Aalto University
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How tablets may save the news and magazines industry

SME Business Management

Master's thesis

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2012

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AALTO SCHOOL OF BUSINESS

Department: Entrepreneurship	**Type of work:** Thesis
Author: Tommi Laivuori	**Date:** 30.11.2012
Subject of the thesis: The diffusion of disruptive innovation (tablet) on the media industry and emerging new business opportunities	
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Abstract:

The media industry is facing an unpredictable future due to the digitalization of the value chain, changing consumption habits and economic turmoil. Tablets are a new technology solution that is spreading quickly and may turn out to be disruptive for the news and magazines industry. In the short term, media companies focus on keeping their current operations profitable, but also seek insight regarding the future for finding new business opportunities and formulating their strategies.

This study combines the Delphi and scenario analysis methods to develop future scenarios for media industry in 2020. An iterative expert interviewing process is conducted in an Argument Delphi manner, the aim being not to forecast but to reveal alternative options. A disruptive innovation diffusion framework is used to provide a non-linear approach as tablets enter the market. Well known futures thinking methods are combined and used for the first time to identify possible industry discontinuities.

In addition to methodological contributions, this study provides three future scenarios for the media industry. Even though, the study does not provide specific answers, scenarios are useful for understanding current business issues as well as directing media related research and business development programs. Implications of the three media industry scenarios are presented in respect of industry structure analysis and five new business models.

Keywords: Strategic Foresight, Industry Life Cycle, Diffusion of disruptive technology, Future Studies, Delphi-scenario method, News and magazines industry

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1. Introduction

"What is surprising is not the magnitude of our forecast errors, but our absence of awareness of it."

-- Nicholas Taleb

In this chapter, the reasons for why the topic was chosen and how the research was set up are explained. From a media point of view the future of the industry is both complex and interesting, and there is an acute need for new business opportunities through tablets, since the business in under radical transformation. Academically, there is always need for new insights on the future and earlier research regarding the dynamics of the industry is limited. Furthermore, the chosen methods represent the most popular among those in the futures studies, but the bold research approach makes the study challenging.

1.4 Background

According to Next Media (2011) research program, the media industry is under radical transformation; Digitalization of production, distribution and consumption of media in addition with the growing penetration of mobile Internet, allow for example rich media content to be used from various end-user devices. Furthermore, consumer behavior is changing towards co-creation, interactivity and independency of time and place. As the Internet disrupts industry after industry, traditional media companies rely on their big and sustainable assets, such as product brands, distribution advantage as well as economic and human capital.

Tablets are new technology solutions, which are spreading faster than any other gadget before. Gartner (2012) estimates that consumer tablet market will grow from next to zero in 2009 to more than 320 million units sold in 2015. Tablets may be called as *disruptive innovations*, since the notebook market is almost extinct, pc market growth will stagnate at 1 to 2 % (Morgan Stanley, 2012), and 77 % of tablet users have already decreased the usage of their pc or laptop (Google, 2011). Many already prefer to consume their daily media from tablets. As more people acquire tablets by *technology diffusion* there is a high probability for disruptive effects also in the newspaper and magazine solutions.

There are many opinions and insights regarding the influence of tablets for the media sector. Some consider tablets as the saviors of the industry, some are surprised by all the fuss they make while others see them as a middle step to something totally new. Taking account of also the dramatic change driven by Internet and increased purchasing power of consumers, it is not a surprise that the future of the media is one of the hot topics of this age. The change will bring huge threats, but also big opportunities.

1.5 Research problem and questions

The objective of this study is not to predict the future, but to give insight on possible discontinuity of the media industry and new business opportunities emerging for tablets. The study takes a provocative approach to challenge the current strategies and product development projects of newspaper and magazines organizations. It also aims to challenge the ongoing academic research and public discussion to consider findings from alternative futures perspective.

Two research questions are selected to be targeted:

1) *How could the diffusion of a disruptive innovation (tablet) affect the news and magazines industry?*
2) *What kind of new media business opportunities could emerge (and when)?*

As a research problem, identifying possible structural changes and new business opportunities for the newspaper and magazine industry, is both interesting and challenging. There is scientific evidence that the rapid industry changes are usually fateful for traditional organizations, while they open up new opportunities for newcomers and that, such a discontinuity may occur as a result from changes in government policies, economy recessions, consumer behavior or introduction of a disruptive technology. However, it is usually difficult to see the requirements or possible effects of these changes beforehand and since there is a constant need for a futures study to give new insight. Thus, the first research question is selected to give strategic foresight on the transformation of the media industry and the second to give ideas for entrepreneurs in media companies and start-ups to develop new solutions. These research questions followed the strategic agenda of the case companies in the research program and fitted the academic background of the author. The research approach and deliverables are presented in Figure 1.

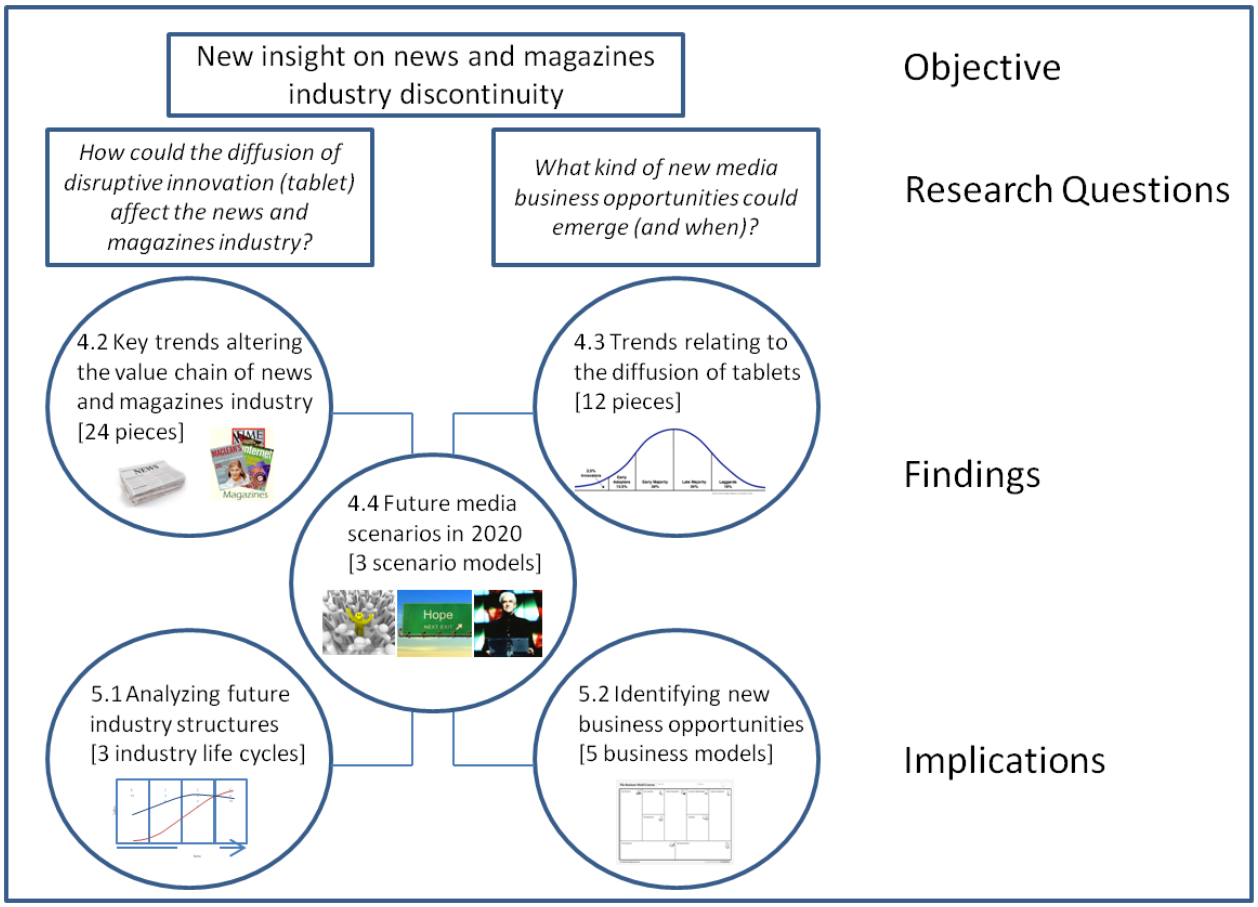

Figure 1 Research approach and deliverables

The diffusion model was originally developed by sociologists and anthropologists in the 1960's to explain how new ideas and technologies spread in the cultures. Everett Rogers (1962) brought the *Innovation Diffusion* theory for the business academics in his book with the same name. He separated five user segments of a society and the characteristics each segment expects from the adoption. Bass (1986) took the more mathematical approach and found that the theory could also be used to estimate the sales of yet to be launched products. Moore (1991) adapted the theory for technology startups, but since then there have not been any major applications. Christensen (2003) did not focus on the processes how technologies get adopted, but instead on what effects they have for markets. He considers that the *Disruptive Innovation* remarkably decreases the costs or targets new user segments. Prahalad (2010) found that most innovation programs are built on the assumptions of affluence and abundance, while they should be based either on more cost-efficient business models, modifying organizational capabilities with technology or creating or sourcing new capabilities. In this study, the framework of disruptive innovation diffusion is used to characterize the effects of tablets on the media industry.

Industry Life Cycle theory (i.e. ILC for short) pursues to find regularities in the different aging patterns of industries. It aims to explain changes in technological development and industry structure over the period that the industry ages. The first researches were conducted in US car manufacturing in 1978 (see e.g. Abernathy ja Utterback, 1978), and since the literature has been closely connected with two scientific approaches; *Organizational Ecology* and *Firm Capabilities*. Static industry description frameworks such as Porter's *Five Forces Analysis* and Scherer & Ross´ *SCP-model,* explain dynamics inside certain industries, but the research on cross-industry effects is still at its infancy (see e.g. Peltoniemi, 2010). In this study, the ILC theory is used to analyze the industry structure in each of the media scenarios.

The research process followed that of the *Argument Delphi* (Kuusi, 1999*)* with minor adaptations. In the first phase sufficient amount of secondary data was gathered from academic literature, public reviews, and private sources of the media companies. The data is both qualitative and quantitative, and it focuses on the current trends in the media industry and on the diffusion of tablets. In the second phase, the data variables were formed into the arguments through Delphi discussion process and cross-analyzed with disruptive innovation diffusion theory. In the third part, initial scenarios were first constructed through a *Scenario Analysis* (Brown, 2001) method and then further developed and narrated to get a fast and intuitive understanding of them with the Delphi panel. Finally, the implications of each scenario for alternative industry structures were analyzed with the ILC theory and identified opportunities were designed as new business models with a business model canvas (Osterwalder, 2010) method.

1.6 Scope of the study

Aaltonen (2010) separates three different causal systems: linear systems are systems where causality is discoverable and repeatable; visionary systems have causal relationships that are separated from the present by time and space; and disruptive systems where cause and effect are most complex and coherent only retrospectively or not at all. Since the scope of this study is in the non-linear and surprising change of the media industry, it pursues to exploit elements from all of these ontologies. The idea behind identifying also disruptive industry discontinuities is by cross-analyzing current media trends with disruptive innovation diffusion theory. This study takes a constructive research approach, which is a problem-based approach to case study research, with the news and magazines industries as cases.

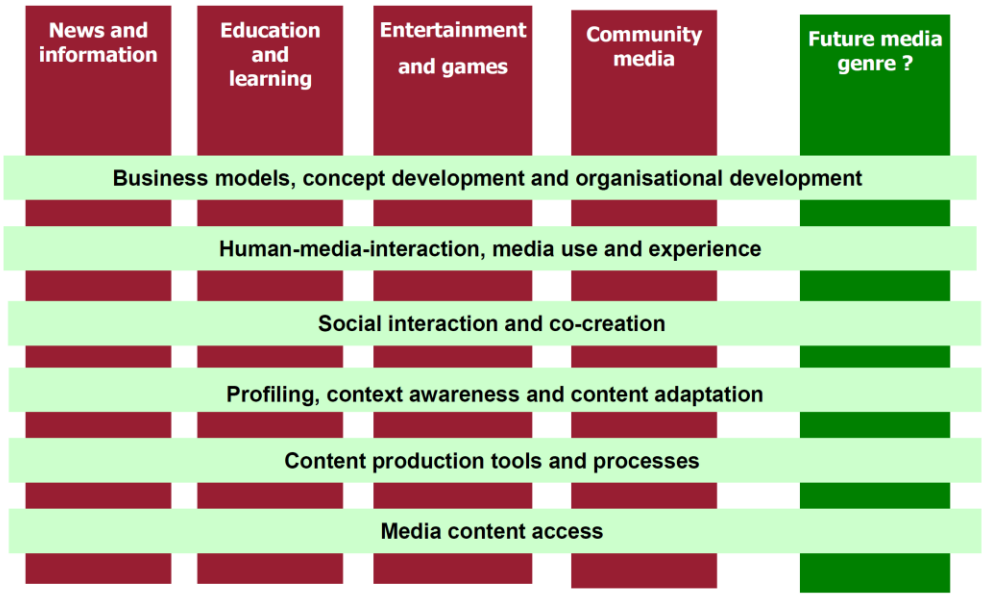

Figure 2 Research, development and innovation areas (Next Media, 2009)

The study was part of Tekes funded Next Media research program, which had an objective to renew the business environment of the media sector by breaking the limits of media content and changing the way it is created, configured, serviced and consumed. Since this study concerned alternative futures of the industry, it covers more than one research theme and relates to several media genres of the strategic research agenda of the program (see Figure 2). However, the special focus was addressed in news and magazines media genres, since case companies operated within those industries. The researchers belonged to the Business Models research group, therefore, that theme was a natural scope of the analysis.

As the research seeks alternative industry structures and business opportunities yet to become, the study is future oriented. As in comparison with social sciences, where the aim is to explain social phenomena, in the future studies the change itself is the goal. Futures studies are a multi-disciplinary field, and concerned with a wide range of views about possible, probably and preferable futures. A major decision in the setting of the scope is the selection of a relevant time horizon. The time horizon must be long enough to reveal disagreements about the direction of the future (to reveal different futures), but not too long to increases the uncertainty (see e.g. Aaltonen, 2010). Thus, in this study the time horizon is set to 2020. The initial idea was also to address more effort on the timing of the changes, but this focus fell out of the scope due practical limitations and disruptive nature of the change.

