases. As described in Bogner, Littig, and Menz (2009, p. 19), an expert is a person who possesses an "institutionalized authority to construct reality". Expert interviews were held after the analyzes of the above-mentioned content. As a result, clarifications and additional information were obtained. In-depth semi-structured interviews were held with five experts (Appendix A; Appendix B). All interviews, except for one, were recorded and timed to be between about 45 and 60 minutes. Interviews were held with stakeholders from the NPO, BNNVARA, NOS, VPRO and from the Ministry of education, culture and science. The respondent from the NPO wished to be anonymized.

3.3 Case Studies

This research focuses on the Dutch PSBs, however, as mentioned in the previous chapter, there are multiple broadcasters that are umbrellaed by the NPO. As a result, the NPO is mentioned frequently throughout the rapport. However, the three following cases were selected: NOS, BNNVARA, and VPRO. These cases were selected on the criteria that they are active on online platforms and are actively experimenting with

innovations to engage with society. Case studies were implemented in this research to generate a greater analytic focus on the topic (Gentles, Charles, Ploeg, & McKibbon, 2015). The chosen cases are representative or typical cases (Bryman, 2011). As a result, the cases show "the objective to capture the circumstances and conditions of an everyday or commonplace situation" (Yin 2009, p. 48). The case studies were chosen through purposeful sampling and will be elaborated on in the following three paragraphs.

3.3.1 NOS

The Nederlandse Omroep Stichting (NOS, the Dutch broadcasting foundation) is responsible to provide citizens with a wide variety of independent and reliable news. According to the Mediawet (2008), it is NOS's duty to take care of the national public service media broadcasting in the field of news, sports, and events. This includes a high frequency and regularity of media supply and distribution. Furthermore, the NOS is accountable to supply media via all accessible forms of media channels (NOS.nl). Consequently, this is also a key element that made the NOS relevant to this research. The NOS distributes news on diverse media platforms such as radio, television, internet, applications, teletext, and social media (NOS.nl). As the NOS has the obligation to be actively involved in all forms of media, it was relevant to investigate how NOS tackles all forces of innovating and data innovation in order to stay relevant in the changing media landscape.

3.3.2 BNNVARA

BNNVARA is one of the six leading broadcasters of the NPO's broadcasting association (NPO). BNNVARA is known for its independence. However, it can also be described as a broadcaster that challenges the society by asking or allowing the audience to ask controversial questions (BNNVARA). Furthermore, BNNVARA is a broadcaster that mainly focuses on the younger generation as a target population (Beleidsplan BNN-VARA, 2014). For this reason, BNNVARA was selected as one of the case studies. As the younger generation has become digital natives, their involvement in new media is higher in comparison to traditional media. Consequently, as BNNVARA is highly engaged with the digital generation it was relevant for this study to research how BNNVARA is embedded in the new media industry that focuses on the future generation and forces of innovation.

3.3.3 VPRO

The VPRO (Vrijzinnig Protestantse Radio Omroep) does not engage in a specific target population but provides the society with a wide variety of programs. The VPRO was selected on the criteria that the broadcaster acknowledges the importance of innovation. VPRO recognizes the rapid developments and

distribution possibilities of media in the media industry. As a result, they mainly focus on renewing their programs on all platforms and participate in the latest developments. To achieve optimization, the VPRO cooperates with designers and media makers of new technologies on applications (VPRO).

3.4 Operationalization

The concepts as mentioned in the theoretical framework have been operationalized and coded through thematic content analysis. In the program Atlat.ti documents and reports were uploaded and coded in the program. Thematic content analysis was conducted with the use of Atlas.ti. Altas.ti is a program that functions as a tool to code and to analyze qualitative data. The themes can be arranged and categorized, allowing for a manageable overview of themes and quicker analyses (Appendix D).

The first concept 'new media landscape' was researched by reading, analyzing and coding the documents and interviews. While conducting the interviews the researcher made sure to ask about the changed media landscape. All informants have answered and elaborated on the concept and phenomenon. Multiple codes were used to operationalize the concept 'new media landscape'. However, the most often used codes were *changing landscape, competition, generations, new media,* and *commercial.*

The second concept 'the services of public service broadcasting' was examined by investigating the services of the PSBs. This concept was researched through all methods of triangulation. This was done with the codes *law, new media, PSB* and *PSM*. However, all codes were relevant in order to research this concept.

The third concept, innovation, was assessed by analyzing the implemented innovation, the restrictions of innovation, the possibilities of innovation and the innovations in the media landscape. This has been researched through document analysis, netnography but especially through interviews. There were some specific questions concerning innovation and innovation failure. The codes that have been used to research this concept were *big data, arena, changing landscape, commercial, competition, cooperation, finance, innovation, law, new media, PSB* and *PSM.*

3.5 Data sampling and collection

In the previous sections, it has been argued why the specific case studies have been chosen, which documents are analyzed, what online observations have been conducted, and who has been interviewed. However, this section will elaborate on how the documents and respondents have been found, how interviews were held, and online observations were conducted.

The documents that have been analyzed have been found on public websites, owned by the government or the Dutch PSB. The selection procedure was not as precise as first anticipated on. This was

because nearly all the documents were relevant for this research. Moreover, it was anticipated that it would be difficult to gain access to relevant documents. Nevertheless, all relevant documents were accessible online and were publicly accessible. Sometimes it took more in-depth research to find certain documents but this was not seen as an obstacle. Furthermore, two documents: the government gazette and the VPRO annual overview 2018, were pointed out on during interviews.

Retrieving data from documents, other publication and conducting online observations was not experienced as an obstacle for this research. However, arranging interviews was experienced as a challenge. Prior to the research stage, it was already anticipated that arranging interviews is a time consuming and long process. Nevertheless, the process of arranging interviews was even more time consuming than expected. Respondents expressed that they had no time to conduct interviews, showed no interest to participate, did not reply or stopped replying. However, through snowball sampling and expressing the challenge to arrange interviews towards the researcher's network, interviews were arranged.

Before each interview a topic list was constructed (Appendix B). In interviews for qualitative research, it can be difficult to get informants to expand or elaborate on their answers (Bryman, 2012). Consequently, it is relevant for the researcher to create a space in the interview where it can be asked to elaborate on the informant's questions. For that reason, semi-structured interviews were held. For each interview, a specific interview guide was brought along. These function as a guideline throughout the interview. It allowed the researcher to redirect the interview towards the topic with structuring questions but also helped the researcher when the researcher got lost in the conversation (Bryman, 2012). Moreover, a semi-structured interview provides more room for probing questions, specifying questions, direct and indirect questions, and interpretive questions (Bryman, 2012). Furthermore, silence was often incorporated in the conversations to encourage the interviewee to elaborate on the answers.

Online observations were conducted on online platforms. During the process, field notes were taken. Nevertheless, as these fieldnotes merely function for observational purposes they were not interpreted by the researcher during the observations (Bryman, 2012). Instead, it was noted on which platforms the broadcasters are active with notes that seemed relevant for this study. For example, when conducting netnography on the NPO, NPO Start was observed. It was noted what services the public receives, and what extra services users receive with an account and with a paid account.

3.6 Data analysis

As this study is researched through triangulation, thematic content analysis is conducted on all methods. When conducting thematic content analysis, patterns with emerging themes within the data were discovered (Braun & Clarke, 2006). Accordingly, the themes transformed into categories that helped analyze the data

(Bowen, 2009). Codes are important elements in thematic content analysis when performed on triangulated data as they integrate the diverse data sources into one (Bowen, 2009).

Moreover, this study was not built on the foundations of another research. As a result, there was no previously existing coding-scheme. Nevertheless, there are no clear guidelines on how to conduct thematic analysis (Braun & Clarke, 2006). As mentioned in Bowen (2009) the codes can be predefined or discovered while reading the data. The coding scheme of this research existed of the predefined codes as they used to be defined in the theoretical framework. The concepts and codes were 'Public Service Broadcasters', 'Big data', 'Innovation', 'Broadcasting Arena', and 'New Media'. However, as previously mentioned, as the research evolved it became clear that data and big data were not as relevant as predicted. Consequently, the research design and theoretical framework had to be adjusted. Nevertheless, these predefined codes were still relevant as coding concepts.

Furthermore, this study conducted thematic content analysis without a pre-existing coding framework. Consequently, most of the codes derived were, apart from the predefined concepts, data-driven through thematic content analysis. As mentioned by Bryman (2012), a theme is a category that derived from the data, relates to the research focus/research question, builds on codes that are identified in the data, and provides the researcher with a theoretical understanding of the data. As previously mentioned, this process has been done with the qualitative coding program Atlas.ti (Appendix C).

First, the documents, reports, observations and transcripts were read carefully. As the data was reviewed, the data was coded. As previously elaborated on, more coding themes emerged while analyzing the data. As the data was being coded, relations amongst the codes started to appear. As a result, data was often coded with multiple codes. Like mentioned by Bryman (2012), the process of coding started with a coding every piece of data that seemed relevant. As a result, this led to the proliferation of codes. Nevertheless, later, when the researcher received a better overview of the data, codes could be combined or linked.

However, coding and thematic analysis is a subjective method for analysis. Nevertheless, as thematic content analysis is conducted on three diverse data sources, overlapping themes are being discovered. As a result, analyses are more credible due to the fact that evidence can be found in the multiple and diverse data sources of documents and reports, observations, and interviews (Bowen, 2009).

4. Results

From the process of coding and comparing data, three overarching themes arose. Innovation has shown to be a significant concept throughout the data. The concepts discussed in the theoretical framework have come to light in the gathered data and as a consequence are interwoven throughout the results. The data and the theoretical literature have shown to be densely interconnected. Consequently, to present the results and analysis in a structured manner, other themes than the constructed concepts as presented in the theoretical framework are formulated. The emerged themes are *the forces of innovation, compass of innovation,* and *determination of innovation*. Within these themes, several sub-themes emerged. The forces of innovation elaborate on the changing new media landscape, and how the Dutch PSB experiences *the push* to innovate. Consequently, it is discussed how the Dutch PSBs adapt to the changing media landscape *to pull* the public towards their services. The next theme that is discussed is the compass of innovation. This theme discusses the framework the Dutch PSBs are position in by *the law* and *the NPO*. As the theme entails, the law and the NPO function as a compass, directing the possibilities of innovation within the PSB industry. The last theme that arose is the determination of innovation. This theme clarifies *the challenges* and *the opportunities* the Dutch PSBs encounter in their innovative environment. First, the theme the force of innovation is discussed. Second, the compass of innovation is investigated. Finally, the determination of innovation is analyzed.