1.7 Structure of the thesis

The content of this research is structured in six chapters. The structure follows the chronological order in which the research was actually conducted, but each chapter is a coherent part in itself. It is thus recommended to read the chapters according to one´s own interests.

Chapter 2 (literature review) describes theories and lines of research, as well as their backgrounds, which are most essential for the study. Diffusion theory is presented for understanding the dynamism of change, while disruption theory helps to understand the effects from end-users and companies' point of view. Together these two lines of research form a framework for scenario constructs in Chapter 4. Review of the ILC theory is the framework in which the scenario structures are analyzed in the Chapter 5.

The following chapter, 3 (methodology), first presents the unique characteristics and paradigms of future studies and then lists the most common techniques with their challenges and potential use cases. The combination of Delphi-scenario method is described more exactly, in which the study was conducted. The last part describes phase by phase, how the data was gathered, Delphi-scenario technique utilized, and the results obtained.

In chapter 4 (findings), the most relevant observations are presented. The chapter begins with a short introduction to the history of media technology and industry to work as a starting point for the study. The trends that were considered the most essential according to the interviewees and worked as background for scenario constructs are then categorized and explained. The trends are presented in two sub-chapters; first those that concern the development of the media industry and then those that concern the diffusion and disruptive effects of tablets. Finally, three alternative scenarios are presented in narrative manner as they were designed in the Delphi.

Chapter 5 (discussion) reviews the research questions and implications of the study from two perspectives. First, the academic framework is used to explain the possible effects - of tablet's diffusion and scenario's change driver – from the industry structure's point of view. Thereafter, the five new media business models are designed based on the disruptive effects of the scenarios.

In chapter 6 (conclusions), the methodology of the study is critically evaluated and the lessons learned revealed. Also new research suggestions are presented for future studies from both the managerial and theoretical perspectives.

2. Literature review

"Economics is all about how people make choices; sociology is all about how they don´t have any choices to make."

--James Duesenberry

This chapter introduces the most central studies regarding the phenomenon of the study. Diffusion theories in combination with disruption theories give insight on the spreading of tablets and the potential effects on markets. The framework of disruptive technology diffusion is used to construct potential discontinuity factors for the scenario models and evaluate their timing (see Chapter 4). Industry Life Cycle is a major concept in this study. In addition to the novelty of the theory it is seen as a useful tool for analyzing the dynamics of the industries in different scenarios as a whole.

2.1 Theories of disruptive technology diffusion

The diffusion model was originally developed in the 1960's by sociologists and anthropologists to explain how new ideas and technologies spread in the culture. Diffusion theory, introduced for business academics by Everett Rogers (1962), offers three valuable insights into the process of social change: 1) What qualities make an innovation spread successfully, 2) the importance of peer-to-peer conversations and networks, and 3) understanding the needs of different user segments. These insights have been tested in more than 6000 research studies and field test, so that they are amongst the most reliable in the social sciences.

Christensen (2003) did not focus on the processes how innovations get adopted, but instead on what effects the introductions of innovations have for markets. He defines a disruptive technology as an innovation that helps to create a new market and value network, and eventually goes on to disrupt an existing market and value network (over a few years or decades), displacing an earlier technology there (Christensen, 2003). Since, there have been some attempts to combine these two theories (see e.g. Moore 1991, Canright et al. 2004, Blank 2010), but their practical applications are few.

2.1.1 Technology adoption process

Rogers (1962) differentiates the adoption process from the diffusion process in that the diffusion process occurs within society, as a group process, whereas, the adoption process is related to an individual. Adoption process is a type of decision-making and it occurs through a five–stages model. Adoption process starts from the knowledge stage, in which individuals must first learn that the idea or technology exists and can apply it to their problem. In the persuasion stage they prepare to adopt it by actively seeking information. The third, decision stage is for individuals to weigh advantages and disadvantages of the innovation and to decide whether to apply it to their own situation. In the implementation stage people employ the idea or technology to a varying degree depending on the situation. And finally, in the confirmation phase they review whether the adoption has been successful. (Rogers, 1962)

Important insight of the theory is that mass media can be very influential in spreading initial word about the idea or technology (in knowledge stage), while interpersonal contact are much more important in persuasion and decision stages. Thus, marketing methods like advertising and media stories may spread information about new ideas and technologies, but it is conversations that cause them to be adopted. This is because the adoption of new products or behaviors involves the management of risk and uncertainty. It's usually only people we personally know and trust – and who have successfully adopted the technology themselves – who can give us credible reassurances that our attempts to change won't result in embarrassment, humiliation, financial loss or wasted time (Robinson, 2009).

For a technology to make it through the decision phase Rogers (1962) claims that it should have five qualities. The better these qualities are present in the technology, the faster the adoption process. New technologies should offer (1) relative advantage against older methods, measured in terms that matter to the individual, i.e. economic advantage, social prestige, convenience, satisfaction or as Robinson (2009) ads personal control, time saving or social connection. Yet it must be (2) compatible with existing values and practices so that innovation is perceived as being consistent with the values, past experiences, and needs of potential adopters. Technology should also be (3) simple and easy to use and (4) trial-able for experimenting to reduce the uncertainty of an individual considering it. Finally (5) observable results of the adoption make the individuals to begin the usage of a technology.

Rogers (1962, 5th ed. Pp. 283) argued that a population can be broken down into five different segments, based on their tendency to adopt a specific innovation: innovators, early adopters, early majorities, late majorities and laggards (see Table 1). Each group has its own "personality", at least as far as its attitude to a particular innovation goes. Ideas and technologies spread when they change to meet the needs of successive segments. Thus, reinvention is a key principle in the diffusion process. The success of an innovation depends on how well it evolves to meet the needs of more and more demanding and risk-averse individuals in a population. A good way to achieve this is to make users into development partners (Chesbrough, 2003).

Table 1 The Five Segments of Adopters (adapted from Rogers, 1962)

Adopter category	Definition
Innovators	A small number of imaginative innovators are the first individuals to adopt a technology. Innovators are willing to take risks, youngest in age, have the highest social class, have great financial lucidity, are very social etc. They often lavish great time, energy and creativity on developing new ideas and gadgets. And they love to talk about them.
Early Adopters	Once the benefits start to become apparent, early adopters leap in. They are on the lookout for a strategic leap forward in their lives or businesses and are quick to make connections between clever technologies and their personal needs. Early adopters are typically fashion conscious, younger in age, have time and money to invest, have a higher social status, advanced education, etc. They are more socially forward than late adopters, but more discrete in adoption choices than innovators. They form a great test bed, abandoning the bad and reinventing the innovation to suit mainstream needs.
Early Majority	Early majorities are pragmatists, comfortable with moderately progressive ideas, but won't act without solid proof of benefits after a varying degree of time. This time of adoption is significantly longer than the innovators and early adopters. Early Majority tend to be cost and time sensitive, hate risk and complexity, have above average social status, etc. They want to hear "plug-and-play", "no sweat", "user-friendly" and "value for money".
Late Majority	Late majority are conservative pragmatists who hate risk and are uncomfortable with new ideas. Practically they approach an innovation with a high degree of skepticism and their only driver is the fear of not fitting in, hence they will follow mainstream fashions and established standards. They are often influenced by the fears and opinions of laggards, have below average social status, very little financial lucidity, etc.
Laggards	Laggards hold out to the bitter end, since they are people who see a high risk in adopting a particular product or behavior. They typically tend to be focused on "traditions", likely to have lowest social status, lowest financial fluidity, be oldest of all other adopters, in contact with only family and close friends, etc.

2.1.2 Diffusion in social networks

Classical diffusion theory explains how plotting the number of people who adopt the innovation over time generates the typical S-shaped diffusion curve (see Figure 3). While the classical theory is still highly valid, recent theorists have attempted to include the network aspects in it. Granovetter (1973) describes how certain types of network links, the weak ties that connect poorly connected cliques, are important in the acquisition of new information. Barabási (2002) emphasizes the role of opinion leaders, or network hubs, in the spread of information and argues that their role is tightly related to scale-free properties in networks. Thus, through a combination of the classical diffusion theory and recent progress in social network analysis the process of innovation diffusion can be understood more thoroughly.

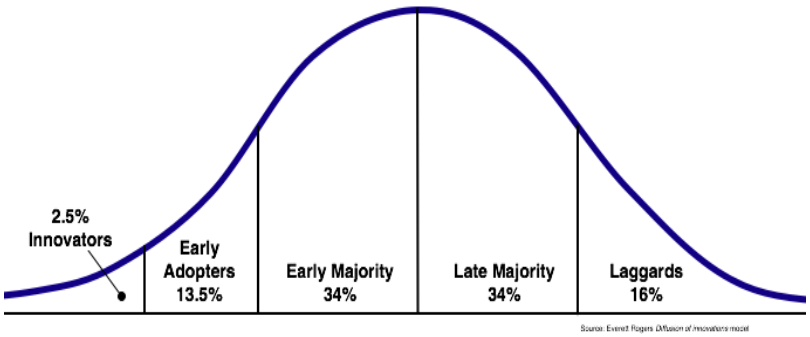

Figure 3 A Model of Innovation Diffusion (Rogers, 1962)

Already Rogers (1962) identified that the diffusion rate accelerates when "the opinion leaders" of a group adopt an innovation and that these people, belonging usually to the early adopter category, are influential socially speaking. Similarly, social network analysts argue that certain individuals are important in the take-off of the overall diffusion of an innovation. Canright and Engø-Monsen (2004) conclude that the opinion leaders are central nodes of social networks that act as catalysts in the passage to rapid diffusion, and that it is a logical consequence of the network structure itself because this structure is based on measures of centrality. Centrality in this instance is defined not only as being connected to many nodes, but as being connected to many nodes that also are central. Authors have also found that, when the regions are loosely coupled, centers are affected at differing times – with the result that the total cumulative adoption curve has multiple 'take-off' phases (one for each region). (Canright and Engø-Monsen 2004) The idea of centrality-based segmentation, where the target is to locate the ones with the highest potential to influence others to reduce the costly and vulnerable incubation period, is still novel for organizations.

Geoffrey Moore (1991) adapted the theory for technology start-up´s viewpoint in his bestselling book *Crossing the Chasm*. According to Moore´s (2004) eight phase market development process, when a technology is first introduced, it attracts the attention of early adopters-enthusiasts (who see it as cool) and visionaries (who see it as potentially disruptive). In this *Early Market* the press, fascinated, writes glowing articles describing the technology as the next big thing. Similarly, Rosen (2000) has pointed out the same thing in the generation and spread of buzz, arguing also that social network hubs are important in this 'word-of-mouth marketing'. According to Moore (2004) *the Chasm* is the most critical from the new technologies point of view as it has lost its novelty from the visionaries point, but its acceptance isn't widespread enough to convince pragmatists so it is caught in between. A hype cycle, presented by Gartner Inc. in 1995, graphically characterizes the over-enthusiasm or "hype" and subsequent disappointment that typically happens with the introduction of new technologies (see Figure 4). The Hype Cycle aims to separate the hype from the reality, and enable CIOs and CEOs to decide whether or not a particular technology is ready for adoption.

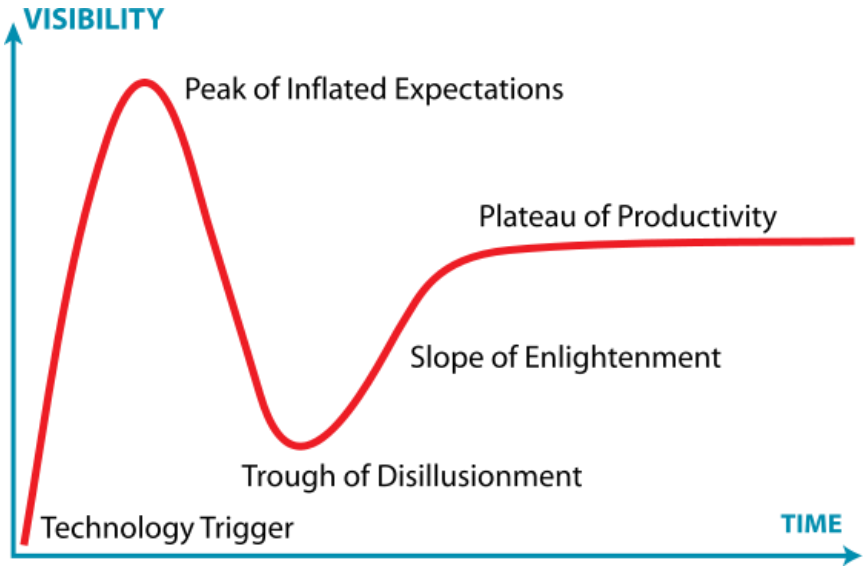

Figure 4 A Model of a Hype Cycle **(Gartner Inc.)**

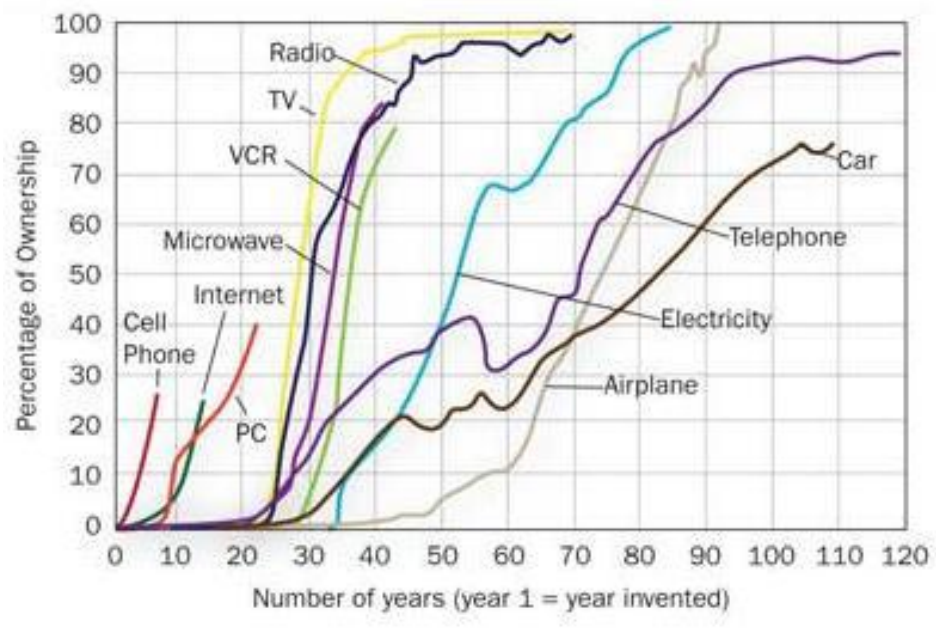

Figure 5 Diffusion curves for major technologies (Forbes Magazine 2009)

From the classical diffusion theory it is evident that, for interactive technologies such as the telephone and e-mail the adoption curve is generally steeper than for non-interactive technologies (see Figure 5). This is referred to as the "backward flow of increased utility" (Rogers and Mahler 1999) and explained so that it is also to the adopters advantage to promote the use of interactive technologies, since each person joining the system makes it more useful. In addition to that, Barabási (2002) has showed that a person's social network now is typically larger than before due to telecommunications media and the Internet. Electronically mediated links increase the potential node degree in networks; they allow us to stay in touch with more people simply because communication goes faster. In essence, people use these channels to judge whether the technology has reached the point where it is useful because enough other people are using it (Valente 1995, 1996). Thus, marketing wise the Web is a two-in-one medium: It allows both the 'centralized spreading' of information and the use of interpersonal ties.