4.1 The forces of innovation

The forces of innovation describe the forces that push innovation within and the forces that pull the public towards the Dutch public service landscape. The push focuses on the audience and technological developments, in addition to the global paradox that pushes the innovative processes within the market. The pull focuses on supplying the demands of changed behavior of the consumers, while also acknowledging where the market is failing as a result of the innovative pushes. Consequently, the failing market creates opportunities for the PSB to pull the public to their services.

4.1.1 The push

4.1.1.1 Audience and technological developments

The first sub-theme of this section demonstrates how the Dutch PSBs experience the push to innovate to adjust to the changing media landscape, as emerged from the data analysis. Data show that PSBs feel the forces from the market and the public to innovate. As a result, it has become clear that they try to act upon these forces and attempt to incorporate these innovations into their business strategies. "We no longer just watch Nederland 1, 2, 3 and RTL," is what Lammertse (Ministry ECS) said in an interview. "We watch

programs when it fits our schedule.. we arrange our own information mixture, it no longer matters who broadcasts what, as long as it is relevant for you and for me, we will watch it". This is similar to the idea that programs are no longer space and time-bound and broadcasters no longer determine when, where and what is being viewed (Nissen, 2006). This allows for privatized and individualized selection of media content (Croteau & Hoynes, 2014); and consequently, allow us to watch programs on our phones, on the train or on the couch at home (Lammertse, Ministry ECS). As mentioned in Nelson-Field and Riebe (2011) due to media proliferation, the market is becoming fragmented. This is also echoed in the NPO budget rapport (2018) and became apparent in interviews with Rademaker (NPO) and Luif (NOS). Due to the fragmentation, information has become increasingly accessible through different outlets, and media creators are competing for the attention of the public (Nelson-Field & Riebe, 2011).

As mentioned in Van Dijck and Poell (2015), PSBs experience a greater challenge in attracting the youth to their programs. This has also become evident in the data. This has come forth in interviews with all three of the case studies and is echoed in multiple reports published by the NPO and other public broadcasters. In the Concession Policy Plan (NPO, 2016-2021) and the NPO budget rapport (2018), it is mentioned that the youth make less use of television and radio to access information. This might be due to the fact that they are more inhabited in the new digital media (NPO, 2016-2021; Prensky, 2001) or are more interested in social, interactive and personalized media content (Van Dijck & Poell, 2014). However, academics have argued that a cultural habit such as media consumption does not change suddenly but rather over generations (Nisse, 2006). Hoekstra (VPRO), on the contrary, argued that the forces of innovation are affecting the consumption of media and "(all) generations are becoming increasingly mobile" (Hoekstra, VPRO). Moreover, the NPO budget report (2019) showed that the public's viewing behavior has changed particularly amongst the population of 50 years and older, the digital immigrants. This is in line with Prensky, (2001) noting that the youth are digital natives due to the technological developments. The older generation, on the contrary, is changing and adapting their media consumption to the forces of innovation. In sum, it is not just the youth who is changing their media consumption (NPO budget rapport, 2018). Nevertheless, this is counter-intuitive as it is generally assumed that the older generation is less willing to adapt to new media services.

The VPRO's annual report of 2018 describes that viewing through online channels is growing in popularity. This observation reaffirms Croteau and Hoynes' (2014) argument that different forms of media are converging as a result of the development of the Internet. The NPO created a format to illustrate the 'new way of viewing' (Concession policy plan NPO, 2016-2021) (figure 7). The new way of viewing falls into four complementary quadrants namely: between linear and time-bound (1), between linear and timeless (2), between time-bound and on-demand (3), and between on-demand and timeless (4).
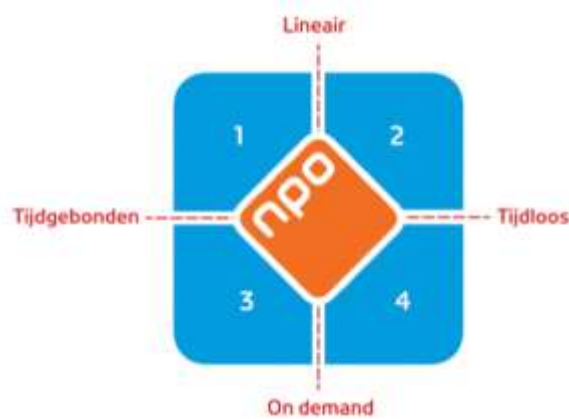
Figure 7: Different ways to watch Television. Source: NPO
Concession plan

Quadrant 1 represents time-bound programs that viewers want to watch 'live' like the news or socially engaging programs, which for example are: *zondag met Lubach* or sports events. However, the public also enjoys watching these programs delayed through on-demand services (quadrant 3). Timeless programs like movies, series and documentaries are all enjoyed thematically (quadrant 2) or on-demand (quadrant 4).

The data has shown that on-demand viewing has become the most dominant form of non-linear watching for the population of 20 years and older (NPO, 2016-2021). This has also come forth by the statistics from MediaTijd (NRC). Not only have on-demand services become popular, the NPO states in their budget rapport (2018) that time-shifting has also grown in popularity.

Nevertheless, like Bardoel and d'Haenens (2008) the data (NPO connection policy plan, 2016-2020) also acknowledges that although on-demand and non-linear viewing are becoming increasingly dominant, linear channels are still 'alive and well' and will remain prominent in the industry. This was also echoed by Hoekstra (VPRO): "linear television will never disappear; I believe that everything online is an addition". Rademaker (NPO) backed this by stating "linear television will remain prominent in the coming 20 years. The audience ratings will decrease, a lot". Nevertheless, it was also argued that the manner of television watching will continue to develop. However, although it has been discussed that linear watching is still visible in the landscape (Bardoel & d'Haenens, 2008), no arguments in the academic field have been found that support the continued development of linear television watching in its traditional form.

Regardless, due to the new ways of watching, the content of the programs and the manner content is found, is changing too. As mentioned by Lammertse, "the content has become more diverse. Broadcasters are no longer tied to three linear channels but can keep an endless number of online channels in the air. The

on-demand offers are of course also endless". However, based on these data, one would expect the visibility of the PSBs content to have increased through the new media channels. Nevertheless, the contrary occurs. The traditional ways of media production and distribution have changed the practices of television both socially and culturally as a result of social media (Van Dijck & Poell, 2014). In addition to literature, this has also come forth in the data, indicating that the access to content is changing (Nelson-Field &Riebe, 2011; Rademaker, NPO). A major component in the diversity and multitude of possibilities to offer media is through the channels of social media. The BNNVARA, for example, mentioned that mobile use has led to a focus on sharing and reviewing content rather than primarily viewing it. Hendy (2013) noted that interaction has become a key aspect in media use within the landscape. Comments, likes, and shares are a profound aspect in today's media use (NPO, 2016-2021; Rademaker, NPO). Moreover, the data showed that social media has developed into a profound element of everyday necessities within the lives of the public (Concession policy plan NPO, 2016-2021; Van Dijck & Poell, 2014). It allows interaction with friends but also with public figures, organizations and companies as mentioned in Van Dijck and Poell (2014) and Luif (NOS). Moreover, as social media allows people to express themselves towards others in an accessible way, it also provides a clear indication to what extent someone or something is appreciated (Luif, NOS; NPO budget report, 2019). For these reasons, social media has become an important element for broadcasters and editors. As a result, interaction with viewers, listeners and the broadcasters are changing phenomena within the media landscape (Luif, NOS; NPO budget report, 2019). The BNNVARA, VPRO, and NOS have also acknowledged this phenomenon in their policy plans. Nevertheless, the broadcasters have argued the importance of the PSBs to be active in online spaces to engage with the public, and in specific the youth. However, unlike Hendy (2013), McChesney (2013), and Van Dijck and Poell (2014) who have expressed concerns about social media and the role of PSBs to protect the public value, the Dutch PSB did not use this argument to support their online activity.

Moreover, Lammertse said that content is becoming increasingly international. Nonetheless, this will be elaborated on in the next paragraph.

4.1.1.2 Global paradox

The second sub-theme of 'the push' describes the dilemma of globalization. The global paradox emerged from the data analysis. It has become clear that the media landscape has become an international competitive landscape and the Dutch PSB is aware that action must be taken. However, it has become clear that they are unable to answer the questions *how?* As a result of the increasing accessibility to national and international content due to the new media's global culture, international content is arguably eroding local cultures and values (Croteau & Hoynes, 2014). "All Porter's 5 forces are working in on us" is what Hoekstra (VPRO) said. As mentioned in Bardoel and d'Haenens (2008) and the NPO Concession policy plan (2016-

2021), broadcasters are positioned in a rapidly changing media landscape, one in which digitization, internationalization and commercialization are predominant. The NPO (budget plan 2019) noted that the NPO needs to invest more in their media offer and services to be able to compete with the fast-changing market and growing dominance of international commercial business. However, as mentioned by Storsul and Krumvik (2013), if media companies want to survive, they need to innovate their products, processes, positions and/or their paradigms and not necessarily invest in them.

The data showed that the NPO expressed their need to conquer and maintain a place in this rapidly changing world in order to continue to create programs (NPO Concession policy plan, 2016-2021). However, it should not be the Dutch PSB's priority to conquer and maintain a place in the changing media landscape to create programs, its objective should be to protect the public value (Hendy, 2013; McChsney, 2013; Van Dijck & Poell, 2014) and national and cultural content (Flew & Waibord, 2015). Nevertheless, these developments in the media landscape result in the fact that the public broadcasters will have to deal with changed competitive relationships (NOS policy plan).

Through the data it has become clear that the competition has shifted (Hoekstra, VPRO). Moreover, Lammertse mentioned that competition used to be national "but instead of looking at each other, we now have to look at the whole world because the real competition now comes from another direction and that is difficult". Currently, public broadcasters are competing with international content creators in addition to Dutch content creators (Flew & Waisbord, 2015). This also showed in the data where Hoekstra (VPRO) said: "instead of having BNNVARA as our main competitor, Netflix and others who post content on YouTube are our main competitors". This is also echoed in the NOS policy plan where it is mentioned that the (national) commercial broadcasters will no longer be the biggest competitors. That part will be increasingly taken over by major global content providers (Bardoel and d'Haenens, 2008). Hoekstra (VPRO) provided an example concerning the dominance of Facebook with the resulting vulnerability of the national broadcasters. He said that Facebook changed something on their platform, and as a result, the PSBs content is no longer visible. He demonstrated that a minor adjustment by Facebook had a major impact on the visibility of the PSBs for the public. He also argued that the NPO did not fully understand that a national PSB has no influence on the business strategy of a major media player like Facebook. Similarly, academics have argued that politicians are concerned about the unbalanced power distribution and state that the globalization of media is not a political world but a business world (Flew and Wairbord, 2015). However, as the above example demonstrates, PSBs are naive to think that they still have influence in the global media market. This might be the result of their historical background of the PSB owning the monopoly of media access (Nissen, 2006).

In addition to the growing power of international players, another form of competition arises. As mentioned in Lowe and Bardoel (2007), this form of competition goes beyond the competition of content

creators but rather about the created content. This has also come forth in the data: "The Netherlands is only a small country with a small language range and we see that the world is overflooded with information and entertainment from major international players with endless budgets. That worries us about the visibility of the Dutch offer" Lammertse explained (Ministry ECS). This statement by the ministry provides a clear indication that national policymakers are worried about the erosion of national content and do not know how to regulate the market like mentioned by the United Nations (2014), Van Dijck and Poell (2014), and Flew and Waibord (2015).

However, as mentioned in the NOS policy plan and by Barnett (as mentioned in Lowe & Bardoel, 2007), in the current fast growing and easy accessibility of content it is the PSB challenge to remain socially relevant. Nevertheless, as the USA does not have a strong PSB system (Hendy, 2013). The small national PSBs have already been ascribed their social and political relevance as American citizens search for reliable PSB content outside their country (Hoekstra, VPRO).

4.1.2 To pull

4.1.2.1 Supplying the (on) demand

The first sub-theme of 'the pull' describes how the Dutch PSB aims to incorporate the forces that push innovation and implement these to pull in the public. From data analysis, it has become evident that the Dutch PSB feel somewhat threatened by the changing media landscape and grasp any opportunity to not become excluded from it. For example, data showed that the NPO is constantly improving their programming to fit the new demands of the public (concession policy plan, 2010-2016). In the NPO's concession policy plan of 2010-2016, the NPO made an expectation that linear channels would remain dominant. Academics like Bardoel and d'Haenens (2008) stated that linear broadcasting and television are still key players in the media landscape, however, this shows some discrepancy between the Dutch PSB and the academics who do not claim that traditional media will never be replaced. Nonetheless, the NPO states that especially the younger population would use on-demand media services more excessively. As a result, the NPO opt to enforce a dual strategy; continue to serve the older public with a strong offer on the linear channels whilst creating a larger on-demand offer for the younger public. Moreover, the NPO stated that they will invest more in applications and mobile devices as the young public is generally skilled in these digital developments, as also mentioned by Prenksy (2011). For this generation, the NPO is planning to change its strategy drastically in the form of the content, forms, and distribution (Concession policy plan, 2016-2021). For the elder youth, the NPO coordinates the marketing, guiding, and distribution of content during the moment they are online. This is, for example, after school and after dinner (Concession policy play, 2016-2021). Moreover, the NPO also takes into consideration that due to the growing population of

elders, traditional media remains important. Consequently, the NPO continues to also provide content and programs via traditional linear channels.

However, as previously argued, the older generation is also increasingly engaging in non-linear services (NPO budget report 2019). For that reason, the NPO described that in order to serve all audience groups, from young to old, they must be present on all distribution platforms: linear, on-demand and online with content that matches their viewing behavior and interest (budget report 2019). For the production and distribution of, for example, the news, integrated programming could mean that it is not broadcasted at 8 o'clock pm so that it reaches the whole public, but will broadcast the news more intensively and personalized via the web and applications (Concession policy plan, 2016-2021). This is in line with Van den Bulck and Moe (2017) who argue that PSB can be made compatible with the enhancement of digital media innovations. The only criteria are that PSB needs to be extremely cautious and mindful of how data is gathered and analyzed.

In addition, as the demand for on-demand services and other non-linear viewing is growing, the Dutch PSBs are forced to innovate along to remain relevant to the public. As Lammertse mentioned, "the behavior of the public has changed. As a consequence, media institutions must evolve with them". In order to do so, the PSB must take a position in all four quadrants of figure 7 and be active on all available channels, including social media platforms. NPO-Start is the Dutch PSB' s own on-demand service that accumulates in content as all broadcasters post content on the platform. In addition, it is argued that it is essential to be active on social media to attract users from social platforms to the PSBs own platforms (Rademaker, NPO). However, as mentioned in the concession policy plan (2016-2021), the short-term emphasis will be on the on-demand quadrants. Nevertheless, this seems to be a chaotic and uncoordinated attempt to pull in the public towards the services of the PSB to incorporate all the 'pushes of innovation'.

However, the data showed that the PSB is losing viewers and the new forms of media are not compensating this loss, up until this time. According to the budget plan of the NPO (2018), this is the result of the accumulating number of websites in comparison to radio and television channels. This has also come forth in the literature on media proliferation and fragmentation. As a consequence, this results in a competition for the attention of the public (Croteau & Hoynes, 2014; Nelson-Field & Riebe 2011). As a result, the competition for public attention, also called the 'battle of the eyeballs' (Hakvoort, 27-05-2019), on social media is many times greater than the traditional linear format. This was also described in the data (Hoekstra, VPRO; Luif, NOS). However, Luif (NOS) also argued that competition is also becoming less, due to the fact that the public no longer has to choose amongst linear programs; "everything is accessible". As a consequence, the NPO will mainly focus on the quality of their content. Nevertheless, this argument that 'everything is available' is in paradox with the above-described argument that the PSB need to supply the demand of the public with non-linear content to remain relevant. On one side PSBs are petitioners of

the broadcasting market by competing for public attention and providing them with services demanded by the market, while on the contrary it is also acknowledged that content consumption is no longer an exclusive choice that has to be made. Nevertheless, the battle of the eyeballs is pushing PSB to be an active player in the competitive market and might result in the rejection of core values of social welfare over attention. Consequently, the idea that public broadcasters are more concerned with the ends of media investments than the means, has demonstrated to be challenged in this changing competitive media landscape (O'Hagan & Jennings, 2003).

4.1.2.2 Acknowledging the failing market

The second sub-theme of this section demonstrated how the Dutch PSBs pull in the public through unconventional market forces, which emerged from the data analysis. The data showed that the Dutch PSB "need to operate and innovate in our strengths" (Hoekstra, VPRO). As mentioned in Collins et al., (2001) and Donders (2012) the public service broadcasting market has always been a failing market. However, a failing market always shows room for improvement (Van Bennekum, BNNVARA). PSBs have the obligation to provide public media services at a national, regional and local level by offering media that is intended to provide a broad and diverse audience with information, culture and education through all available supply channels, as mentioned in the Media Law (art 2.1 lid 1a). Nevertheless, this obligation has become a challenge due to the fragmentation of the media landscape. Data showed that the Dutch PSBs feel threatened by the number of competitors in the market. Hoekstra (VPRO) mentioned that "the public is everywhere, as a consequence so are our competitors". Rademaker (NPO) from the NPO also argued that the main challenge for the PSBs is to connect with the public through new and other platforms. However, data and literature have found that the internet contains a lot of information and people are searching for reliable data (Tsetsura & Kruckeberg, 2017; Van Bennekum, BNNVARA). Luif (NOS) also quoted this phenomenon; "because everything is becoming fragmented … people are uncertain about reliable content".

Through the literature it has become clear that the proliferation of the media sources has caused the PSB to lose its monopoly of information (Nissen, 2006). However, literature has shown that their role is shifting (Bardoel & Lowe, 2007; Hendy, 2013; Iosifidis, 2011; Moe, 2008; Nissen, 2006; Van Dijck & Poell, 2014). Respondents have also acknowledged this (Hoekstra, VPRO; Lammertse, Ministry ECS; Rademaker, NPO; Van Bennekum, BNNVARA). Misinformation and fake news have infiltrated the public's media consumption in this internet age (Lazer et al., 2018) but the Dutch PSBs have acknowledged that their relevance is shifting from educating and entertaining the people to being a reliable source of information that does not compete from entertainment with commercial broadcasters (Lammertse, Ministry ECS; MediaWet). For example, the commercial and international market of YouTube (Flew & Waibord, 2015) fails on independent drugs education, non-commercial hip hop or independent songs for children

(Van Bennekum, BNNVARA). Van Bennekum (BNNVARA) gave an example of the YouTube program #BOOS: "#BOOS is a consumer program, to say the least. It is impossible to make that sponsored". #BOOS is a program that stands up for citizens that have been mistreated by companies. From the data and literature, it has been argued that commercial influence cannot be trusted to provide valuable content (O'Hagan & Jennings, 2003). Van Bennekum, for example, said that if Coca Cola were to sponsor #BOOS, they would also have the power to influence the program". Hoekstra (VPRO) echoed this argument. He said that it is less important for PSBs to create popular content on popular subjects to achieve likes. This allows the PSBs content to be more independent from commercial influences. However, this is also an obligation for the PSBs (Lammerste, Ministry ECS; MediaWet; O'Hagan & Jennings). Nevertheless, according to the data, it was argued that this is where the strength of public broadcasters lies; the independence of commercial interests (Van Bennekum, BNNVARA). Moreover, the data correspondent with the literature that states that the PSB values are magnified through the possibilities of new media (Hendy, 2013; Sjovaag et al., 2012; Van Dijck & Poell, 2014): "it is a public value, independence and objectivity that can result in a huge profit for the media industry" (Hoekstra, VPRO) and according to Van Bennekum (BNNVARA) by posting content with qualitative value on a commercial platform, the commercial platform also grows in value. For that reason, YouTube encourages public broadcasters to post content on their platform.

Moreover, it has become clear that it is also important for the PSB to standout in the media market. Luif (NOS) also argued that to earn a strong position in the current media landscape, it is of the essence to create reliable content. She said "I think that we can profile ourselves very much on the socials … we hope that when you see something from the NOS, you will know it is reliable. And we also see this in the numbers. For example, when something of importance happens people often visit us (the NOS website) and I think that is something we must cherish". Rademaker (NPO) shared this perspective. He mentioned that the public will always be interested in content from the public broadcasters; "we have a different task, and this task will remain relevant". Hoekstra (VPRO) also argued that it is the public broadcasters challenge to be one of the public's preferences; "we have to work hard to accomplish this". As demonstrated, the Dutch PSB is aware of their competitive position and their strengths to profit from the failing market that puts social welfare above economic welfare. However, the arguments by the broadcasters are most often directed towards the aim to profit from the failing market to stay visible in the landscape instead of the intrinsic motivation to protect the fundamental walls of public institutions from fake and unreliable content (Lazer et al., 2018).