2.1.3 Framework for disruptive innovation diffusion

Several studies (see e.g. Christensen 1997; Christensen and Raynor 2003; Doz and Kosonen 2008) have shown that existing firms are usually aware of the disruptive technologies and innovations, but their business environment does not allow them to pursue them so their business becomes disrupted. It happened, for example, in the steel industry, where minimills began as a cheap, lower-quality alternative to established integrated mills, then moved their way up, pushing aside the industry's giants (Christensen, 2003). In an interview about his book Christensen (1997) concludes that:

> *"The innovator's dilemma is that the criteria that managers use to make the decisions that keep their present businesses healthy make it impossible for them to do the right thing for their future. What's best for your current business could ruin you for the long term."*

The concept and theorizing about disruptive technologies is solely based on the work of Clayton Christensen, but his work was widely influenced by Schumpeter´s (1934, 1949) work on *creative destruction.* Also Godø (1998) differentiates between radical and incremental innovations based on whether they represent breaks with previous developments or continuations of these. Christensen (2003) distinguishes between two categories of innovations; 1) Sustaining innovations are technical improvements in a product's performance, for example as in the processor speed in Intel's Pentium chips while 2) disruptive innovations interrupt and redefine the trajectory of performance by developing products that have lesser qualities (see Figure 6). For example, Apple's first personal computer initially underperformed mainstream offers, but also brought different value propositions to new market contexts that did not need all the performance offered by incumbents.

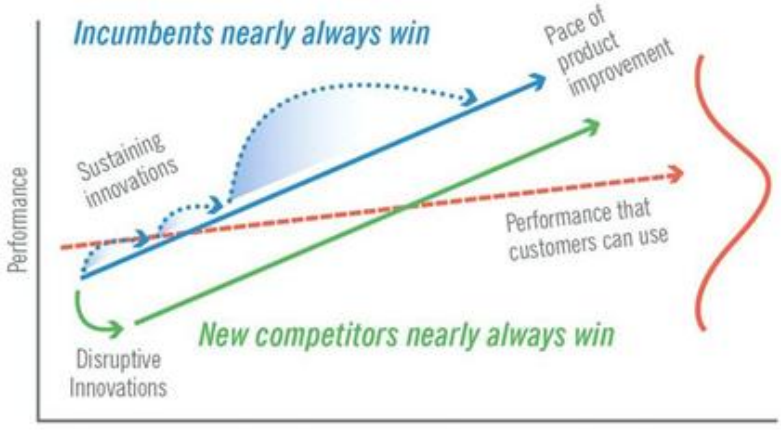

Figure 6 A Model of Disruptive Innovation (Christensen, 2003)

While Christensen (2003) disregards the preceding process of diffusion that any technology with the potential disruptive effects must go through, he argues that a disruption is likely to happen when the innovation covers the customer needs of the majority. According to Blank (2010), there is a fundamental difference in diffusion of a new technology on the type of the market it enters. Market type denominates how to evaluate customer needs, customer adoption rate, how the customer understands his needs and how to position the product to the customer (Blank, 2011).

Christensen (2003) argues that sustaining innovations constitute the vast majority of technological and business model innovations and they typically help established companies to sell more products and earn more money from their most valuable customers. Blank (2010) agrees these kind of innovations target the *existing market*, where the markets and competitors are already known. He adds that in this market type, new product or service usually offers higher performance than what is currently offered in terms of running faster, doing something better or substantially improving on what is already on the market. The basis of competition is that of the product and features, so the leading companies streamline their organizations with this kind of innovation in mind. From the startup's point of view the cash might be generated, without big chasm, in 12 to 18 months (see Figure 7a). (Blank, 2010)

For Christensen (2003) disruptive innovations address either the customers in a) the low-end of the market or B) new customers in niche-markets. Blank (2010) separates these more precisely from a market view-point. With the *low-cost re-segmentation* there are customers at the low-end of an existing market who will buy 'good enough' performance if they could get it at a substantially lower price. Prahalad (2010) adds that these low-end disruptions will have a great impact in coming years, since targeting billions of the poor in developing countries will become sustaining business as such. This is also called "bottom of the pyramid" in economics, and it is the largest, but poorest socio-economic group. While in Blanks (2010) *niche re-segmentation* strategy, the company looks the existing market for customers who would pay more for a product designed to address their specific needs. In the re-segmented markets there is a small chasm before the business becomes profitable (see Figure 7b).

A third possibility is to introduce a new product into a *new market.* This is also known as *Blue Ocean Strategy* (Kim and Renée, 2005). According to Blank (2010), a company creates a large customer base that couldn´t do something before because of true innovation that solves availability, skill, convenience, or location issues in a way no other product has. Product features are at first irrelevant because there are no competitors, but the users are also unknown. Creating a new market requires understanding whether there is a large customer base who couldn´t do this before; whether these customers can be

convinced they want or need the new product, and whether customer adoption occurs in the lifetime. A startup in a new market might be unprofitable for 5 or more years, but eventually grow with the traditional hockey stick revenue curve (see Figure 7c). (Blank, 2010)

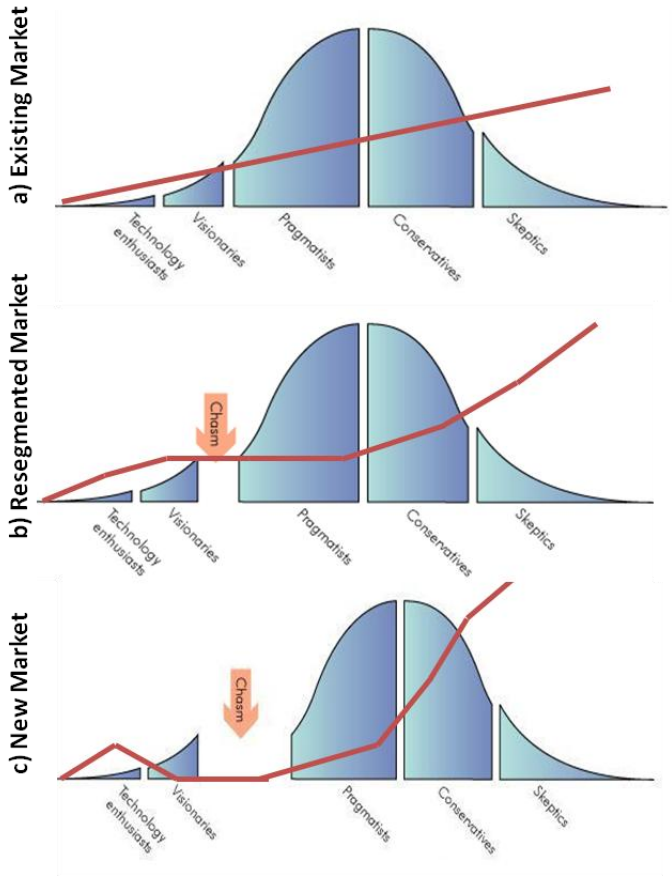

Figure 7 A Model of Three Market Types (Steve Blank, 2010)

Christensen (1997) concludes that leading companies have trouble developing and commercializing disruptive innovations because: 1) Their best customers do not demand such innovations, 2) the market for such innovations seem too small for their measures of market potential, 3) such innovations do not fit in with existing business models and 4) their organizational structure is unfit to handle such innovations. Christensen further asserts that a lack of suitable management theories about how innovations come into being and what effects they have is to blame for these companies' failures. Meanwhile, upstart firms inhabit different value networks, at least until the day that their disruptive innovation is able to invade the older value network. At that time, the established firm in that network can at best only fend off the market share attack with a me-too entry, for which survival (not thriving) is the only reward. (Christensen, 1997)

2.2 Theories of industry life cycle

The search for regularities in the aging patterns of different industries has inspired the development of industry life cycle theory. The theory aims to explain changes in technological development and industry structure over the period that the industry ages. This stream of research began as the study of the American car manufacturing industry (Abernathy 1978; Abernathy and Utterback 1978; Abernathy and Clark 1985). It has become an established theory appearing in academic research, business school curricula, and management consulting.

According to Peltoniemi (2010), industry life cycle (ILC) theory is closely linked to two streams of literature that explain industry evolution. Firstly, organizational ecology (see e.g. Hannan and Freeman 1977, 1989) is similarly interested in changes in firm numbers. However, while ILC studies aim to explain such changes through technological developments consisting of decreasing product variety and emerging scale economies, organizational ecology accounts for much of the change in firm numbers on the firm numbers themselves, that is, on legitimization and density effects. The second closely associated stream of literature examines firm capabilities (see. e.g. Teece et al. 1997; Wang and Ahmed 2007; Zollo and Winter 2002) and it relates to industry life cycle theory through pre-entry experience and complementary capabilities that may explain firm survival. But while capabilities literature is interested in firm-level capabilities, ILC studies concentrate on industry-level developments. (Peltoniemi, 2010)

The industry life cycle theories should not be mixed up with the product life cycle (PLC) model. According to Dhalla and Yuspeh (1976) product life cycle has proven to be remarkably durable in minds of managers and has expounded eloquently in numerous publications despite the fact that it is theoretically untested and has practically done more harm than good by persuading top executives to neglect existing brands and place undue emphasis on new products. The idea behind the concept is fairly simple; like human beings and animals, everything in the marketplace is presumed to be mortal. A brand is born, grows lustily, attains maturity, and then enters declining years. Most writers however fail to even draw a clear distinction between product class (e.g. cigarettes), product form (e.g. filter cigarettes), and brand (e.g. Winston). However, authors showed that it is not possible to validate the model at any of these levels of aggregation. (Dhalla and Yuspeh, 1976)

2.2.1 Traditional ILC model

Industry life-cycle theory sees that new revolutionary or architectural innovations are released through the opportunities created by changes in technological possibilities, customer preferences, or government policy (Abernathy and Clark, 1985). And that industry emergence is a product of such an opportunity that encourages the entry of a large number of firms and the introduction of new products (Klepper 1996). Peltoniemi (2010 ref. Geroski, 1995) notes that entry rates vary to a greater extent between different years within an industry than between industries. In the model of McGahan (2004) the traditional industry life cycle (see Figure 8) starts from fragmentation as new companies enter the market, they face a shakeout as a specific business model achieves greater legitimacy, maturity after leaders lock their positions and finally decline due to better or end of life solution. Thus, even though a discontinuity is vital for industry emergence, it is only a starting point for the innovative activity that follows.

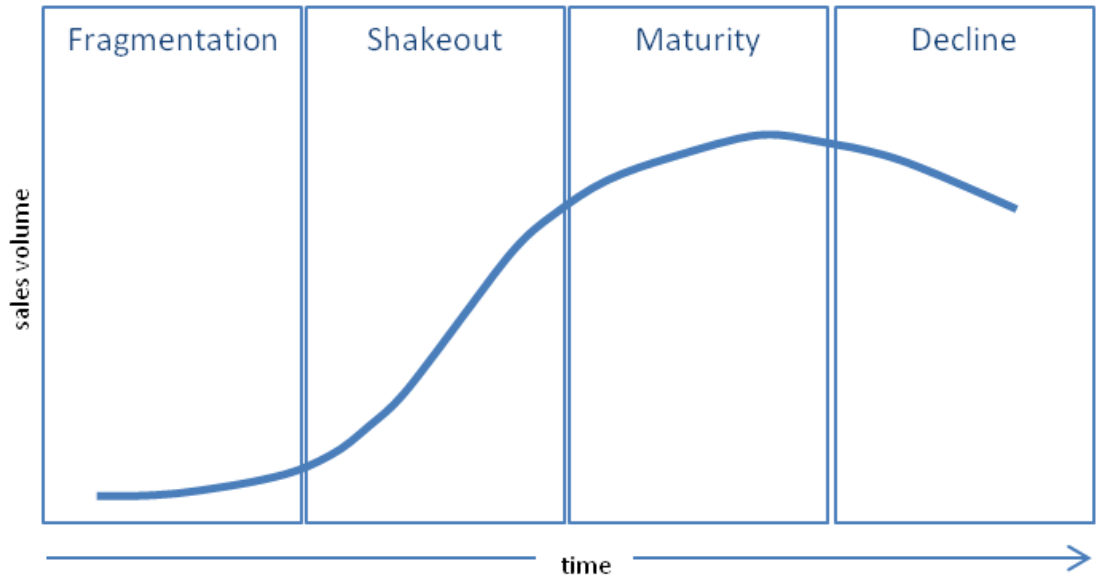

Figure 8 A Model of Traditional Industry Life Cycle (McGahan, 2004)

Schumpeter (1934; 1949) originated the idea that technological innovation often creates temporary monopolies, allowing abnormal profits that would soon be competed away by rivals and imitators. Since, technological opportunity is manifest as a discontinuity, which can mean a change in competence needed to produce the product, a change in the physical product or its production process, or a sharp increase in the performance per price ratio (see e.g. Ehrnberg 1995, Christensen 1997, Prahalad 2010). Even though there are no well-established empirical requirements for discontinuities, there are seldom debates on whether a discontinuity has taken place (Peltoniemi, 2010).

Fragmentation

Firms have different backgrounds and expertise and this leads them to pursue different kinds of innovations (Klepper, 1996). This means that in a young industry there is considerable diversity in the R&D activities of firms and in the innovations they produce. It is characterized by the important role of information that is external to the industry, because new entrants with innovative product designs are competing for market dominance (Gort and Klepper, 1982). Furthermore, young industries are characterized by turbulence due to frequent entries and exits and are favorable to innovative entry (Peltoniemi, 2010). Such a competitive industry dynamic altering in industry evolution is also called an *entrepreneurial regime* and it is based on Schumpeter's work (1934; 1949).

The population of innovators changes substantially over time because most innovative entrants are occasional innovators and only some becomes persistent innovators (Malerba and Orsenigo 1999). Sarkar (2006) concluded that industry evolutions tend to conform either to the "revolving door" or the "replacing forest" metaphor. In revolving door industries, the bulk of exiting firms are recent entrants. Persistent innovators manage to survive, whereas occasional innovators enter and exit at a fast pace. In replacing forest industries entrants tend to replace exiting incumbents. In this regard, the model includes only occasional innovators. The revolving door model dominates in industries with high economies of scale and under a routine regime, whereas the replacing forest is more applicable to industries under an entrepreneurial regime or undergoing "creative destruction" (Sarkar *et al.* 2006).

Shakeout

As new firms enter and bring about increasing rivalry, the quality of the product improves and price may also decline, which makes the product more valuable for buyers, and sales takeoff follows (Peltoniemi, 2010 ref. Agarwal and Bayus, 2002). As sales do not grow indefinitely, market shares are reallocated to the most capable producers, and others exit the industry. This mass-extinction is known as a *shakeout*. Klepper and Miller (1995) define a shakeout as a lengthy period of time, after the initial sharp increase in firm numbers, during which there is a persistent fall in the number of firms while there is continued growth in output. Even though ILC theory predicts that shakeouts take place relatively early in industry history, they have also been detected in mature industries (Peltonen, 2010 ref. Bergek *et al.* 2008).

The causal explanations for a shakeout can be divided into those that are due to excessive entry, and those due to technological developments. Excessive entry takes place because growth industries attract numerous competitors who believe in easy market share gains and profits, and are eventually disappointed by the intensity of competition (Peltoniemi, 2010). As most firms die young, it is natural that industry shakeouts follow periods of mass-entry. The second class of explanations assumes that a shakeout is caused by technological developments, and hence excessive entry and shakeout do not have a causal link, but rather they correlate (see e.g. Klepper and Miller 1995). Utterback and Suárez explain the shakeout based on the dominant design, and the transition that this brings about with regard to innovative activities. Firms that are unable to move towards greater product standardization and process innovation will not succeed in competition against those who make the transition. As many firms ramp up production to exploit economies of scale, the market overflows and price drops. This causes many firms to exit. (Peltoniemi, 2010 ref. Utterback and Suárez, 1993)

Maturity

Industry maturity is signaled by a shift from product to process R&D and often leads to the exploitation of scale economies and to the mechanization of manual work. Klepper´s (1996) theory of size advantage is present in mature industries, since the numerous exits and rare entries decreases product diversity and process R&D costs can be spread over larger units of production. Even though process R&D eventually overtakes product R&D, the latter does not cease, but shifts from widening innovations to deepening innovations (Malerba and Orsenigo 1996). At this phase, knowledge internal to the industry becomes valuable for keeping up with technological developments, and past learning-by-doing gives an advantage to incumbents over entrants (Gort and Klepper 1982).

Dominant design has become a popular construct for describing the dynamics of innovation in maturing industries and the subsequent decrease in product variety. A dominant design is a product alternative that can satisfy the needs of a broad class of users and so transforms the initial ill-defined and uncertain performance criteria into well-defined metrics with which to compare products (Abernathy 1978; Abernathy and Utterback 1978). Thus, it marks the shift of competition from design to price. Anderson and Tushman (1990) add that as product variation and uncertainty over characteristics decreases, relationships with suppliers, vendors, and customers become more stable. As the majority of potential adopters wait for a dominant design to emerge prior to purchase, sales remain relatively low during the

era of ferment and grow substantially after the emergence of the dominant design (Anderson and Tushman, 1990). While in the early studies dominant design emerged only once in the history of an industry, later studies have taken a cyclical view where discontinuities take place and dominant designs subsequently emerge several times (Murmann and Frenken, 2006).

Peltoniemi (2010) categorizes various ways the selection of a particular dominant design has been explained. The simplest of these is that the best variant wins, but the explanation has its complications because institutional criteria for performance define the merits of competing technologies, and thus the institutional process precedes the emergence of the criteria that permit evaluation and comparison (ref. Das and Van de Ven, 2000). The second class of explanations includes increasing returns to adoption whereby economies of scale and network externalities in R&D, production, distribution, and use, give to a particular design a cumulative advantage that is non-proportional to its merits (ref. Arthur, 1989). Economies of scale can arise in both the manufacturing and R&D of a particular design, whereas network externalities make a particular design increasingly attractive to buyers (ref. Farrell and Saloner, 1986; Henderson and Clark, 1990; Murmann and Frenken, 2006). The third explanation of the selection process is strategic maneuvering. Firms can use a number of ways to determine the dominant design. For example a powerful producer or user can mandate a dominant design (Anderson and Tushman, 1990). Dominant design may also arise through formal standardization processes among firms or by the regulatory system (ref. McGrath et al. 1992 and Schilling 1998). The final explanation is that dominant designs emerge from the interaction of institutional forces, economic constraints, and technological possibilities, and therefore are dependent on all of the processes described above (Anderson and Tushman 1990 and Murmann and Frenken 2006). (Peltoniemi, 2010)

2.2.2 Inter-industry effects

According to Peltoniemi (2010) industry life cycle studies to date have not paid much attention to the interconnectedness of industries and how this affects their life cycles. The most frequent inter-industry theme in ILC studies is the effect of established, mature industries on feeding emerging industries with competence, entrepreneurs, employees, and spinoffs while another line of studies deals with vertical exchange relationships (Peltoniemi, 2010). McGahan (2004) compared the different trajectories of industry development, and concluded an alternate model for industries whose core activities are challenged by emerging industries.

The maturity of one industry may lead to the emergence of another. Thus, mature industries do not simply wait for the next discontinuity to take place in their own realm, but may enable the birth of new industries that are technologically related. This has been shown, for example, in the US automobile industry, which was fed by bicycle, engine, carriage, and wagon industries (Klepper 2002) and the UK automobile industry, which benefited from the co-location of bicycle, coach, and mechanical engineering firms (Peltoniemi 2010; ref. Boschma and Wenting 2007).

Strategies by firms in dominant supplying industries can also cause shakeouts in their complement industries (Pierce 2009) since firm numbers, entries, exits, and concentration upstream may be transmitted between industries (Bonaccorsi and Giuri 2001). Furthermore, the emergence of a dominant design has an effect on supplying industries (Peltoniemi, 2010). Moreover, innovation in upstream components and downstream complements has different effects on the advantage of being a technology leader in the face of a technological discontinuity (Adner and Kapoor 2010).

McGahan (2004) concluded that traditional industry life cycle model is relevant for understanding the phases of progressive and creative change (i.e. industries whose core assets are changing), but for industries that experience radical or intermediating change the model does not apply. In these changes industry´s core activities (the recurring actions to attract and retain suppliers and buyers) are changing thus the emerging industry usually gradually takes over the established industry. According to her studies these industries represented over half of all the U.S. industries between 1980 and 1999. (McGahan, 2004)

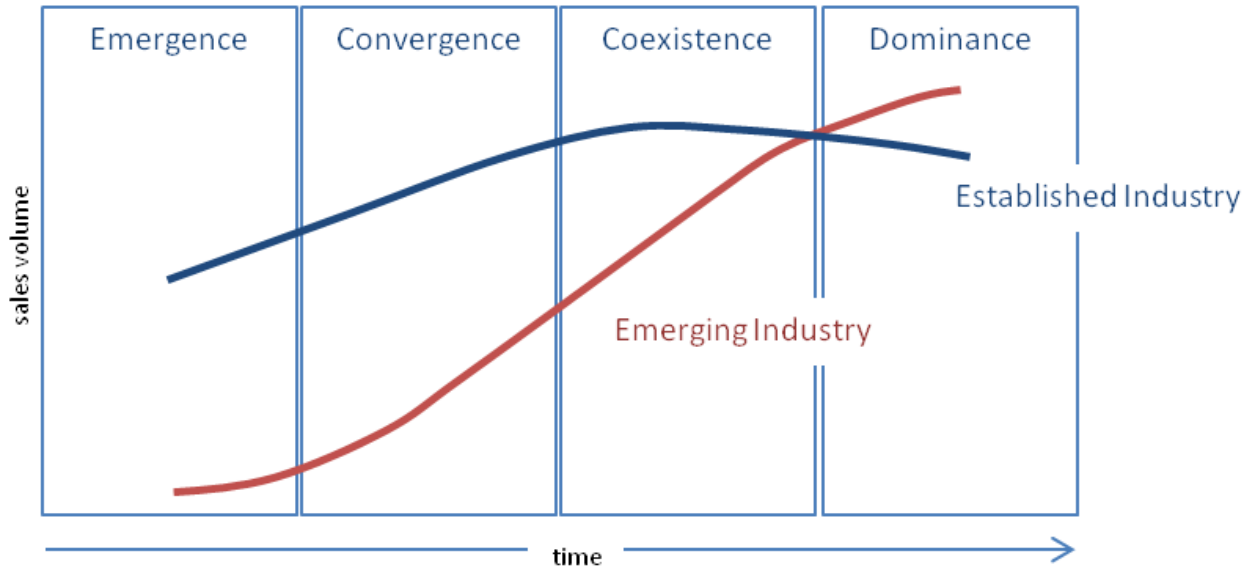

Figure 9 A Model of Alternative Industry Life Cycle (McGahan, 2004)

McGahan (2004) present an alternative model to model more accurately industries facing radical or intermediating change (see Figure 9). In her model, during an initial period of emergence, upstart firms warrant attention, but may not be significant enough to prompt established companies to restructure. As the new approach converges in volume, established companies may react by reconfiguring some of their activities. During a period of coexistence, buyers and suppliers become increasingly sophisticated at evaluating the new approach, and as a result, new opportunities for value creation may emerge even in the old industry. During a final phase of dominance, the industry´s products and services are evaluated on new criteria that reflect the popularity of the new approach (McGahan, 2004). The approach can be seen emerging from Christensen´s research on innovations and developed further also by Blank (2010).

3. Methodology

"Occurrences in this domain are beyond the reach of exact prediction because of the variety of factors in operation, not because of any lack of order in nature."

-- Albert Einstein

The logic behind future studies and some of their main challenges are first discussed, since there are many false expectations toward them in the minds of both academics and business people. Most common methods are briefly explained and categorized, but the Delphi and Scenario methods, as well as their combination, are presented more systematically as they were used in this study. Despite the novelty and potential pitfalls of the chosen method, it has shown good results and given needed flexibility on substance and schedule. The outflow of the research is presented in the second part of the chapter. Each stage is presented similarly to the actual work done in the research, so that it is easy to review the credibility and lessons learned.

3.1 Foundation of future studies

Because of the growing complexity of the economic landscape (e.g. networked business models), greater uncertainty (e.g. technology innovations) and severe market disruptions (e.g. economic turmoil and disruptive value propositions), companies need to develop specific abilities that allow them to identify new promising business fields and the ability to develop them (see e.g. Doz and Kosonen 2008; O´Reilly et al. 2009; Osterwalder, 2010). Developing models that are representations of systems that are, have been or could be (imagined) is critical since if no such representations exist, there would be no actions, just reactions (Koponen 2010). Despite the wide use of futures studies among businesses, they cover only a small percent of all academic research. This is mainly seen as being due to the complexity of research foci and not yet well proven methodology.

The life expectancy of a Fortune 500 company is below 50 years since most companies are unable to adapt their organizations to changes in their environment (Geus, de 1997). It is not that companies fail because they work on wrong things, but because they continue to work on those that used to be right (Doz and Kosonen, 2008). Understanding changes in the environment helps to explore, develop and adapt business models more effectively to shifting external forces. In management literature, this is called *strategic foresight* – which is a fairly recent attempt to differentiate "futurology" from "futures studies", and it can be described as:

> *An ability that enables the company to detect discontinuous change early, interpret the consequences for the company, and formulate effective responses to ensure the long-term survival and success of the company.* (Wikipedia)

Futures studies are a multi-disciplinary field, and concerned with a wide range of views about possible, probable and preferable futures. Unlike science where a narrower, more specified system is studied, future studies concern a much bigger and more complex world system. While social sciences try to explain social phenomena while acknowledging that the explanation changes the future behavior of the phenomenon in question (Lagerspetz 2006), in futures thinking, the change itself is the goal. There cannot be knowledge about the future that does not exist yet, (Mintzberg, 1994 pp. 229), but all useful knowledge has implications towards the future (Jouvenel, de 1967), since insights, desires and beliefs are what the futures are built on (Mannermaa, 1991). Thus assertion about the future does not indicate fact, but an intention, and a man who acts with sustained intention to carry out a project is a creator of future (Kuusi 1999). Amara (1981) states the three premises of futures studies:

1. The future is not predictable. One has to describe what is possible.
2. The future is not predetermined. One has to consider what is probable.
3. The future can be affected by choices. One has to consider what is desirable.

Furthermore, Koponen (2010) notes that the methodology is much less proven as compared to natural science or even social science like sociology, economics, and political science. Instead, futures practitioners use a wide range of models and methods, many of which come from other academic disciplines. Practitioners of the discipline have previously concentrated mainly on extrapolating present technological, economic or social trends. More recently they have, however, started to examine social systems and uncertainties as well as to build scenarios and question the beliefs behind such scenarios. (Koponen, 2010)

3.2. Futures thinking techniques

There are at least three methodological approaches to study the future; 1) straightforward 'business-as-usual' mathematical models, such as trend extrapolations, 2) more sophisticated and policy-oriented 'what if' models that are based on econometrics and statistical information, and 3) the studying of future prospects by gathering information from experts as views for the future (see e.g. Armstrong 2001, Tapio 2002). Approaches involving the expert predictions systematically develop different alternative future images or scenarios with e.g. the Delphi method. McHale and McHale (1975) identified more than 17 techniques (see Table 2), often used in conjunction with each other.