4.2 Compass of innovation

The compass of innovation demonstrates to what extent the Dutch PSB has opportunities to innovate, according to the law and the NPO. Data has shown that a controversy occurred. The idea has been given by

the government and the NPO that broadcasters can choose in which direction to innovate, but no matter on which area they wish to innovate, they are restricted to the preferred direction of the government and the NPO. This chapter will elaborate on the restrictions of the Law, and the restrictions of the NPO.

4.2.1 The law

In 2008 the Dutch government created the current Media Law which was first enforced in 2009. The Dutch Media law (2008) includes determinations for Public media services (this includes public service broadcasting), commercial media services, protection of the youth, important events, use of broadcasting networks, and monitoring and enforcement done by the Media Authority (Commissariaat voor de Media). Whenever a reference is made towards the Media Law, the Dutch Media Law of 2008 is intended. This research focused on chapter two of the Media Law, namely *public media services.*

4.2.1.1 The specifics

The first sub-theme of the chapter compass of innovation describes the specific lawful obligations that the Dutch PSBs must adhere to. The Media Law provides the PSBs with guidelines and obligations that must be followed. In chapter 2.1 *public media mission* it is mentioned that PSBs have the obligation to reach a wide and diverse public via all available channels (art. 2.1 lid 1a) which must also be obtainable for all citizens (art 2.1 lid 2f). However, the media content broadcasters supply the public with, must reflect the identity and mission of that particular organization, as described in the statutes (art 2.34 lid 2).

According to art 2.1 lid 1c, PSBs have the obligation to stimulate innovation regarding the media-offer. In addition, they must follow and stimulate technological developments and must utilize all possibilities to offer media to the public through new media and distribution techniques. Moreover, the rapid development of new media and distribution technologies require proper execution to be successful. For that reason, the Media Law incorporated a law that allows for experimenting with new media channels. In art 2.2 lid 1a 1 it is noted that an experiment serves to investigate new media channels that can contribute to the realization of the public media's mission on the national level, as mentioned in art 2.1.

However, there are also complications that challenge the allowance of experiments. As mentioned before, the law requires PSB to innovate and adjust to reach the public. However, the online spaces where the public is active, are in many cases located on commercial platforms. Literature and data have shown that on these commercial platforms, profits are made through data collection and advertising. In art 2.1 lid 2d, it is noted that the PSB must remain uninfluenced from commercial influences.

Nevertheless, according to art 2.141 lid 1, the NPO, RPO (regional public broadcasters) and the public media, institutions are not submissive on making profits through third parties with any of their activities and can demonstrate this towards the commissioners when requested. Art 2.88 lid 3b states that

PSBs must guarantee redactional independency towards advertisers, sponsors and others who have contributed to the creation of the media offer. Advertising in the media supply of the national public media service is exclusively allowed by the Ster (art 2.91 lid 2). However, when PSBs move to commercially owned online spaces, such as YouTube, Facebook or Instagram all of the above-forbidden factors are encountered. In an interview with Lammertse from the ministry of education, culture, and science, it was asked to elaborate on this conflicting situation. Lammertse (Ministry ECS) mentioned that there are agreements that state that third parties cannot advertise on PSB content without the approval of the broadcasters, "the Ster is the only one who is allowed to advertise on public content" he continued. For that reason, as explained by Tim Hoffman (*wilde haren de podcast,* 24-02-2017) and Van Bennekum (BNNVARA), broadcasters turn off advertising on their videos. Nevertheless, broadcasters and any other content creators that post content on YouTube have no control over the advertisements alongside the videos (Luif, NOS).

Consequently, a paradoxical situation occurs that results in hard institutional failure, as mentioned by Woolthuis, Lankhuizen and Gilsing (2005). The law that obligates the PSB to be innovative, accessible through all available channels, stimulate technology, new media and distribution techniques while also experimenting with new media channels. On the contrary, the law also permits the Dutch PSB to not involve in commercial services, like YouTube and advertisements. This paradox demonstrates the complexity of the current new media industry, the media market that is irreversible from commercialization, and the lack of recognition and understanding of this phenomenon to its fullest by public institutions.

4.2.1.2 The vague

The second sub-theme demonstrates the vague obligation the Dutch PSBs encounter which emerged from the data analysis. It has become clear that there are two main phenomena that both the PSB but also the government is unsure about. As a result, this section is divided into two: vague definitions and ambiguity about PSB services. In the sub-section 'definitions' data showed unclear definitions in the Media law that concern and allow broadcasting to extend their services on the new media landscape. The second sub-section 'a new service?' demonstrated, with use of data, how the new media landscape challenges the formal structure of the Dutch PSB programming.

4.2.1.2.1 Definitions

When reading through the Media Law, the terms 'internet', data' and 'online' are not encountered. Remarkably, when the law talks about public service media, the only media referred to are television and radio, with one exception of an on-demand service. Examples are as followed: ".. of which the percentage is no more than ten and can differ depending on the radio and television program-offer" (art 2.95 lid a),

"The program in question is longer than an hour and a half for television, or forty-five minutes for radio" (art 2.97 lid 1a) and, "... at least three general television program channels and five general radio program channels … that supply media and at least one free of charge media channel … which is intended for the catch-up services from the general program channels". However, data showed that non-linear viewing or hearing, apart from catch-up services, are not mentioned in any of the laws. Lammertse (Ministry ECS) was able to provide some clarification. He mentioned that the concepts of radio and television, as mentioned in the current Media Law, are independent of technology. This is "because today radio and television are also online accessible". He continued by saying that in the present it is called *audio video* instead of radio and television "but that is not how they mention it in the law". Moreover, the data showed that the task of the PSB has become broader than three linear TV and five radio channels. For that reason, "it is about the content of the offer" and in addition to the Media Law, the definitions of radio and television have been moderated to a more technologically neutral definition.

Nevertheless, it is observed that the media law describes the service of broadcasters as public media services indicating that the transition of the term PSB to PSM already occurred in the Dutch PSB industry. However, the definition and criteria for a PSB to evolve into PSM, as defined by scholars (Bardoel & Lowe, 2007; Hendy, 2013; Iosifidis, 2011; Moe, 2008; Nissen, 2006; Van Dijck & Poell, 2014), the Dutch PSB does not necessarily fulfil. Moreover, the Dutch 'PSM' is still, as made visible in the above-mentioned data, adjusting and finding its relevance in the new media landscape.

Furthermore, although the terms internet and online are not mentioned in the Media Law, "[PSB] have to move to where the public goes" (Lammertse, ministry ECS). "Content must be as diverse as possible, must give a reconstructive picture of society, and must be of the highest quality", Lammertse continued. However, how the broadcasters bring that to the public must be determined by the PSB; "the task of the PSBs are technology neutral and although it is not mentioned, the PSBs are active on all platforms, not just linear, they also use video platforms, are online and use apps." (Lammertse, Ministry ECS). In summary, content must be of high quality, represent the entire society, be diverse and is offered on all possible media channels. This seems an uncoordinated and perhaps desperate attempt to reach a broad spectrum of the Dutch public to prove its relevance.

4.2.1.2.2 A New Service?
Additionally, the Media Law is not only vague on its media channels, but it is also not quite clear to what extent and limits broadcasters are allowed to post content on social media- or commercial -platforms. It was found in the data that broadcasters are conflicted in adapting to the new media landscape and 'outdated' law obligations. As quoted by Tim Hoffman (Wilde haren de podcast, 24-02-2017) "I can't do what I do, I go against the law". Tim Hoffman elaborated by saying that his YouTube program #BOOS, is not viewed

as an official program. "Public broadcasters are only allowed to publish content on the internet if it is an extension of a program" Tim Hoffman mentioned. As a result, Tim Hoffman experienced difficulty to broadcast his program and as a consequence experienced difficulty to fulfil his public duty to reach the youth and offer them content with quality (Wilde Haren de Podcast). In an interview with Lammertse (Ministry ECS), it was asked to elaborate on this phenomenon. Lammertse mentioned that this conflict has to do with the audiovisual European guidelines of the European Commission. These guidelines state that public broadcasters receive public aid if the public broadcasters meet certain conditions. These conditions are that PSB must describe the task of the broadcaster. This includes describing the broadcaster's activities and mission. In order to reach these European requirements, the Dutch government enforced an approval system. The broadcasters must ask permission to broadcast a new program in order to assess if it suits the public task and values and what the effects would be on the market.

However, the question "but what is a program?" remained unclear. #BOOS is a YouTube specific program and thus has no connection to an already existing 'linear' program. Does this make #Boos, but also NOS stories and 101Barz against the law? Lammertse answered this question by explaining that a single program has its own title and can be assessed as a series. A separate program will never be approved, Lammertse elaborated. However, the complication of this question does not lie in the definition of the program, but in the programming of the program. Can a website like YouTube be a program? Can it be assessed as a series or is it an individual program? As mentioned before, these challenges are due to the traditional linear programming that made the assessment of a program obvious: on a regular time, linear and recurring. Online programming is different and does not follow the traditional program guidelines. However, #BOOS occurs on a regular time and reoccurs, the only difference is the innovative programming that allowed the program to be viewed on a youth concentrated platform instead of linear programming. Taking these observations into account, the problem does not lay with the programming, but with the incorporation of different media outlet than the traditional forms, on platforms owned by the NPO. This is in line with literature stating that innovation failure does not necessarily lay with the failure to innovate to technological innovations but it is the disability of organizations to change their strategy resulting in hard institutional failure (Christensen & Bower, 1996; Woolthuis, Lankhuizen & Gilsing, 2005). However, #BOOS is a popular program and carries out its obligations by the law, whilst also going against the law. As a result, juristic challenges arise and programs such as #BOOS and 101Barz are 'tolerated', though not yet allowed.

In addition to a new program as a service, a new channel that contains a collection of content is also seen as a new service. There must always be a direct relation with the linear programs. Lammertse mentioned that the law is not too clear about this phenomenon. The process of assessing and redefining the definition of a new service or program, is another example of hard institutional failure (Woolthuis,

Lankhuizen & Gilsing, 2005). In the MediaLaw it is argued that PSBs are not to be influenced by commercial influences nor by politics. However, PSB are restricted in succeeding in their obligations and mission due to regulations.

Lammertse argued that the ministry is currently looking at the cases and how they fit in the system of approval. Moreover, in the data it has become clear that the system of approval is not as effective as hoped. Tim Hoffman (Wildeharen de podcast) argued that the approval system is complicated and is time-consuming. He mentioned: "I believe that the NPO should publicly back that, (producing online content to reach the youth) and I did not see that". As a result, he decided to produce #BOOS on his own with BNNVARA membership-money. Lammertse recognizes the broadcaster's frustrations. He said that the ministry is in a constant discussion with the public broadcasters to see if the current systematics are still relevant: "we see that the broadcaster posts content on YouTube without involving the NPO". As a result, new conflicts and questions are encountered: "how does the NPO regain control over the broadcasters … and secondly, how can we decide what a new service is and what is not … in the case of a new service, consent must be asked" (Lammertse, Ministry ECS). As a result, the ministry created a new policy rule and published it in the Government Gazette on the 3rd of May 2019 (Nr. 24288). It functions as a pseudo legislation. The article in the Government Gazette allows more freedom for public broadcasters to post content on online platforms such as YouTube. As described by Lammertse (Ministry, ECS) "broadcasters have their own audience … and must be allowed to present themselves on channels". However, no new services beyond the coordination of the NPO and the accompanied approval should be developed (Lammertse, Ministry ECS). As observed, in addition to the hard institutional failure, organization failure also occurs in the system of approval to innovative within the Dutch PSB. Nevertheless, this phenomenon will be elaborated on later.

4.2.1.3 Law, data and innovation
The third sub-theme of the law describes to what extent data and innovation is allowed within the law. Data showed that PSBs are allowed to experiment with innovation (MediaLaw). This in combination with the public aid they receive, allows PSBs to take more risks. However, it has become clear that PSBs are bound to the Law that mentions that PSBs are not allowed to engage with commercial influences. As mentioned by Lammertse (Ministry, ECS) this includes the use of the public's online data; "public broadcasters, including the Ster, are not allowed to use the public's data for commercial purposes." However, advertising is becoming increasingly personalized and programmatic trading in combination with data use to personalize advertisements and content, is a strategy many companies currently enforce. As mentioned in Busch (2016, p. 9) programmatic trading in programmatic advertising is "deciding on a specific advertiser or a specific ad impression opportunity at the time of its creation and based on the latest data". The Ster

wanted to incorporate programmatic trading into their business strategy. However, according to Lammertse, this is a "no-go and they must obey". By analyzing a person's online profile, algorithms can determine which advertisement or content is most suiting to the profile. Lammertse explained that the ministry is quite worried about this development; "because then data from the public will be used for commercial purposes and we have our doubts about this because we believe that everyone could assume that if you watch public broadcaster content your data will not be used for commissions". This shows that public institutions are replacing or forgetting their business strategy and are becoming increasingly commercial. It seems that the Ster is focusing on staying relevant within the market and as a result wants to incorporate market innovations. However, by doing so it has been forgotten that they are still in service of the public.

However, data demonstrated that new innovative platforms are challenging the static boundaries of this law. As mentioned by Lammertse, NL Ziet is a good example of this challenge. NL Ziet is a platform that allows on-demand viewing, live viewing, time-shifting and digital viewing of 21 different channels, including the NPO. However, the NPO is not allowed to allow advertising on their service other from the Ster, when they are involved with commercial services, "this is an obstacle we (the ministry) have to look at" (Lammertse, Ministry ECS).

Furthermore, PSBs are allowed to use data for business insights as long as the privacy of the public is guaranteed. In multiple reports, the importance of data privacy is reported on. In the concession policy plan (2016-2021) it is noted that personal data is always used independently from commercial influences or interests. However, in addition to the Ster, broadcasters and new PSBs platforms also experience data-privacy related challenges (Lammertse, Ministry ECS; Rademaker, NPO). These challenges are due to the soft institutional innovation failure (Woolthuis, Lankhuizen & Gilsing, 2005) related to the personalization-privacy paradox (Aguire, Roggeveen, Grewal & Wetzels, 2016). Data is becoming the main driving forces of corporations but due to the ethics and the reputation the PSBs have to maintain they are conflicted between social/political values versus innovating with the market. The conservative beliefs about algorithmic personalization and the institutional carefulness to data positivism as mentioned by Schwarz (2015) and encountered in this study, can have significant impact in the Dutch PSBs innovation failure.

Moreover, broadcasters try to innovate however data is a complication that "no European public service broadcaster has the answer [to]" (Rademaker, NPO). This has also come forth in Schwarz's research (2015). Nevertheless, the growing importance of data in society is not a sudden innovation and should have alerted policymakers a few years ago. It is no longer justified to hide behind the idea that data is a new phenomenon. Policymakers and politicians are aware of the hard and soft institutional failure but choose to stand behind the laws protocol instead of putting innovation and data innovation in perspective/context.

4.2.2 The NPO

This section demonstrates the assets the NPO has in the innovative processes for the PSB to react to the innovative forces in the new media landscape. It has become clear from the data that within the Dutch PSB there is organizational friction. As briefly mentioned above, the NPO experiences trouble to regain control over the broadcasters (Lammertse, Ministry ECS). The law notes that broadcasters have the obligation to stimulate innovation (art 2.1 lid 1c) and must reflect their identity and mission (art 2.34 lid 2). However, when a broadcaster wants to produce a new program and wants it to be funded by public aid, consent must be given by the NPO. Data illustrated that some broadcasters experience this as innovation 'brake'. "We are first dependent on financial aid from the government, and secondly from the NPO" Hoekstra (VPRO) said.

Moreover, Hoekstra expressed that he used to experience more room for innovation. Currently, the NPO is, according to him, more fixated on a rather commercial approach. "The audience ratings have become more important, instead of serving specific niches or having more time to develop or try to innovate" (Hoekstra, VPRO). He gave the example of Zondag met Lubach, a popular program of the VPRO. "At first the program was not an instant success. We put a lot of our own money in the program and at first the NPO did not want to give it a second season. The public did not attach to the program, to their account". He continued by saying: "but we believed in the program and now it is a big success". #BOOS went through a similar process (Van Bennekum, BNNVARA; Wilde haren de podcast). #BOOS was planned as a television program. However, the approval took so long that BNNVARA decided to fund it from their membership money. According to literature and data the problem of the innovation failure is a problem of trust, "because at this moment there is too much bureaucracy" (Hoekstra, VPRO; Larrondo et al., 2016).

According to Rademaker (NPO), the NPO feels the need to control content and the way data is used "but who knows, maybe, someone from the outside may be more talented and suitable to build a platform". The data also argued that the NPO would prefer that the broadcasters do not post their content on YouTube, other social media platforms or their own platforms (Hoekstra, VPRO). "This sometimes harms our innovative process" (Hoekstra, VPRO). Hoekstra (VPRO) also argued that "here in Hilversum we hold each other in a managing headlock. I think there is more room for freedom". Rademaker (NPO) also acknowledges the need for broadcasters to cooperate in order to be successful in innovation. The gathered data shed light on the structure of the NPO as a result of the historical background of the Dutch PSB when they owned the market monopoly and later centralized its system (Larrondo et al., 2016; Nissen, 2006). However, this structure seems to be inefficient and result in organizational failure.

Van Bennekum (BNNVARA) argued that the innovation failure within the NPO is because of the blindness towards innovation, but on the other hand also comfort. "Innovation needs a stimulus, multiple actually" (Van Bennekum, BNNVARA). The NPO needs to observe the changes in the world and

consequently adapt to these changes: "that is where the NPO is blind on" (Van Bennekum, BNNVARA). As mentioned by Baumann (as mentioned in Storsul & Krumsvik, 2013) business organizations must fit the innovative market in order to be dominant and a competitor. The NPO does not seem to let go of its historical centralized power to open up for a new structure for better innovation.

Moreover, the NPO needs to step outside of their comfort zone, especially regarding the system and the money (Van Bennekum, BNNVARA). Rademaker (NPO) supports this argument. He mentioned that money is currently the NPOs priority. The data sector within the NPO is currently not up to date, organized or rich in data while these are three requirements for successful implementation of data. According to Rademaker (NPO), the NPO does not realize the value of data. He said that every year the question is asked: "what are we going to use the money for this year?". He continued by saying that if something is not important enough, no money will be given. However, he also noted: "it is not about the money but about priorities, vision and interest" and according to him, data is not a priority at this moment. Like argued by McAfee and Brynjolsson (2012) decision-makers have to value the possibilities of data and what it can offer a company. For that reason, it is argued that data-driven companies perform better than traditional companies. If the NPO wants to stay relevant in the media landscape they must opt for a new time suiting structure that also lays a greater priority in the relevance of data, the market, and consequently the future.

Furthermore, in the data, it has also come forth that broadcasters identify themselves more as a brand than a broadcaster (Luif NOS; Van Bennekum, BNNVARA). Hoekstra (VPRO), for example mentioned: "I (also) strongly believe that we must act from our own point of views and must think about what we want to show the world" and "we have to stay close to our DNA". Luif (NOS), mentioned that sometimes it is unclear whether a program is broadcasted as the NOS brand or as the NPO brand. Although the approval structure within the PSB is experienced as a challenge, there is also some improvement; "it is starting to become clearer of who does what and where" (Hoekstra, VPRO, 20-05-2019).

Nevertheless, the data shows that the broadcasters feel somewhat detached from the broader organizational structure of the NPO. This indicates that the individual broadcasters fulfil the recruitments for media innovation: open to change organization, flexible, and decentralized (as mentioned in Storsul & Kumsvik) but the NPO does not. Nonetheless, the broadcasters, are pinned in the centralized structure of the NPO that is resulting in the innovation failure of the broadcasters. As the NOS's mission is slightly different from the other broadcasters they experience less organizational failure. Moreover, the new plans by the Minister of media (ministry of ECS) show that politicians are realizing that the media landscape is fragmenting and that the PSB need to fragment along in order to follow the public. As a result, the new plans allow for more room for broadcasters to broadcast programs online (Takken, 14-06-2019). Consequently, the NPO is losing its grip on the broadcasters. However, less innovation failure due to

organizational   failure   and   hard   institutional   failure   will   be   the   result.

4.3 Determination of innovation

This last chapter discusses the determination of innovation that became evident through the data. It became clear that the Dutch PSB experiences challenges concerning data innovation and data implementation. In order to coexist in the broadcasting industry with the commercial broadcasters and other (new) media services, the Dutch PSBs must find other ways to innovate. Data has shown how the Dutch PSBs seek for solutions to survive the determination of innovation without collapsing as a result of innovation failure.