Table 2 List of Futures Thinking Techniques

Technique	Description	Source
Delphi	A very popular technique that uses the iterative, independent questioning of a panel of experts.	See chapter 3.2.2
Causal layered analysis (CLA)	One of the newest methods focuses on "opening up" the present and past to create alternative futures.	Inayatullah 2003; 2004
Environmental scanning	Usually used at the start of a project. Aims at broad exploration of all major trends, issues, advancements, events and ideas across a wide range of activities.	Dillerup, 2006
Morphological analysis	The technique for exploring all the possible solutions to a multi-dimensional, non-quantified problem complex.	Zwicky, 1966; 1969
Scenario planning	Most popular and persuasive techniques used in order to aid decision-making, the term was introduced by Herman Kahn.	See chapter 3.2.1
Monitoring	Process that aims at evaluation of events, as they occur or just after.	The Futures Academy
Content analysis	Used for the systematic and objective study of the particular aspects of various 'messages'.	The Futures Academy
Back-view mirror analysis	Builds upon the assumption that any future oriented group process has to manage peoples' difficulties in thinking into the future.	World Futures Society
Cross-impact analysis	Attempts to answer a question whether perceptions of how future events may interact with each other can be used in forecasting.	Gordon, 1994
Failure mode and effects analysis	FMEA is a futures workshop technique that is a safety analysis, which examines potential failures in products or processes. Enhanced version is called measured action.	Jungk et al., 1987
Futures biographies (a.k.a. futures imagining)	Workshop technique aims to create individual imaginaries, to gather peoples' views on the future and to examine them in the study of collective future.	The Futures Academy
Futures wheel	A form of structured brainstorming technique that aims at identifying and packaging secondary and tertiary consequences of trends and events.	Glenn, 1971
Relevance tree	Analytical futures workshop technique that subdivides a large subject into increasingly smaller subtopics.	Porter et Al., 1980

Social network analysis	Computer-based tools developed to represent reality that has emerged as a key technique in modern sociology, anthropology, social psychology and organizational studies, as well as a popular topic of speculation and study.	See chapter 2.1.2
Systems engineering	Computer-based tools developed to represent reality to engineering systems that is inherently complex, since the behavior of and interaction among system components is not always well defined.	Chestnut, 1967
Visioning	Popular technique in the studies of desirable futures and the one that gives emphasis to values. Process is based on the assumption that images of the future lead peoples' present behaviors, guide choices and influence decisions.	World Futures Society
Trend analysis	One of the most often used technique in forecasting that aims to observe and register the past performance of a certain factor and project it into the future.	Office of SETA

A fairly recent attempt in predicting markets, which target to make verifiable predictions by speculating, is the application of *the wisdom of the crowd.* It is the process of taking into account the collective opinion of a group of individuals rather than a single expert to answer a question. Since there is idiosyncratic noise associated with each individual judgment, a large group's aggregated answers to estimation questions have often been better than answers given by any of the individuals within the group (Yi et. Al 2012). However, crowds tend to work best when there is a correct answer to the question being posed, such as a question about geography or mathematics (Surowiecki, 2005). This method could develop into a technique in near future, but it still lacks reliability and has some practical limitations.

In this study, the scenario analysis was applied since the purpose was to encourage discussion on alternative future images rather than predicting the most probable one. The Delphi process, on the other hand, is proven to be practical and reliable for qualitative future studies. Also, the good experiences on combination of Delphi and scenario processes were encouraging and the technique was seen as most suited for producing discontinuous or non-linear future images.

3.2.1 Scenario analysis

Scenario analysis, also called *scenario thinking* or *scenario planning,* is a strategic planning method that some organizations use to make flexible long-term plans. Scenarios may assist in the selection of strategies, identification of possible futures (sometimes called "*alternative worlds*"), making people aware of uncertainties and opening up their imagination and initiating learning processes. Thus, a scenario is not a specific forecast of the future, but a plausible description of what might happen. It is an internally consistent story about the path from the present to the future.

Scenario planning is in large part an adaptation and generalization of a classic technique used by military intelligence. The term scenario was introduced into planning and decision-making by Herman Kahn in connection with military and strategic studies done by RAND in the 1950s. According to Kahn and Wiener (1967, pp. 6), scenarios are hypothetical sequences of events, built with the intent of attracting attention to causal processes and points of decision. This is done in order to show how they may evolve step by step starting from the present situation.

Osterwalder (2010) identified two types of scenarios that may be applied for designing business models. The first describes different customer settings; how products or services are used, who uses them or what are their concerns, desires, and objectives. Such scenarios build on customer insights, but also incorporate knowledge into a set of distinct, concrete images. A second type of scenario, which is also applied in this study, describes future environments in which a business model might compete. He also points out, that the goal is not to predict the future, but to imagine possible futures in concrete detail and help us to prepare for the future. In order to reach this goal, scenarios must be provocative by taking into consideration potential surprises that may cause discontinuities in the future. Osterwalder (2010 pp. 182) proposes a following process for business model design trough scenario planning technique:

1. Develop a set of future scenarios based on two or more main criteria.
2. Describe each of the scenarios with a story that outlines the main elements of the scenario.
3. Develop one or more appropriate business models for each scenario.

Although it is a very rewarding method, it is also very demanding. The possible traps mostly relate to how the process is conducted (such as team composition, role of facilitators, etc.) as well as the substantive focus of the scenarios (long vs. short term, global vs. regional, incremental vs. paradigm shifting, etc.) As a result too many scenario stories can be created and/or their content may not be directly related to the strategic scope.

3.2.2 Delphi method

The Delphi is a structured communication process that makes it effective for a group of individuals to deal with a complex problem as a whole. In the process, the researchers aim to explore alternative future images, possibilities, their probabilities of occurrence, and their desirability by tapping into the expertise of respondents (Bell, 1997). Delphi has been widely used for business forecasting and it is based on the principle that forecasts from a structured group of individuals are more accurate than those from unstructured groups (Koponen, 2010). In this study Argument Delphi, which is one kind of a Policy Delphi, is used but there are other distinct branches of Delphi techniques.

The Delphi may be viewed as a spinoff from the defense research. "Project Delphi" was the name given by Gordon and Helmer in 1953 to an Air Force-sponsored Rand Corporation study, concerning the use of expert opinion. According to Turoff (2002) the objective of the original study was to "obtain the most reliable consensus of opinion of a group of experts ... by a series of intensive questionnaires interspersed with controlled opinion feedback." Thus, originally Delphi tended to deal with technical topics and seek a consensus among homogenous groups of experts (Rikkonen, 2005), and it was considered as a version of a survey analysis (Bell, 1997). Nowadays, with the development of new variants the method is mainly used for systematic and iterative forecasting:

(1) *Consensus Delphi* aims to produce common agreement using fairly large panels and it is a good method for creating common strategies.
(2) The *Policy Delphi*, produces various conflicting views about the future and it is instead a decision support method aiming at structuring and discussing the diverse views of the preferred future.
(3) In a *Trend Delphi* a graph is shown and panelists are asked to continue the drawing towards the future. In the end different graph options are voted for.
(4) A *Survey Delphi* generates opinions from a large group of experts.

The Argument Delphi, developed by Osmo Kuusi (1999), is one type of Policy Delphi that focuses on ongoing discussion and finding relevant arguments rather than focusing on the output. Arguments of the panelists are discussed with other panelists and they typically produce conformity, bipolarity or fragmentation among opinions of panelists (Tapio, 2002). The Disaggregative Policy Delphi, developed by Petri Tapio (2002), uses cluster analysis as a systematic tool to construct various scenarios of the future in the latest Delphi round. The respondent's view on the probable and the preferable future are dealt with as separate cases.

Thus, Delphi is not a perfect tool in finding accurate forecasts concerning future events. Instead, it reveals valid and relevant arguments behind future-related judgments (Kuusi, 1999 pp. 83). Benefits of a Delphi study include the possibility to test radical ideas behind the curtain of anonymity, avoiding discussion bias from status or charisma, and being able to deepen arguments with multiple rounds (Bell, 1997). An issue in gaining this kind of foresight information is that expert knowledge is typically tacit (Nonaka and Takeuchi, 1995 pp. 284). Anonymous, expert focused and iterative Delphi process lowers the barrier to share tacit knowledge. In addition, the method supports communicative actions among experts of relative fields. Koponen (2010) identified that the Delphi technique may also be adapted for use in face-to-face meetings, and is then called mini-Delphi or Estimate-Talk-Estimate (ETE) or as web-based communication technique for interactive decision-making and e-democracy.

3.2.3 Combination of Delphi and scenarios

Scenario planning concerns planning based on the systematic examination of the future by picturing plausible and consistent images thereof. Delphi, in turn, attempts to develop systematically expert opinion consensus concerning future developments and events. Researchers have shown that both approaches are best suited to be combined due to their process similarity.

Kinkel et al. (2006) reported on their experiences with both Delphi-scenarios and scenario-Delphis. They found that the two methodologies can be easily combined since the output of the different phases of the Delphi method can be used as input for the scenario method and vice versa. A combination makes a realization of the benefits of both tools possible. In fact, the authors found that in either case the combination of the methodologies adds significant value to futures projects. Since scenario planning is "information hungry", Delphi research can deliver valuable input for the process. There are various types of information output of Delphi that can be used as input for scenario planning. (Kinkel at al. 2006)

Rikkonen (2005) has thoroughly examined the utilization of Delphi techniques in scenario planning and, concretely, in the construction of scenarios. The author comes to the conclusion that the Delphi technique has instrumental value in providing different alternative futures and for the argumentation of scenarios. It is therefore recommended to use Delphi in order to make the scenarios more profound and to create confidence in scenario planning. Further benefits lie in the simplification of the scenario writing process and the deep understanding of the interrelations between the forecast items and social factors. (Rikkonen, 2005)

3.3. Execution of the study

In this study, an Argument Delphi, which is one kind of Policy Delphi, is used in combination with scenario planning technique to construct alternative future images for the media industry. This practical adaptation was discussed together with Kuusi and considered as the most suited for fitting the non-linear approach with the scope of the study. Since the scenario planning process was combined with the Delphi process, thematic interviews worked as an input for scenario planning and the second round as a development of scenario constructs. Otherwise, the execution followed that the standard four-stage model of the Argument Delphi:

1. Confrontation stage (the choice of issues and topics).
2. Opening stage (finding protagonists and antagonists of each issue).
3. Argumentation stage (protagonists defend their standpoint).
4. Concluding stage (determining whether the standpoint has been defended).
   (Kuusi, 1999 pp. 129)

During the confrontation stage, an initial study was conducted on trends and drivers affecting the media industry. Large amount of data was gathered from existing academic literature, online data sources, and internal research of the case companies. Trends worked as topics and were categorized in issues according to the PEST framework. Before the opening stage, the criteria for the Delfoi-panelists were chosen and panelists were selected with snowball-technique.

In the opening stage, the trends were discussed in the open format with the 10 panelists. Arguments and criticism were gathered, and thus protagonists and antagonists were identified. The special focus was addressed in the probability, likelihood and importance of the arguments. The argument list was updated after each interview. After the first interview round three macro-environmental driving forces were chosen and the main arguments were grouped around them in a systematic manner.

In the second interview round, the scenario constructs were narrated based on the material from the opening stage and the disruptive innovation diffusion theories. Thus, the interviews in an argumentation stage focused on defending the arguments on each scenario. The scenario constructs were further developed according to the feedback after each interview. The special focus was addressed in the timing and potential discontinuities and disruptive impact.

In the concluding stage the scenarios were presented for the research group and for the public in a research seminar. The standpoint was considered defended as no new arguments emerged. Finally, the industry structure and dynamics in each scenario were analyzed according to the life cycle industry framework. Also provocative new media business models for tablets, based on disruptive effects of the scenarios, were designed.

3.3.1 Confrontation Stage

According to Kuusi (1999) the choice of issues and topics are made in this stage in the framework of Argument Delphi. Topics are statements (e.g. future events) which experts evaluate, while issues are classifications including many topics. The stage is usually conducted by interviewing the panelists, but according to Kuusi there are studies where this is bypassed as a relevant list of topics is already available. Generally, the Delphi process may involve from ten to hundreds or even thousands of respondents in the panel. (Kuusi, 1999)

In this research, large amount of secondary data was gathered by actively following discussion and involving research program stakeholders between May and August 2011. Long list of trends and drivers were collected, from academic literature, research material provided by case companies, newspapers and magazines as well as many trusted online sources to find topics for the opening stage. The main focus was to gather trends regarding the state and future of the media industry as a whole, newspaper and magazine products and services in particular as well as the use cases and adoption habits of the tablets. Trends were then systematically grouped into issues according to the PEST framework (i.e. political, economical, social and technological). See Appendix I for the long list of trends..

Selecting the expert panel

Kuusi (1999) argues that the method for selecting the Delphi panel is one of the most critical phases of a Delphi study and that key issues to recognize in using expert views are the competencies of experts and information policies of their organizations. Thus the Delphi facilitator should consider in his or her actor analysis the most important stakeholders, the most important area of expertise as well as the terms of delivering information in a Delphi process. According to Rikkonen (2005) standard stakeholders include decision makers, experts, planners and analysts responsible for the preparation and management of the policy processes. The reason for establishing an expert panel is to get the best possible information as basis for strategy preparation and subsequently strategic decision (see also Loveridge 2002).

In this study the Delphi panel consisted of wide range of media experts, who represented different areas of expertise and interest groups. Three interest groups were identified based on different future horizon and ability to influence. These groups were a) academics, b) business personnel and c) consultants. The areas of expertise were based on background information and discussion with the panelists. After the selection criteria were selected with the research group, the panelists were chosen using a snowball technique (see e.g. Rikkonen 2005). In this technique, the list of names was first gathered from experts based on the selected criteria and then, respondents were asked to identify further experts in their own field to take part in the study. Interest-Competence matrix was used to ensure and revaluate that the relevant substance and stakeholders were involved in the study (see Table 3). All of the panelists allowed their names to be used in this study.

Table 3 Interest-Competence Matrix of the Expert Panel

		Customers	Journalism	Marketing	Technology
A	Marko Turpeinen	(x)			(x)
A	Helene Juhola		(x)	(x)	
B	Johanna Törn-Mangs	(x)	(x)		
B	Anne Koski	(x)		(x)	
B	Petri Karjalainen	(x)			(x)
B	Riitta Pollari		(x)	(x)	
B	Harri Lindfors		(x)		(x)
B	Marja-Leena Tuomola			(x)	(x)
C	Lars Husberg	(x)			(x)
C	Hannu Olkinuora		(x)	(x)	

According to Rikkonen, if the research target is to evaluate the future possibilities of new media products, for example, it is reasonable to suppose that the panel consists mainly of special experts. However, when the target is to evaluate the media industry's development overall taking into account the different driving forces and changes within the media sector, there is more need to include also general media expertise into the panel (Rikkonen, 2005). As the goal of this study was to evaluate several aspects and dimensions of new media industry, the principle of a broader panel selection was adopted. The scope and the schedule of the study did not allow wider panel so the study was conducted with the minimum amount of 10 panelists.