4.3.1 The challenge

4.3.1.1 Data Innovation

The second sub-theme of the challenge describes the challenges the Dutch PSB face regarding data innovation, which emerged from the data analysis. The data clearly showed that although the NPO innovated to the needs of the public in the past, new challenges have entered the market. The current media landscape functions different from the traditional media landscape. In the current media landscape, customer behavior is in a central position (Nissen, 2006). As a result, broadcasters need to act on this and offer content that fits the public's preferences (Nissen, 2006; Rademaker, NPO). The NPO's on-demand service, NPO Start, is currently experimenting, developing and enforcing their programming to be more personalized (Concession policy plan, 2016-2021; Lammertse, Ministry ECS; Rademaker, NPO). In the Concession Policy report (2016-2021) the NPO explained the personalization as following "we want to offer the possibility of customization to the public. The user can create their personal NPO-profile (an NPO-ID) and can forward their needs and preferences to us. In this manner we can surprise him or her with suiting programs. By doing so, the opportunity to present the public the entire content availability from all public broadcasters, is created". However, to develop personalization, data collection is necessary. Moreover, data collection can only be personalized if each user is given a unique user identification. Schwarz (2015) demonstrated that this is a challenge for PSB because personalization of content and thus a unique user identification requires a 'log-in'. However, a log-in comprises a core value of PSB, namely the free-to-air structure of the PSB. Nevertheless, the Dutch PSB system has found a way around this challenge by making personalization optional. Nevertheless, the personalization-privacy paradox (Aguire, Roggeveen, Grewal & Wetzels, 2016) is still at hand as analyzing personal data is still a necessity for personalization.

Moreover, personalization is not merely a phenomenon that occurs on on-demand platforms. A new development and initiative of Media Perspectives called 'Program signaling' has the possibility to be

accompanied by the development of personal advertising. Program signaling is a technological innovation that allows for an up-to-date electronic program guide. This would allow for more precise time-shifting. This phenomenon can be put in reality if broadcasters work together and share data. The current broadcasters involved are: RTL Nederland, Talpa Network, Fox Networks Group, NPO, KPN, Liberty Global, Vodafone, Ziggo and TVT Media (Beemster, 2019). This particular technological development to create a more precise program guide might not be a challenge for the Dutch PSB. However, the additional development of personalized advertising might. By developing and implementing the new 'technological standard' as mentioned above, personalized advertisements are an additional innovation if broadcasters, distributors and advertisers decide to share data regarding the viewer's preferences (Hakvoort, 2019). This innovation is intended to solve the 'battle of the eye-balls' (Beemster, 2019; Croteau & Hoynes, 2014; Hakvoort, 2019; Nelson-Field & Riebe, 2011). The agreements for program signaling amongst broadcasters will stimulate this innovation of personalized advertisements, "and the future is near" (Hakvoort, 27-05-2019). At this moment, program signaling is a way for the Dutch PSBs to innovate and fulfil their obligation as mentioned in the Media Law. However, the possible accompanied personalized advertisements, still remains against the law for multiple reasons; the Ster is the only advertiser that is allowed to advertise on public broadcasting content, it is not allowed to profit from the public's data, and it is not allowed to engage with third parties for commercial influences. Again, the restrictions of advertising result in a challenge for PSB to innovate alongside the market. Moreover, in the increasingly data-driven media landscape, incorporations and innovations of other factors in the market are inevitable. First personalization content emerged, then personalized advertisements were implemented on online platforms, and now personalized advertisement on linear television is the first next innovation. Not only is the PSB facing, hard and soft institutional failure on this aspect of innovation, transitional failure as a result of innovation failure is the PSBs next threat (Wooltshuis, Lankhuizen, and Gilsing, 2005).

In an interview with Lammertse (Ministry ECS), the question was asked if the current advertising system is tenable. Lammerste answered "As long as we think it is tenable, it should be tenable... a consequence [of not engaging in programmatic trading] is that the income from advertisement will decrease or vanish, we have to think about what we want, because if we do not, we have to think about another solution". He continued by saying: "maybe we have to move to a no advertising strategy, it would solve all our data problems. However, we would throw away ... free money, this is about a quarter of the total". Moreover, at the beginning of May 2019 the minister of media (ministry of education, culture, and science) announced that the Dutch PSB will be made advertisement 'free'. All advertisement will be cancelled on online, and on linear programs advertisements are allowed after 20:00 pm (Takken, 2019). The policy makers are realizing that in order to survive, PSB needs to innovate.

4.3.1.2 Data Implementation

The second sub-theme of the challenge demonstrated the challenges the Dutch PSB encounter regarding data implementation. Through the data it has become clear that the PSB experience challenges to implement data due to the law, the public and the NPO, resulting in innovation failure.

In an interview with Rademaker from the NPO it was explained that data in media is about understanding the needs of the public. So, not just in the context of media content, but also how they find the content. Data showed that major international players understand this phenomenon like no other; "they use the data they own and receive to create functionality, to make these things even better" (Rademaker, NPO). Rademaker added that the NPO and all broadcasters are still a long way off these developments and for that reason there is still a lot of profit to gain. "The big online players have a better understanding of the game" Rademaker said, "their talent is to transfer data into value". As a result, Rademaker argued that they are able to make better informed choices which, consequently, lead to success. McAfree and Brynjolfsson (2012), and Loebbecke and Picot (2015) also argued that business intelligence can improve the making and justifying of decisions. Hoekstra (VPRO) also argued that the major players build formats based on their data analysis, while "we try to learn from the content of the data we gathered post-broadcasting". The data showed that the Dutch PSB data specialists are aware of the importance of data and to what purposes data can be put. However, they have argued that they do not possess the necessities to compete with other media services as opposed to data analysis.

Dutch public broadcasters currently analyze data of television audience ratings, traffic on their own platforms and of the statistics provided by social media platforms (Hoekstra, VPRO; Luif, NOS; van Bennukum, BNNVARA). However, it has also come forth that they are limited in their data collection. Hoekstra (VPRO) and van Bennukum (BNNVARA) noted that the audience ratings are a sample of about 2,5 thousand people. Hoekstra (VPRO) added "for that reason the audience ratings do not provide a realistic sketch". Van Bennukum (BNNVARA) nevertheless also argued that the data from the audience ratings might be more specific than the online gathered data. Nonetheless, this does not make a difference on the data analytics: "we are more interested in the public's behavior than personal data". Hoekstra (VPRO) echoed this statement. This data demonstrates and supports the above-stated argument that the PSBs data analyst do not possess the necessities to withstand competition. Due to the lack of understanding of data and allowing data to become an important factor in the business strategy within the NPO, transitional failure occurs, decelerating innovative processes (Wooltshuis, Lankhuizen, and Gilsing, 2005).

In addition, Hoekstra (VPRO) prefers statistics over audience ratings. The statistics provided by YouTube, for example provide more insights than audience ratings. However, Luif (NOS) stated that broadcasters are very dependent on the data information they receive from the platforms. Moreover, the statistics are never personal. As a consequence, the NOS conducts their own data research by asking the

public online if they have seen the NOS and if they follow one of their channels. Moreover, Hoekstra mentioned that the VPRO handles data carefully "we are staying within the compass of innovation. We find the law, data and the privacy of the public important". Consequently, broadcasters seem to be primarily interested in data gathering, analysis and innovation within the allowance of the NPO and the Media Law. Data has shown that broadcasters do not experience the restriction of data usage as a limit to their job while data specialists, on the contrary, see the possibilities of data and feel limited in their job.

Nevertheless, data also showed that data is the voice of the public and programmers should incorporate these voices (Hoekstra, VPRO). If data is not incorporated properly in the business strategy, PSBs will start to lose the attachment to the innovating industry (McAfee & Brynjolsson, 2012). Currently, PSBs do not know how to remain attached (Van Bennekum, BNNVARA). He continued by stating: "the danger that we are approaching is that we will follow the footsteps of the V&D, who did not understand its public anymore". Rademaker also stated "they (major international players) have changed the game and they play the data game simply better and know that". According to Rademaker, the challenge is not about the biggest video-on-demand platform, uitzending gemist (the former NPO Start) used to be much bigger than Netflix. Although not everyone in the Dutch PSB knows all the particulars of data innovation, they are aware of innovation failure and its consequences. As a result, the Dutch broadcasters feel pressure to innovate as there is no escaping from the determinism of innovation.

4.3.2 The opportunity

In this sub-chapter the opportunities for the Dutch PSB within the compass of innovation and the changed new media landscape are elaborated on through data and literature. Data clearly showed that the Dutch PSBs are searching for opportunities to innovate without getting in conflict with restrictions.

In the NPO's concession policy plan (2016-2021), amongst others, it is mentioned that it is the PSBs priority to protect the public's data. It has come to light that the public and the online world has become concerned about sharing their data online. However, besides the strict data guidelines, as mentioned in the above chapters, the public's perspective on data sharing also causes for opportunities in the process of data collection (Rademaker, NPO). "Especially the elder generation is skeptical toward sharing their data" Rademaker said, "however, this also creates an opportunity for us to show the public other ways of handling data". Rademaker explained that, in his opinion, privacy is about explaining its purposes; "as long as we can explain what we use their data for and maintain transparency, I do not think that data privacy can be viewed as an obstacle.". Schwarz (2015) also argued that data needs to be transparent, carefully defined, and have strict limits when using user-specific data.

Rademaker continued. He stated that transparency can also be viewed as a power for PSB. PSBs have the obligation to show insight of their data collection and must ask individual permission of all online

visitors (Lammertse, Ministry ECS). If people possess insights in the process of data gathering and to what purposes the data is put, skepticism about personalization would, perhaps, decrease (Rademaker, NPO). As a result, this could have a positive effect for the NPOs market position. Regardless of the purposes and uses of the gathered data from the public by the PSB, PSB will always have put the social welfare as a top priority, unlike commercial media services (O'Hagan & Jennings, 2003).

For that reason, the VPRO is currently developing a new platform called PublicSpaces. In the VPRO's annual statement (2018), it is noted that the internet has become an integrated element in our everyday life (Croteau & Hoynes, 2014). However, the question arises; who owns the power over the Internet? In the current media landscape, the owners, except from China and Russia, are major American tech companies like Facebook, Google, Microsoft, Apple and Amazon (Annual Statement VPRO, 2018). These companies determine our online behavior. However, this does not go unnoticed. According to the Volkskrant (Verhagen, 2019) and Tuttle (2018), this is due to the data related scandals within big tech companies in recent years. Companies like Facebook have been involved in multiple scandals concerning reckless behavior with their user's data (Tuttle, 2018). As a result, the VPRO started to wonder if they were able to create an online space where the public can move safely without fear of privacy abuse, where the public has greater control over their own data and where the data is protected (Hoekstra, VPRO). For that reason, the VPRO has taken the initiative to create 'PublicSpaces'. PublicSpaces is a coalition between public service broadcasters, museums, heritage institutions and educational institutions. As mentioned in the VPRO's annual statement (2018):

> These public institutions struggle with a dilemma. They have the lawful obligation to
> reach a wide public. On that ground they are active on platforms like Facebook and
> YouTube. However, these platforms operate with a vision that counters the PSBs vision.
> Public Spaces believes that this dependency of these platforms must lessen. As a result,
> the coalition wants to develop alternative platforms.

As the media landscape changing, media services must change too. As presented in the data the Dutch PSB is searching for new initiatives in which they can innovate. By acknowledging the failing market that prioritizes social welfare over economic welfare (Collins et al., 2001; Donders, 2012) the Dutch PSB have found innovative opportunities to innovate without being challenged by undefeatable forces of innovation failure.

5. Conclusion

In this research the themes 'forces if innovation, 'compass of innovation', and 'determinism of innovation' were found and analyzed. In this chapter, the conclusions are drawn and discussed. In addition, the methodological and theoretical limitations are presented.

To conclude, data has shown to reaffirm Bardoel and d'Haenens (2008) observations that the media landscape is changing rapidly and drastically due to the forces of digitalization, internationalization and commercialization. Technological developments have led to media proliferation and has fragmented the current media market and as a result, media services are competing for the attention of the Dutch public, or the 'competition of the eyeballs' as mentioned by Hakvoort (2019) (Nelson-Field & Riebe, 2011; Van Dijck & Poell, 2014). Moreover, technological innovations within the landscape have led to a reinforcing loop of change in consumer behavior and market forces. Content of the Media is becoming more diverse in addition to the manner of media consumption, as argued by Nelson-Field & Riebe (2011) and reaffirmed by informants. Data has shown that the traditional forms of media are forced to adjust to the demands of the media consumers in order to remain relevant and keep them from being replaced by new media services. It has been argued that the media market is becoming more social due to the growing interactiveness (Sjovaag, Moe & Stavelin, 2012; Van Dijck & Poell, 2014). On the contrary, it is also becoming more individualized and personalized (Croteau & Hoynes, 2014). As a result, the Dutch PSB feel the need to incorporate all demands of the consumer and are active on nearly all media channels, hoping to reach the whole Dutch population. Moreover, they attempt to fulfil the changing needs of the public by developing an on-demand platform and incorporating media innovations such as personalization.

Broadcasters reaffirmed Van Dijck's and Poell's (2014) argument that PSBs experience challenges to attract the youth. However, data showed that it is the generation of digital immigrants who show the greatest change in their media consumption. Prensky (2001) also demonstrated that the elder generation shows more adaptation to technological developments by changing their media consumption, than the youth, who are (more) native in these developments. This observation, nonetheless, has shown to be counter-intuitive as it was assumed that the 50 plus generation is less likely to change their media consumption. Nevertheless, the Dutch PSBs argue that regardless of the new media and new media landscape, television will remain a predominant form of media consumption. Statistics (MediaTijd, 2018) however show that the traditional form of media consumption through the television is decreasing and other media channels and platforms are increasing. Academics (Bardoel & d'Haenens, 2008) have also stated that although the television is still a relevant media outlet in the media landscape, it is not argued that this outlet will keep developing. Nevertheless, audience ratings are decreasing due to the media fragmentation and the PSBs need to innovate in other channels and innovate their media content to stay relevant. As a

result, and due to the difference in media consumption amongst generations, the Dutch PSBs enforced a dual strategy of broadcasting both through the possibilities of the internet and linear broadcasting. Consequently, in the fear of becoming irrelevant in the competitive landscape, it seems that they have become fixated in what seems an uncoordinated attempt to reach the broad spectrum of the Dutch society. Moreover, the data also seems to indicate that the Dutch PSBs are more concerned to stay connected with the public than to protect the public value (Hendy, 2013; McChesney, 2013; Van Dijck & Poell,2014). As a result, the Dutch PSB have also become active competitors in the media landscape.

Moreover, informants and diverse literature (Bardoel & d'Haenens, 2008) have noted that competition within the media landscape has shifted from a linear 'offline' competition towards a more online environment. Major global players dominate the media market, leaving smaller media services such as national PSBs powerless to the major impacts of minor changes. Moreover, the increasing international content is challenging the visibility of national content and, as a consequence, public value (Flew & Waibord, 2015). For that reason, the PSBs and the ministry argued that it is a challenge and another force for PSBs to remain relevant. However, the data showed that the Dutch PSBs find a greater intrinsic motivation to conquer and maintain a place in the changing media landscape to create programs, than the motivation to protect the public value and national content (United Nations, 2004; Van Dijck & Poell, 2014). This could either indicate that the PSB has become more commercialized, or that the PSB feels endangered by the competitive international market.

Furthermore, to remain relevant to the Dutch PSBs want, and need, to spread their horizons to other platforms to engage with the public (Van Dijck & Poell, 2014). However, the Dutch government does not allow the PSBs to engage in commercial means and ends. As a result, challenges regarding the Law are encountered as the Media Law has shown to be contradictory towards the innovation of the PSB. It states that the PSBs must innovate in order to serve the public and reach a wide and diverse public. In this process they should be visible on all media channels and are allowed to experiment with new media and new media platforms. However, the Media Law also expects the PSBs to not cooperate with commercial platforms if this generates profit. However, straining from commercial platforms and influences seems to be an impossible task for the Dutch PSBs in the current media landscape. Advertising and datafication are unavoidable if the PSBs wants to follow its audience.

Moreover, the NPO also does not encourage the broadcasters to use platforms, other than the NPO's, to distribute content. Data and literature (Storsul & Krumsvik, 2013; Tushman et al., 2012) showed that the approval system can disturb the innovative process. The historical background of the Dutch PSB still reflects on the centralized organization of the PSB, as shown by the data and literature (Larrondo et al., 2016; Nissen, 2006).

Moreover, data innovation also has a significant impact on the innovative processes within the PSB, in addition to digital innovation. As argued upon by Schwarz (2015) and as shown in this research, the compatibility of data-driven personalization and public service broadcasting is challenging. Nevertheless, the Dutch PSB seems to be better compatible with personalization than Schwarz's case study. This is because the Dutch PSB provide the public with a choice to personalize content. As a result, no one can be excluded from the PSB service which is one of the characteristics of the PSB market (Collins et al., 2001; Donders, 2012). However, the institutional carefulness towards data and the personalization-privacy paradox is also relevant for this research (Aguire et al., 2016; Schwarz, 2015). Experimenting with these developments is not encouraged by either the law nor the NPO. The Law is against the use of public data, while in addition the NPO does not recognize data as a priority. Both the government and the public have shown to be skeptical about sharing personal data. It is argued by the ministry that the data of the public should be protected and that the PSB should have no interest in the publics personal data. Nevertheless, according to data specialist there are so many more opportunities to innovate with data. However, it has also been argued that the NPO is becoming increasingly commercial as they are becoming more focused and depended on audience ratings. This is another example that questions the intrinsic motivation for the NPO to conquer a strong position within the media landscape. Is this due to its responsibility to bring public value to the public, or just merely to stay afloat and reach the public in the changing media landscape?

However, hard institutional failure, soft institutional failure, organizational failure, and the resulting transitional failure have been encountered in this research (Christensen & Bower, 1996; Larrondo et al., 2016; Storsul & Krumsvik, 2013; Tushman et al., 2002; Woolthuis, Lankhuizen & Gilsing, 2005). Hard institutional failure due to the lawful obligations and restrictions encountered by the PSB has limited the innovative abilities of the broadcasters. Soft institutional failure is encountered due to the public and the personalization-privacy paradox that slows the possibilities of data innovation down. Organizational failure is a result of the approval systems enforced by the NPO on the broadcasters. Lastly, all encountered innovation failures have led to the transitional failure of the PSB to successfully incorporate the development of the new media landscape.

Nevertheless, there is one area of failure of which the Dutch PSB can profit namely, market failure. The PSB market has always been a failing market as the PSBs are not driven by economic welfare, but social welfare (Collins et al., 2001; Donders, 2012). As the landscape is commercializing content rarely is 'independent' (Lazer et al., 2018). Data has shown that this is an area where Dutch PSBs are ascribed a special position within the market that can only be fulfilled by an independent media service, securing their place in the landscape and avoiding replacement. If PSBs invest and innovate in this area of social welfare, market failure can become profitable.

Moreover, data has shown that corporations need to innovate to remain relevant. The PSB have found their innovative possibilities in the areas of commercial independent content of which the media market is failing. Moreover, data has also shown that this goes beyond providing the public with independent media. Currently, the Dutch PSB is developing a platform where data remains in a safe space.

PSB always has had a specific niche within the broadcasting market, and this research has shown that PSB is searching for a new niche in the changing media landscape. For the Dutch PSB the transition from PSB to PSM does not lay in redefining the 'public' and the 'social' in the new environment (Van Dijck & Poell, 2014), it lays in finding its new relevance within the landscape.

To conclude, this thesis research question is answered.

To what extent are Dutch public service broadcasters subject to innovation failure, and how do they adapt to innovation failure due to the forces of challenges and opportunities of digital- and data -innovation within the changing media landscape?

The borders of innovation are either unclear or restricting. With the rise of digital- and data -innovation and personalization, the borders are no longer tangible and result in PSBs experiencing innovation failure from all forces: the market, the NPO and the law. Where the law states that PSBs have the obligation to innovate, the law also restricts PSBs from adapting the major innovative forces from the market of this time. In addition, the centralized strategy and imposed ideology of the NPO, and the public's fear and nescience of data and data innovation also occasionally restrict broadcasters from innovating within the borders of the law. As a result, the Dutch PSBs experience innovation failure due to the contradicting forces.

Consequently, the PSBs are maneuvering their way in the space left to fulfil their duty and are forced to occasionally swim upstream against one or more of the forces. From time to time these leaps of faith turn into positive outcomes. The brave actions to move into uninvestigated or unapproved online spaces, or to develop a new platform as a solution for the data problems, keeps the PSBs visible and relevant. However, the forces also resulted in drastic outcomes. Nevertheless, this research has shown that innovation does not sleep and that all media services are bound to the determinism of innovation to outrun replacement.