3.3.2 Opening Stage

In the opening stage of an Argument Delphi process the protagonists and the antagonists, i.e. the defenders and challengers of the standpoint, are identified. According to Kuusi (1999, pp. 129) the protagonists undertake the obligation to defend the standpoint at issue, while the antagonists assume the obligation to respond critically to the standpoint and the protagonist's defense. He also notes that, it is critical that the protagonists and antagonists have sufficient common ground (shared background knowledge, values, rules etc.). (Kuusi 1999) According to van Eemeren et al. (1996, pp. 282), it only makes sense to undertake an attempt to eliminate a difference of opinion by means of argumentation, if such a starting point can be established.

In the opening stage the standpoint of each panelist was identified and his or her arguments on the topics were gathered. The long list of topics (i.e. trends and drivers) was sent for the panelists to review before hand and then an anonymous and exploratory thematic interview was held with each panelist as proposed by Kuusi (1999). In this stage, the panelists were asked to provide arguments about the futures considering each topic from especially three perspectives which were a) probable (based on the interviewees' expertise), b) likely (in connection with other trends and typically personal attractions), and c) important (typically from the perspective of the group the interviewee presented). The topic list was updated after each interview and final list can be found in Appendix I.

The role of a researcher

The researcher played a major role in both selecting the data and panelists before the study as well as in executing the study. During the Delphi study, the role of the researcher was that of a 'Delphi manager' (see e.g. Kuusi, 1999). According to Koponen (2010) a Delphi manager has three important roles, which were followed during the study. First, the researcher was an active counterpart in the interviews and not simply asking questions during the Delphi interviews. Thus, the researcher actively challenged the arguments and comments made by the panelists, basing the argumentation on the earlier Delphi interviews. Second, in the role of a Delphi manager, the researcher was solely responsible in organizing and formulating the arguments between the two Delphi interview rounds. This was done with a systematic manner as presented later. And third, the researcher concluded the Delphi study in the form of scenario constructs and presented them public for validation.

Constructing the scenarios

According to Brown (2001) identifying and assessing the macro-environmental driving forces is both the starting point and one of the objectives of the scenario planning method, since they are the elements that move the plot of a scenario that determines the story's outcome. He also notes that the selection of driving forces should be done in a team as they often seem obvious to one and hidden to another. (Brown, 2001) Van der Hejden (1996) has concluded that, at least two scenarios are needed to reflect uncertainty, but more than four has proven organizationally impractical. Thus, in this study three driving forces were selected with a research group to represent a) the continuum, b) the alternative and c) the chaos scenarios. "*Lost-decade*" driver was selected to represent the continuum scenario as economists have forecast that Europe is sliding toward a long period of slow or no growth similar to Japan in the 2000s. "*Virtual entrepreneurship*" driver originates from the future job market research (see e.g. Halava and Pantzar, 2010) and it is represented by the younger generations' consumption habits and social interests. Chaos scenario´s are not common in scenario planning, but due to the current economic instability "*hyper-inflation*" was selected as a third driving force. It is based on an assumption that indebted countries pursue to solve their problems with printing of new money, which historically has lead to high inflation etc. Arguments were systematically categorized regarding the driving forces and Blank's (2010) framework of three market types (see Appendix II). This cross-analysis approach was chosen to provide potential discontinuous and disruptive outcomes for otherwise linear reasoning.

3.3.3 Argumentation Stage

In the argumentation stage, the protagonists are able to defend their standpoint. According to Kuusi (1999 pp. 129) the party that acts as the protagonists methodically defends the standpoint at issue against critical responses of the antagonists, so that, if the antagonist is not yet wholly convinced of all parts of the protagonist's argumentation, he or she elicits new argumentation from the protagonists, and so on. Eemeren et al. (1996, pp. 282) adds that there is no critical discussion if there is no argumentation or no critical appraisal of this argumentation.

At the second interview round of this study, panelists were asked to give comments on those arguments in scenario constructs that conflicted with their earlier responses. The respondents were encouraged to give arguments supporting their view and allowed to change their earlier answers on the basis of the

arguments of the other respondents as proposed by (Kuusi 1999). The special focus of the round was addressed in the timings (based on the interviewees' expertise) and impacts (typically from the perspective of the group the interviewee presented) of the potential discontinuities and disruptive effects. The scenario constructs were updated after each interview and final scenarios are presented in Chapter 4.

3.3.4 Concluding Stage

In the concluding stage of an Argument Delphi process, the protagonists of a standpoint and the antagonists determine whether the protagonists' standpoint has been successfully defended against the critical responses of the antagonists (Kuusi 1999). The critical discussion has not led to a resolution of the difference of opinion if the parties do not agree on the outcome of the discussion (Eemeren et al., 1996). However, if the Delphi method is applied in a disaggregative way, presented by Tapio (2002), the goal of consensus is not adopted but the responses are grouped to several clusters by using cluster analysis as a systematic tool for grouping the core quantitative variables.

In this study, a goal of consensus between the participants was not adopted, so it was conducted in a disaggregative manner presented by Tapio. However, instead of using cluster analysis, three macro-economic drivers as well as disruptive innovation diffusion framework were selected for systematic grouping of the core qualitative variables. A set of alternative long-term media scenarios were then constructed, based on these arguments. The scenarios were later validated by presenting them for the research group and for the public in the Next Media Reading Services seminar Dec 14 2011. The standpoint was considered defended as no new counter arguments emerged.

Analyzing the future scenario

Afterwards the theoretical framework of industry life cycles was applied to analyze the outcome of each scenario from the perspectives of the potential industry structure. According to Osterwalder (2010) scenarios can be useful in guiding the design of the new business models or innovating around existing models. Thus, also provocative new media business models for tablets - based on discontinuous effects of the scenarios - were designed. Since the goal was not to predict the future, but rather to imagine possible futures in concrete detail, the business model designs may sharpen the understanding of current models and of potentially necessary adaptations.

4. Findings

"It is futile to discuss anymore whether digital papers disrupt traditional papers; it is already a historical fact."

-- Jouko Karvinen

In this chapter, the history and the current state of the magazine and newspaper industries are first reviewed to work as a starting point for the futures study. The trends and drivers regarding the media industry are presented as they were concluded from the Delphi process. Similarly, the key trends on a diffusion of tablets and their possible effects on user behavior are summarized. Finally, the narrated scenarios are presented to answer the research questions more profoundly than plain trends categorized in accordance to driving forces.

4.1 Print media industry up to now

As concluded in the Economist (2011) there is a great historical irony at the heart of the current transformation of the news industry; The industry is being reshaped by technology that is in many ways returning the industry to the more vibrant, freewheeling and discursive ways of the pre-industrial era. For example social media, such as blogs, Facebook and Twitter, may seem entirely new, but they echo the ways in which people used to collect, share and exchange information in the past. The mass-media era now looks like a relatively brief and anomalous period that is coming to an end.

Not surprisingly, journalists and conventional news organizations that grew up in the past 170 years are having a lot of trouble adjusting. When one has built the whole career on the assumption that the laws of mass media can be seen as the laws of media in general, it is natural to think that it's only going to be generational change that's going to solve this problem. While the direction and magnitude of the change is difficult to anticipate, actors should have an open mind for alternative and potentially disruptive futures. This study aims to give new insight on those and encourage further discussion.

Short history of media technology

Until the early 19th century there was no technology for spreading news to large numbers of people in a short amount of time. News travelled, along social networks, as people chatted in marketplaces and taverns or exchanged letters with their friends. This phenomenon can be traced back to Roman times, when members of the elite kept each other informed with a torrent of letters, transcriptions of speeches and copies of the acta diurna. Johannes Gutenberg's invention in the 15th century of the printing press meant that many copies of a document could be produced more quickly than before. Martin Luther and his supporters were able to sell more than 6 million religious pamphlets in total, but it still took two weeks for each written piece to spread around Germany as they were carried from one town to another. Although books remained very expensive for at least a century after that and distribution relied on personal connections, this was the origin of the mass media term we use today.

Newspapers developed from about 1612, but it took until the 19th century them to reach a mass-audience directly. The first high-circulation newspapers, such as the Times, arose in London in the early 1800s. They were made possible by the high-speed rotary steam printing presses and the invention of railroads, which allowed large-scale distribution over wide geographical areas. Large numbers of people were reached with unprecedented speed and efficiency, but the control of flow of information was put into the hands of a few. Thus, the increase in circulation led to a decline in feedback and interactivity from the readership, making newspapers a more one-way medium. This trend accelerated with the advent of radio and television at the post-Second World War. The audio-visual facilities became popular, because they provided both information and entertainment (the color and sound engaged the viewers and listeners) and because it was easier for the public to passively watch TV or listen to the radio than to actively read. Ever since in modern media organizations news is gathered by specialists elite and disseminated to a general mass audience along with advertising, which helps to pay for the whole operation.

Toward the end of the 20th century, the utilization of Internet and World Wide Web marked the first era in which most individuals could have a means of exposure on a scale comparable to that of mass media. While the invention of the Internet enabled more cost efficient and faster delivery channel, it also lowered the barriers of entry and made the markets more global. It also changed the one-way medium paradigm of media. Thus, since the blogging tools first became widely available around 1999, news have no longer been gathered exclusively by reporters and turned into a story, but rather emerge from an ecosystem in which journalists, sources, readers and viewers exchange information.

The newspaper and magazine industries today

Although, the underlying behavior has been there for a long time, from the media companies perspective the situation has changed dramatically recently. The financial crisis, which spread from the US to Europe in 2008, changed consumption from traditional to digital media, as it provided a cheaper option. Traditionally newspapers and magazines have relied on revenues from three sources: newsstand sales, subscription fees, and advertising. The first two are rapidly declining and the third is not increasing quickly enough (see Figure 10). Though many newspapers have increased online readership, they´ve failed to achieve correspondingly greater advertising or user revenues. Meanwhile, the high fixed costs that guarantee good journalism – news gathering and editorial teams – have remained almost unchanged. Like newspapers, magazines have been in a steady slide, but now, like newspapers, they seem to have reached the edge of the cliff. Mass media incumbents, that are losing their business model, are having a hard time finding new sustainable market activities.

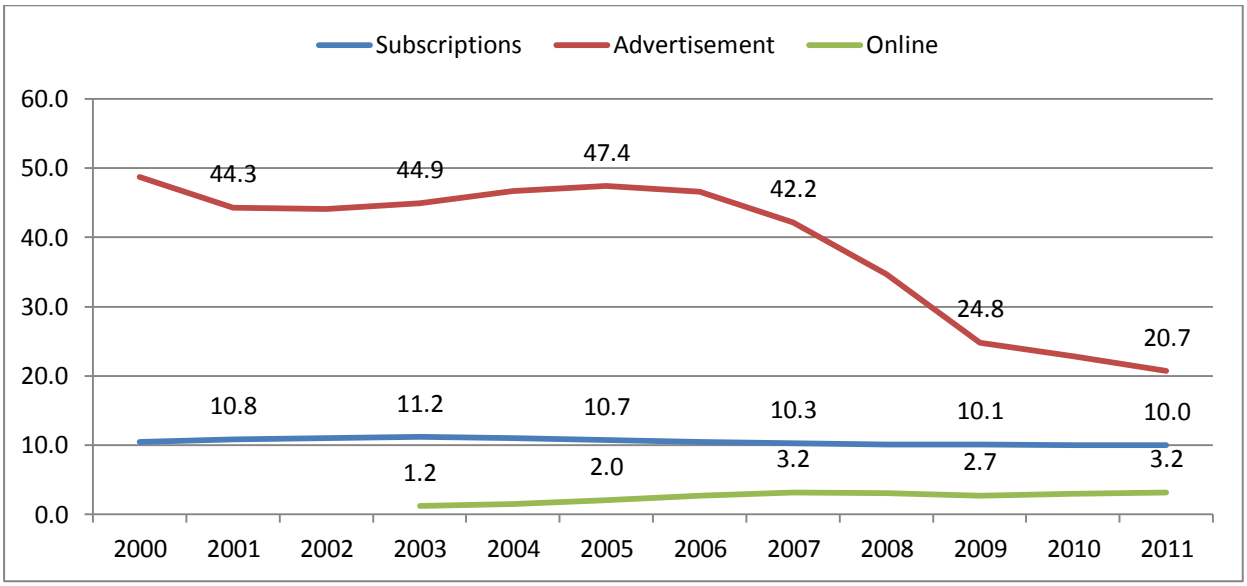

Figure 10 Newspaper earnings in US, billion $ (NAA, 2011)

In Finland the change has so far not been as dramatic. During the economic downturn in 2008 and 2009 advertisement spending decreased 22 % in newspapers and 23 % in magazines, but the decrease in subscriptions was moderate. According to the ministry of transport and communications (Idean, 2011) this is mainly a result of the exceptional feature of the Finnish market in which there is a large share of subscribers both in newspapers and magazines, while in many other countries, the vast majority of papers are bought copies. However, this is expected to change since the diversity of terminals and devices in consumers' everyday life is increasing and the significance of mobility is emphasized.

4.2 Key trends altering the value chain

Huge proportions of a traditional media's assets are tied up in its printing plant. Plants are so large and demanding that the whole business revolves around them: Print runs at night to make deliveries in the morning, which makes writers, editors and advertisers march according to manufacturing operation. Costs of manufacturing have been slightly offset by better technology and distributed printing, but the print itself has soared in price. The print-based newspaper industry has suffered much more, since the "print" plays a far larger role in it, than for print-based books or magazines. Especially local newspapers, such as The Times-Picayune of New Orleans and The Calgary Herald, have cut back their print schedule to just three days a week or eliminated their Sunday editions. By cutting back on print publishing, newspaper executives are betting they can wean loyal customers and advertisers from their daily print newspaper habit, while at the same time driving them to their own Web site (Haughney, 2012).

The scarcity of the means of distribution (e.g. ownership of newspaper distribution infrastructure or ownership of a spectrum broadcasting license) has enabled owners of those resources to command a premium from advertisers and consumers, but now the technology developments are transforming the industry from the era of scarcity to the era of abundance (Idean, 2011). This leads the industry to evolve towards a more horizontal structure, where owners of rights sell the rights to media players, who operate with multi-platform functions and distribute the services for different channels. According to Gower and Constance (2001) this kind of change usually have the following results: supplier power increases as niche competitors provide incentives for firms to give up pieces of production, higher dimensional complexity limits the economies of scale and the pressure to disintegrate the product increases.

To sum up, production, distribution and consumption of media are under radical transformation as the digitalization causes a shift towards co-creation, interactivity and independency of time and place (Next Media, 2011). The trends, formed as arguments, are categorized according to these value chain changes and presented in cursive. Furthermore, they are indexed as they were concluded in the background study and the Delphi process. "P" stands for political, "E" for economical, "S" for social and "T" for technological trends. A complete list of trends can be found in Appendix I.

Change in content creation

The amount of data is rapidly increasing and it is becoming ever more open. Estimates point the data to more than double every two years (IBM, 2012). It's not just more streams of data, but entirely new ones e.g. climate sensors, social media posts, picture and video uploads, purchase transaction records, and cell phone signals. Data is also open and available, for example the U.S. Government launched Data.gov to increase public access to high value, machine readable datasets. Thus, *the combination of data deluge and clever algorithms open new doors for business* (T8). These are available for *freelance journalists* and *data scientists to pursue* (P6), whether they work, in newsrooms, Wall Street or Silicon Valley.

The shift of the tools of production to the audience has affected the content as well. News get more diverse as volunteers, such as amateurs, bloggers, citizen journalists etc. are doing much of the writing, editing and producing with no direct or substantial pay (Economist, 2011). At the same time, fierce competition and profit demand force the press to move toward sensationalism and entertainment, and away from relevance, depth, and quality of interpretation. Especially *young generations prefer news that are more opinionated, rumored and partisan (S4)* than they used to be in the time before printing press.

Change in content aggregation

All the objects (opinion, news, lifestyle etc.) contained in a newspaper could be offered independently of one-another in the web. This is because the technology of the printing press benefits the integration of content, while the technology of the web benefits the disintegration. As traditional media companies adapt their Internet "first strategies", the Web sites have improved in general, but they have also lost columns, features and investigative pieces (Haughney, 2012). Similarly as in the music industry the bundling into albums has changed to unbundling into digital downloads. Thus, *news is increasingly unbundled to small chunks and consumed on-demand* (S2).

At the same time old boundaries between media formats have blurred. For example traditional newspaper has TV-like content and TV producer provides newspaper-like content in the web. Old terms, such as newspaper and television, do not describe the characteristics in the web anymore. Thus, everything that can be mashed together will be. For example a Showtime series will be a cable series, an on-demand product, an app and a community and shows could be accompanied by comments from friends on the bottom of the flat-screen (Carr, 2011). This makes *the media and communications industries to converge towards each other* (S9).

Change in content distribution

Internet made it quick and easy for anyone to share links with large numbers of people without the involvement of a traditional media organization and people are now collectively acting as a broadcast network. Although serving high levels of web traffic to various platforms has still been expensive, the rise of peer-to-peer, cloud computing and *HTML5 technologies are making the cost of distribution manageable* (T3). Internet has also fragmented the distribution of content and *the long tail effect will spread the time consumers spend on different channels* (S1). Services like YouTube and Facebook are in their own realm in terms of users. Also in Finland where the combined circulation of three largest newspapers (Helsingin Sanomat, Ilta-Sanomat and Aamulehti) accounted for one third of combined circulation of top 50 newspapers, the combined reach of the top 3 internet news sites (Iltalehti, Ilta-Sanomat and Helsingin Sanomat) account for two-thirds similarly (Idean, 2011).

Appstores have grown recently and rapidly to important market places for applications (i.e. small computer software designed to help the user to perform specific tasks). The app market is already worth around $3,5 billion and downloads from e.g. Apple AppStore are doubling each year (BI Intelligence, 2012). Despite that the mobile content market was born in Finland in the 1990s and reached their peak of 76 M€ in 2006, the Appstore market is only 2 M€ (Idean, 2011). So far, Appstores have been most significant for game developers who used to get only 10 % from sales, and are now able to get 70 %. Among media content providers the attitude towards Apple's 30 % revenue share varies since they are keen to get as big a reach as possible, while not sharing small subscription revenues. Other big issue seems to be that, Apple for example, has a strict customer information policy. This has made e.g. The Financial Times take their application away from the AppStore and to *build their own HTML5-based mobile site* (P9). It is expected in the end that *increasing competition between content delivery platforms will end the closed appstores* (T2) similarly as with earlier technologies, e.g. PC´s.

As a vast amount of information, imagery, and commentary (i.e. content) has been made available, it is often difficult to determine its reliability in the web pages (in many cases, self-published). Thus, social media have both done away with editors and shown the need for them. There also needs to be someone who makes sense of all the data through narrative and context. The process is known as "curation". *A growing number of tools are available to make the data accessible for citizens* (T4): Siri and Google Now show the potential for personalized agents while Watson and Wolfram Alpha can give smart answers, either through curated reasoning or smart guesses (O´Reilly, 2012). In addition to that, new communities open in which *magazines like content is consumed with authors and like-minded readers* (S3). This is

demonstrated by the astonishing rise of non-profit organizations of the Huffington Post, WikiLeaks and millions of blogs similar to Jatkoaika.com in Finland. If searching for news was the most important development of the past decade, sharing news may be among the most important of the next (the Economist, 2011).

Change in content consumption

Commercializing online content has been challenging for all online providers. Due to the Internet the availability of news, television content, radio programs, music and games are almost unlimited and so the value of content has decreased (Idean, 2011). With the recent economic crisis people got even more into controlling discretionary spending and became more price-conscious. Many consider that *people already take extremely cheap or free online content for granted (E1), while others blame the lack of easy and safe online payment systems (T9).* The exceptions are Wall Street Journal and Financial Times who have managed to get a larger share online with their paywalls. Especially Times Corp. found out that even though their online advertising growth is staggering, the consumer paid content is steadily increasing (Coscarelli, 2012). Consumers are willing to pay more from morning news paper for example than was expected, since *it offers entertaining experience or adds his or her personal value* (E2).

Since the rapid growth in the amount and the use of smart phones, consumption has also changed toward mobile. Instead of picking up a newspaper, or watching the 10 o'clock news, people can log onto the internet to get the news they want, when they want it. According to Idean (2011) the three biggest mobile news sites in Finland broke into the top 10 online newspaper sites in less than a year at the summer of 2011. *Unsatisfied needs from hyper-local and localized content (effectiveness = timely x closeness) are expected to turn into new business* (S6) as this trend grows. Furthermore, younger generations are considered more critical towards old brands and authorities in general. People do not trust journalists anymore and insist on better *access behind stories and analysis ('media criticism')* (S5). Also the *old product and company brands may not be credible or attractive on the Internet anymore* (P3).

Change in advertisement

For decades, the rule among newspapers in the U.S. was that 80 % of revenue came from advertising and 20 % from circulation. Europe has traditionally been less ad-heavy as 25 - 40 % of revenues derived from circulation depending on the region and the market. Now as public attention steadily moves online, advertising budgets follow and marketers are adapting to the new channel. While traditional media had a restricted space for advertising, such restrictions do not occur in the Internet and the prices paid for online advertising are low. Due to many sites offering advertising and nearly infinite inventory, markets continue fragmenting (Idean, 2011). *About 75 % of all online advertising goes to the top 10 sites and Google, Facebook, Microsoft, and Yahoo account for 60 % (E4)*. Digital advertising is expected to produce some revenue, but it will never support quality journalism. Especially *local media companies cannot sustainably operate with a pay-per-click business model* (E6). Print media incumbents look for hope, similar to music and movie industries, from *property right legislation* (P8). However, this strategy has not worked before and is unlikely to put an end to the new solutions this time either.

At the same time advertising is becoming more global and less dependent on media incumbents. The power balance has been affected inside the industry by device manufacturers, software developers, and online services, which enable direct customer contacts to users (Idean, 2011). Consumer brands are building capabilities in eCommerce, search engine optimization and social media to reach their clients directly. Thus, also *advertisers have started to make their own content* (P5). For example Red Bull has already a wide range of content available for free on their website. This is part of a wider trend in which traditional outbound techniques – including direct mail, print advertising and telemarketing – are becoming less effective (HubSpot, 2012). As a result, the *budget for traditional awareness building may decrease even 60 %* (E5), but *promotional content will create new opportunities* (E9) as businesses transform their marketing efforts to focus more on helping out customers to find them. Furthermore, *advanced customer databases will decrease also the need of traditional interruption marketing* (T7).

On the other hand we may see the constant growth of advertisement budgets as new services and business models enter the market. Google's search engine advertising has already changed the global advertising markets, while Craigslist has disrupted the classified ads business in the U.S. Most recently Groupon, who combines advertising with social shopping experience, has reached a turnover of $300 million in just two years. It is yet uncertain, how Groupon affects the traditional coupon business, but these *provision-based earning models should create new opportunities* (E8).

4.3 Trends relating to the diffusion of tablets

Tablet computers are one of the fastest spreading new technologies ever introduced. Their portability and enhanced interface have spurred an immediate public following. Thus, they have quickly emerged as a distinct fourth digital screen in consumers' lives filling the gap between desktops and smart phones (see Figure 11). What is peculiar is that people over the age of 45 account for almost 40 % of tablet users (Nielsen, 2011). For an older generation, computers are probably too filled with features and a simpler interface enables a better computing experience. At the same time, tablets are quickly becoming the top platform for consuming news and magazines content as well as the means to expand to new sources and to new ways of consuming.

Figure 11 New category of comfortable computing devices (Kienhuis, 2011)

A tablet computer is a mobile computer integrated into a flat screen and primarily operated by touching. Early examples of the concept originated in the 60s, prominently Alan Kay's Dynabook. First commercial portable devices appeared at the end of the 20th century. During the 2000s Microsoft introduced Tablet PC for a niche market at hospitals and outdoor businesses. Even though tablet had the support of top management and cost hundreds of millions to develop, it was essentially sabotaged by Microsoft´s dominant Office business (Brass, 2010). In 2010, Apple released the iPad, which used touch screen technology similar to that used in their iPhone and became the first to achieve worldwide commercial success. Despite many competitors´ attempts, iPad has remained the dominant tablet in the market, with a market share of 52 % (PEW, 2012).

Diffusion rates and adoption process

Tablets are expected to see an explosion in sales over the next years. Gartner (2012) expects worldwide tablet sales to total almost 120 million units in 2012, which is a 98 % increase from last year. In 2016 the total market is expected to reach almost 370 million (Gartner, 2012) and cover 34,3 % of the population in the U.S. and 30,4 % in Europe (Forrester, 2012). In Finland market penetration is still relatively small. According to Idean (2011) there were 97 thousand tablets in 2011 covering 4 % of the population, but the penetration will reach 40 % in 2015 (see Figure 12). Low rates may arise from the fact that manufacturers wait for their launch in Finland and that new services have been mainly for marketing purposes. Furthermore, tablets are still considered expensive, even though e.g. iPad's average selling price has already fallen from $650 to $550 (Business Insider, 2012), *the $100 priced gadgets are expected to disrupt laptop sales and the print media business finally* (T1).

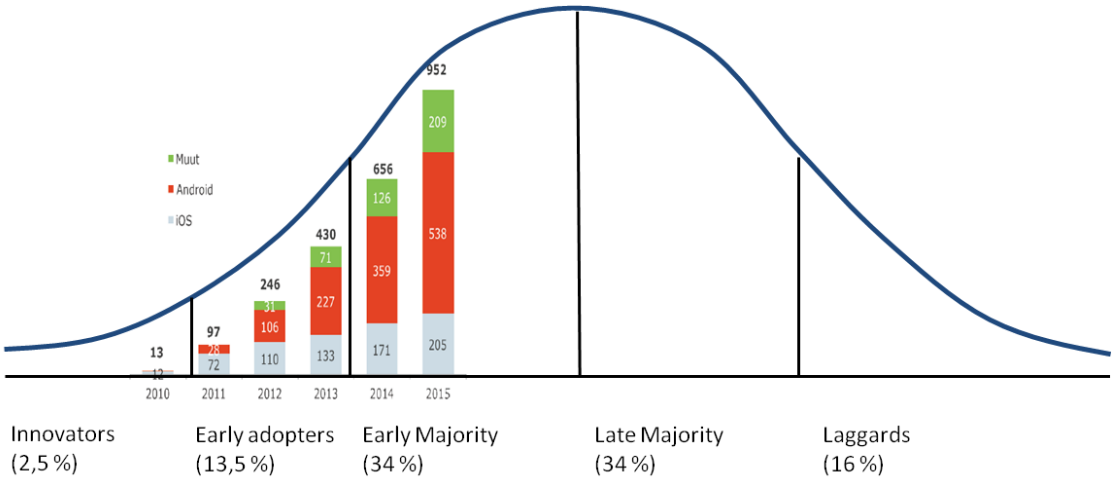

Figure 12 Tablets Penetration in Finland (Idean, 2011; Adapted to Rogers 1962)

Applying iPads to Rogers (1962) adoption model it is easy to see why they have succeeded in the process. Relative advantage is reasonable, since compared to smart phones it has a user-friendlier big screen and compared to laptops it offers a more intuitive touch user interface. For early adopters it also gives social prestige, since Apple products are hip to carry around in subways, offices and schools. It is compatible with existing values and practices since activities remain mostly the same. Also iTunes and Appstore have increased the utility value of the device drastically. Most importantly, iPads are simple and easy to use and stand always ready for duty, which increases the time of use. For those who avoided PCs because the keyboard or mouse interfaces were difficult to use, tablets are an opportunity to re-engage with the Internet. The iPad is also a closed system and shares little risks. Observable results are personal, but people report to conduct communicative task on the way and enjoy them more.

Change in media consumption habits

Since the most frequent tablet activities at present are checking email, getting news, playing games and social networking (PEW, 2012), tablets are mainly considered to be used for personal fun and relaxation. Thus also *news and magazines products are seen to evolve towards entertainment* (P10). Besides the mobility of tablets, few consumers take their tablets with them when they leave the house (Gove and Webb, 2011). While smart phones go everywhere and laptops travel between work and home, consumers take their tablets mainly on vacation or work trips. Tablets are, however, mobile within the home, with the highest usage taking place on the couch, from the bed and in the kitchen (see Figure 13).