While finishing up this research, the national government proposed drastic measures to change the public broadcasting system. It has been decided that advertisements on the nonlinear channels of the PSB will be cancelled and, advertisements on linear television will be cancelled up to 20:00 pm (Takken, 2019). Time will tell if this development will be a challenge or opportunity for the Dutch PSB to innovate.

5.1 Methodological and Theoretical Limitations

The empirical results as reported on in this research have to be considered in the light of some limitations. Due to the limited access to data, sample bias, the limited time constraints, selective sample size, and the lack of previous literature can have led to a generalized conclusion of the data. Moreover, the lack of previous literature about data within the PSB foreshadowed the data collection for this research. However, these limitations have also led new knowledge and have built a foundation for future research.

The first limitation is the limited access to data that could have led to a sample bias. While access to relevant documents was not experienced as a challenge, arranging interviews was. Many emails have been sent and phone calls made. Nevertheless, most possible informants had no time, did not reply or were only available at the beginning of June. As a result, the range of eligible informants extended towards any person involved in data or digital media within the chosen case studies. However, although at first this was experienced as a major limitation, it turned out to provide a variety of perspectives on the topic of this thesis. However, for future research it is suggested to interview more and multiple people from the same broadcaster to prevent further bias in the sampling. Moreover, this would also strengthen the systematic combining case study design and would allow for more concrete comparisons, generalizations, and conclusions. Nevertheless, a sufficient overview of the topic was retrieved. This in addition to the broad spectrum of documents resulted in the ability to properly answer the research question.

Moreover, the time constraint also influenced the sample size. In addition to more informants from the broadcasters, it would also be relevant to interview the public and respondents from commercial broadcasters. Nevertheless, this time frame did not allow for a more in-depth research that incorporated more diverse perspectives on data and digital innovation within the PSB. As a result, this research focused on the broadcasters, the NPO and the ministry. However, the perspectives researched in this study provided this thesis with qualitative observations and arguments to answer the research question.

Nevertheless, as this study is qualitative research, it is always threatened with the limitation of generalization. However, as this research focused primarily on the Dutch PSB, no statements have been made on the concept of PSB in general. Notwithstanding, due to the above-explained limitations generalization is still a possible consequence. For that reason, future research is necessary.

Finally, there are also some theoretical limitations. As previously mentioned, this study had to adjust its foundational concepts related to big data towards a broader spectrum of digital and data innovation. In the research stage it became apparent that the lack of previous literature had been foreshadowing this thesis research period: there was not a rich amount of data concerning (big)data within the (Dutch) PSB. As a result, the theoretical framework and research had to be adjusted. The lack of previous literature about digital and data innovation within the PSB, and in specific the Dutch PSB, forced this study to build its own theoretical foundation in order to support this thesis. Although this was

considered as a limitation and a challenge to research data and digital innovation within the Dutch PSB at first, this limitation did not affect the quality of findings, or threaten the ability to answer the research question as the formulated concepts 'changed media landscape', 'the services of public service broadcasting', and 'innovation' have shown to be supportive concepts for this research.

Previous research demonstrated in the theoretical framework has brought the challenges of PSB as a result of the changed media landscape to light. This research contributes to the theories at is builds on these studies. Where Schwarz (2015) and Van den Bulck and Moe (2017) have stressed the innovation of personalization within the PSB landscape, this research has stressed these innovative processes even more. This research has demonstrated the relevance of digital and data innovation within the landscape. In addition, it builds on the challenges experienced by the PSB by laying emphasis on media innovation failures. It has come to light that innovation is inevitable, and the importance should be stressed. Moreover, this thesis has demonstrated that the law, the organizational structure of the PSB, and the data and digital implementation need to innovate for a successful and sustainable PSB. Moreover, this study builds on the research of Collins et al., (2001) and Donders (2012) stating that the PSB operate in a failing market. Nevertheless, this research found that the fundamental characteristics of a failing market by finding no priority in economic welfare also possess possibilities for the PSB to innovate. Moreover, the findings of this thesis are in line with Van Dijck and Poell (2014), who argued that the innovative processes within the PSB demand a critical discourse between produces, policymakers and academics.

Consequently, this research is an addition to this discourse.

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Appendix

Appendix A: Data

Table 1

Document analysis: official state documents

Document name	Source	Number of pages
MediaWet Hoofdstuk 2	Ministerie OCW	69
MediaWet 6.3	Ministerie OCW	6
Staatscourant nr. 24288	Ministerie OCW	2
Prestatieovereenkomst	Ministerie OCW & NPO	1
Total: 4		78

Table 2

Document analysis: official documents from private sources

Document name	Source	Number of pages	Notes
NPO			
Concessiebeleidsplan 2010-2016	NPO	129	Also: NOS, BNNVARA, VPRO
Concessiebeleidsplan 2016-2020	NPO	122	Also: NOS, BNNVARA, VPRO
Terugblik 2017	NPO	59	Also: NOS, BNNVARA, VPRO
Terugblik 2018	NPO	67	Also: NOS, BNNVARA, VPRO
Begroting 2018	NPO	103	Also: NOS, BNNVARA, VPRO
Begroting 2019	NPO	86	Also: NOS, BNNVARA, VPRO
NOS			
Beleidsplan	NOS	4	
BNNVARA			
Beleidsplan 2016-2021	BNNVARA	35	
VPRO			
Beleidsplan 2018	VPRO	27	
Jaaroverzicht 2018	VPRO	80	
Total: 9		712	

Table 3

Content analysis:Mass-media outputs

Content Source	Number of pages
NOS	1
Het Parool	4
Het Parool	6
Media Courant	1
NRC	7
Volkskrant	5
Frank News	4
Adformatie	2
Adformatie	3
Adformatie	2
Total: 10	35

Table 4

Netnography

Content Source	Content
NPO	Online Observations
NOS	Online Observations
VPRO	Online Observations
BNNVARA	Online Observations
Wilde Haren de Podcast	Podcast
Total: 5	

Table 5

Interviews

Name	Function	Company	Date	Length interview
Edgar Lammertse	Coordinating senior policy/legal advisor	Ministry of Education, Culture and Science	07-05-2019	01:03:56
Boris Van	Media Strategy and Innovation Lead	BNNVARA	15-05-2019	00:56:56
Bennekum	Head public and Marketing	VPRO	20-05-2019	00:46:15
Diederik Hoekstra	Data science	NPO	22-05-2019	00:50:32
Rademaker*	Social Media Researcher	NOS	22-05-2019	00:34:38
Violet Luif				

Total: 5

Appendix B: Interview topic lists

Appendix B.1 Ministry of Culture, Education and Science

Introduction

1. Could you tell me what your job involves?
2. How did you get involved with public broadcasting and policy?

Changing Media Landscape

3. How do you think the media has changed over the years?
4. What are the reasons for this?
5. What are the current consequences for public service broadcasting?
6. How will they adapt to these new developments?

The role of the government

7. What are the government's responsibilities in relation to public service broadcasting?
8. How would you describe the role of the government in the changing media landscape?
9. What influence does the government have on the media policy of public broadcasting in the changing landscape?

10. What about other non-traditional platforms?
    a. Own platforms
    b. External platforms
    c. Social media programs
11. Could you tell me more about the use of data within the public broadcasters?
12. What happens to the data from your own platforms?
    a. What about the data from external platforms?
13. How would you describe the changes in data privacy?
    a. Do you think this has something to do with the changes within the media landscape?
14. Are there other laws that restrict the possibilities for innovation within public broadcasting?
15. What role do you think the media law plays in the possibilities for innovation within public broadcasting?
    a. In this way, can we still keep up with developments in society?

Possibilities and the future

16. In the media law I only read about television and radio, however, the media landscape has become much broader, can you tell me more about this?
17. At the moment, on-demand viewing is very popular. What do you think are the consequences of this for current media policy?
18. There are currently many studies about the transformations from PSB to PSM, what do you think of this?
19. What do you think are the possibilities of the data that public service broadcasters collect with this and from other sources?
20. To what extent is the public broadcaster allowed to use these because of the media law?
    a. Is this tenable?
    b. Will this change?
21. What is your opinion about the policy pursued by public broadcasting, which is imposed by the Media Act?
22. Do you know #BOOS? Or 101Barz?
    a. What do you think about this?
23. What are the possibilities of using commercial platforms to reach a target group?
24. Will there be a change in the law?

Appendix B.2: Example specific broadcaster

Media landscape

- How did the media landscape change?

- How has media use changed?

- How did the media content change?

- How does the VPRO adapt to this?

- What about the competition?

VPRO and new media

- What are the changes in the use of media within the VPRO?

- How do you reach the audience?

- How do you innovate?

- What are the possibilities?

- What are the limitations?

- YouTube

    o Sunday with Lubach

        ▪ Lots of ratings & online

Data

- How do you reach the audience?

- How do you use data?

Future

- Is the public broadcasting system sustainable?

- What do you think the future of the VPRO looks like in the changing and innovative media

    landscape?

Appendix D: Coding Atlas.ti

Table 6

Atlas.ti Coding Themes

Code	Number of Code Links	Code links
Arena	4	← Is a *Changing Landscape* ← Is a *Law* ← Is a *NPO* ← Is part of *PSB*
Big Data	1	Is part of → *Innovation*
BNNVARA	1	Is associated with → *NPO*
Changing Landscape	7	Is a → *Arena* ← Is part of *Commercial* ← Is part of *Competition* ← Is part of *Generations* ← Is a cause of *Innovation* Is a cause of → *New Media* ← Is a cause of *PSM*
Commercial	2	Is part of → *Changing Landscape* Is property of → *Law*
Competition	2	Is part of → *Changing Landscape* Is property of → *Law*
Cooperation	1	Is part of → NPO
Finance	1	Is property of → *Law*
Generations	1	Is part of → *Changing Landscape*
Innovation	2	← Is part of *Big Data* Is cause of → *Changing Landscape*
Law	4	Is a → *Arena* ← Is property of Commercial ← Is property of *Competition* ← Is property of *Finance*
New Media	2	← Is cause of *Changing Landscape* Is cause of → *PSM*
NOS	1	Is associated with → *NPO*
NPO	5	Is a → *Arena* ← Is associated with *BNNVARA* ← Is part of *Cooperation* ← Is associated with *NOS* ←Is associated with *VPRO*
PSB	2	Is part of → *Arena* Is associated with → *PSM*
PSM	3	Is cause of → *Changing Landscape* ← Is cause of *New Media* ← Is associated with *PSB*
VPRO	1	Is associated with → NPO

Total: 17