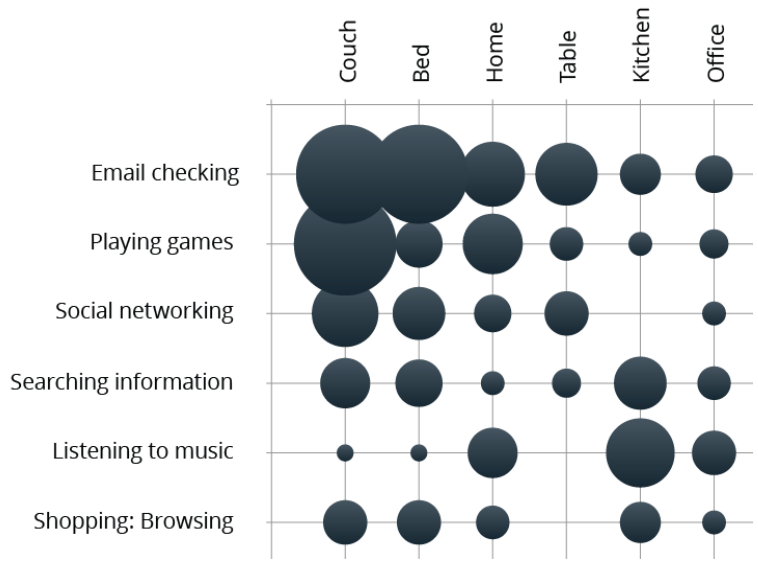

Figure 13 Frequency of top tablet activities by location (Gove and Webb, 2011)

Even though mobile internet usage grows very rapidly, the mobile advertising market in Finland is only 17 M€ and grows at an annual rate of 10 % (Idean, 2012). This is mainly due to the fact that there is limited space for banners in smart phones and mobile is expected to work better for a customer communication channel than a media channel. However, the *mobile ads market is expected to grow to take 1/3 of all advertisement budgets* (E10). One solution for this could be if *users would ease on privacy issues letting marketers and developers to utilize the data* (P4). This is unlikely to open up new business for media however, since *information needs to be integrated to customer processes* (E7). Tablets are also increasingly used also for online shopping and pre-sales activities such as product reviews, checking prices, checking inventories, sharing product recommendations etc. (Yoegel. 2011).

Tablets are already the preferred platform for both checking news headlines and reading longer articles. For reading longer articles tablets have a satisfaction rate of 55 % compared to 22 % for print (PEW, 2011), and *tablets are expected to bounce back the demand for long professional stories* (S7). Even though, 59 % say that the tablet replaces what they used to get from a print newspaper or magazine (PEW, 2011), only 27 % say that subscriptions replace print subscriptions (PEW, 2012). Thus people spend more time with the news and also add new digital subscriptions since getting tablets. Furthermore readers' daily news cycle is changing. Studies show that in the morning readers want bite-size headlines and news flashes, in the afternoon, they are often at a desktop computer and want to grab a slide show or video, and at night they have time to engage in a deeper article (Coscarelli, 2012). Furthermore, at night, iPad´s are used more for news than during other times of day with any other electronic device (Kienhuis 2011). This c*ontext awareness (i.e. knowledge on location, personalization, timely) is expected to open up new business opportunities for media operators* (E3) as new *applications build on augmented reality or semantic web target the content more precisely* (T10).

Besides immersive reading experience, touch interface may bring the paradigm shift similar to that mouse and graphical interface did. While text interface for keyboard focused on content creation, graphical interface and mouse turned it on communication, and now touch interface changes the usage again into consumption and sharing (Morgan Stanley, 2010). *Rapidly increasing video consumption is already deemed to disrupt the written media content* (S8), but tablets may also enhance the convergence of all content types such as video, visuals, audio and texts or even *enable new dominant designs to emerge such as media games* (T5). Due to high levels of participation, new innovations spread fast. Also new technologies are developed and thus *tablets will enable cost-efficient testing of new solutions, such as living stories, and utility apps* (T6). Touch interface may also been seen merely as a middle step in the process toward more advanced user interfaces. There are already some solutions built on Google's voice recognition or Microsoft Kinects' kinesis interface. And even brain–computer interfaces (BCI) are developed to assist, augment, or repair human cognitive or sensory-motor functions. These solutions will enhance the media immersion even further.

Emerging products and services

There are new product and service, operation and business model opportunities emerging along the diffusion of tablets. In this study, emerging opportunities are categorized according to Blank's (2010) framework of three market types and used as a systematic tool for constructing the scenarios.

In the *Existing Market*, tablet solutions offer higher performance for news and magazines compared to earlier products and changes the media use only a little. Compared to internet tablets offer better use-experience, while compared to papers they enable more features, such as hyper-text, gamification, multimedia etc. In this category are the print paper replicas, which resemble how the first TV shows emerged as radio shows with visual aspect. Publishers also explore new ways to expand beyond digital replicas with e.g. context extensions that extend the content across multiple platforms and special issues that are theme-based collections of deep archives or buyers' guides.

Re-Segmented Market looks for consumer (or advertisers) in current market with alternative value proposition. In *a low-cost re-segmentation* market accepts worse performance, such as crowd-made content, if the price is substantially cheaper. Likely winners for these solutions are the old aggregators, such as Google, Facebook and Twitter. New aggregators in tablet medium, such as Instapaper, Pulse, Flipboard and Zite, gather content from user's personal network and/or through algorithms that base on reading behavior and package them in magazine format. So far, publishers have targeted this segment with their free online editions. For example, The Atlantic has pulled RSS feeds from their website into a packaged app that delivers breaking news, videos, or blog content to mobile users. In *a niche re-segmentation* some customers are willing to pay more for greater performance addressed to specific needs. For example utility apps help a user to accomplish a task, be it shopping, cooking, traveling, working out or virtually any other daily activity. One way to preserve the concept of narrative, long-form journalism with fresh packaging has had positive results is a single. For example ProPublica has published a series of articles as Kindle Singles, and the early returns are positive.

Fresh solutions that provide something customers could not even imagine doing before, build total *New Market*. These solutions generally solve availability, convenience, skill or location issues in unexpected ways and may evolve around augmented reality services, semantic web and big data solutions, virtual gaming etc. For example companies like Foursquare and Gowalla, which combine geo-location with social gaming, are seen highly addictive and have a potential, despite missing the sustainable earning model still. New breakthroughs in computer-assisted reporting (CAR) may also open up new use cases as

rendering the data in real-time, validating data in the real world or improving news coverage with data becomes daily routine.

For identifying potential new media use-cases on tablets, Christensen´s (2003) "*job-to-be-done*" approach was used in the Delphi process (see Table 4). This framework is useful for understanding the re-birth of the container of the newspaper and magazine in the tablet medium, since it will require a re-integration of the product. These tasks people hire solution for may be the sources of disruptive innovations.

Table 4 Disintegration of tablet media use-cases

Job-to-be-done	Current media activities	Economic driver	Technology driver	Competitive tablet activities
1. Staying current	Fresh notes and news, browsing headlines	Viewing ads and subscription payments get optional	Many sources, cross-device solutions and personalization	Media apps that base on social or algorithm aggregation etc.
2. Following surroundings	Local news and bulletins	(Local) ads are preferred	Mobile usage and augmented reality solutions	Social media solutions with tags etc.
3. Relaxation and self-education	News analysis, tutorials, in-depth articles and stories	Ads are denied	Nicer experience by touching, interactive gaming and videos	Mobile use of online videos and augmented reality apps, etc.
4. Entertainment & spending time	Browsing headlines, gossips, comics and crosswords	Ads are optional	Tablets with nicer user interface	Mobile use of online videos and gaming apps, etc.
5. Inspirations for spare time	Exhibition and event listings	More targeted ads and discounts are preferred	Cross-platform solutions, service provider content	Service provider apps, social media solutions, etc.
6. Practicing hobbies	Comparisons, ratings, interviews, etc.	Ads are optional	Cross-platform solutions, mobile and big data	Performance statistics, social practicing etc.
7. Shopping ideas and discounts	Advertisements and comparisons	Context based ads are preferred	Mobile shopping, ratings & other communal tools	Coupons, location-based discounts, manufacture apps, etc.
8. Participation and social appreciation	Opinions and comments	Payments from reliable knowledge	Increasing interaction, big data	Location-based activities, managing virtual identities, etc.

4.4 Future scenarios for media industry in 2020

There are many cases where incumbents reacted slowly to technological change, and won. However, in the situation of disruption, it does not work. Unlike a sustaining technological shift, the new medium of the web did not permit the same business models to continue. It is worth considering, that the situation now is alike. New vision for media industry was created in Next Media (2011) research program to provide industrial guidance for the Finnish media sector as well as to provide clear recommendations on media related research (Next Media, 2011):

> *"By 2020 customer needs and networks are well understood and exploited. Media explores the playful society through assimilating gaming logics into a wide media spectrum. New earning sources are identified and business logics are developed. The local media hubs are enabled to proceed to a multi-locality way of influencing. Thus media is able to produce massively customized quality content. The whole media ecosystem meets or exceeds international excellence criteria. This means that excellence is being demanded throughout the whole media supply chain."*

Media Vision 2020 was based on the Media Scenarios 2020 (Next Media, 2010) report, which offered the insight of 38 independent professionals. As these scenarios mainly focused on changing media consumption, this study was designed to construct alternative, but together coherent scenarios regarding the transformation of the industry itself. As the vision sets the target to which media industry could develop into, the scenarios describe alternative set of occurrences by which the vision may be obtained.

The scenarios were constructed by cross-analyzing the trends regarding the emerging market types with the trends regarding the particular driving force (see Appendix II). Narrated scenarios systematically covers the effects of the macro driver, diffusion of tablets, discontinuity factor and changes in customer behavior. They will thus provide three alternative answers for the two research questions; 1) *How could the diffusion of disruptive innovation (tablet) affect the news and magazines industry* and 2) w*hat kind of new media business opportunities could emerge (and when)?* Scenarios are presented in the following chapter as they were concluded in the Delphi process.

4.4.1 Continuum scenario: "Long decade of boringness"

Aggregation through tablets become the new mass media

Slow economic growth maintains the marketing budgets in total, but continues to shift them from print to digital at an annual rate of 5 %. Similarly the public is spending more time online and finding less reason to pay increased print costs (due to smaller circulations and increased VAT). Media companies react with digitalizing traditional papers and re-packaging existing content. The strategy will not work for small brands, however, and many papers are either shut down or sold to bigger players. Yellow press and local magazines adapt to the change better due to their free cost and sustaining demand.

Tablets priced to 100 €, such as Kindle, will attract the majority and reach the penetration of 40 % in 2016. The strongest media product brands are able to keep their readers by operating efficiently across many channels with HTML5 - but not paying subscribers. Economically strong aggregators such as Google and Facebook develop their platforms more suitable for tablet and new user segments, and become the primary source for news and magazines content. They will become the new mass medium. Media companies claim the war on IPR-rights, but lose similar to record companies as new tools for free downloads are constantly developed.

Local networks and activities builds the identity and drives the passion

Persisting economic stagnation and advanced metrics forces digital marketing budgets to shift from image branding to transaction-based target marketing. Companies have invested heavily on their own channels and customer databases and ecommerce is finally paying off, especially from mobile devices. Traditional media brands have little to offer for acquiring new customers so they pursue to add value for their niche consumer segments.

Due to troubled times, people turn more to local issues and amuse themselves by creating and sharing content. Global news become more like entertainment that are consumed on-demand in small chunks through social networks or other aggregators, who offer personalized access, to wide selection with low cost. Activism, shared interests and personal identity drive the media consumed by local and other communities. Curators, who make sense of all the data are opinion leaders found in each of the communities. Also marketers will find new opportunities from activating and serving their customers through these communities.

4.4.2 Alternative scenario: "The rise of virtual super stars"

Increased online activity enhances transparency and democracy

Public dissatisfaction towards traditional institutions, policy making and liberal economic attitude, encourages people to initiate critical discussions and participate in investigative journalism. Since public becomes more critical toward authorities and make on effort to reveal facts, the world is forced toward knowledge transparency. Due to increased online activity, democracy becomes more direct and Internet develops into a policy making system where the most popular opinion is the truth. Thus, mass media loses its position as a governing force of nations (similarly as it originally got it from the church).

Social apps help the tablets to spread faster than expected and market saturation of 40 % is reached in 2014. Also TV´s and PC´s that have touch interfaces are quickly adopted and device categories start to merge. Since the social participation flourishes, online activity becomes a tool for gaining power and status, and traditional media becomes rapidly outdated. There is a growing demand also for investigative journalism made by scientists, journalists and other professionals, and open platforms like Wikileaks sustain.

Entrepreneurship as idealized social norm consolidates the media industry

As one billion more entrepreneurship-minded people from the developing world connect to the internet with their mobile devices in 2015, a new profession of virtual entrepreneurs emerges. Journalism is affected by this trend and an independent breed of virtual journalists is born. Virtual identities compete and collaborate with each other, and the most effective way to stand out is by publishing information first and differentiation. Thus public is influenced by these individuals, and media and marketing practices are focused to make virtual identities more appealing and trustworthy by professional storytelling. Talented storytellers become the new rock stars.

Open online stores enable entrepreneurs to create and deliver their very cheap or free innovative solutions efficiently. These media solutions emerge on social gaming, augmented reality and personal assistance and they utilize open data and unique features of tablets. Some of these solutions quickly become global success stories through fast spreading of information and use experiences. However, since technologies spread fast and also the lifetime of tablets, as we know them, remains short. Gadgets with more advanced user interface diffuse to media industry.

4.4.3 Chaos scenario: "The bright old future"

Economic crisis consolidates the traditional media industry

USA and Europe are forced to tackle their massive public debts by printing new money. People will not trust to have their assets in local currencies anymore and hyper-inflation occurs. Marketing activities are cut almost overnight and 2014 is remembered as a year when many media businesses went bankrupt. People seek strong authority among old reliable brands and established institutions, which leads to concentration in the media industry; Only the strongest companies and those backed up with public money are to survive through legislations, illegal attempts and business overall.

People reduce their expenses as much as possible and only cheap media, such as TV, radio and free press sustains. Expenses are also cut from information technology, which stops the diffusion of tablets and smart phones as well as reduces mobile internet usage. Populism is breeding due to the need of making complex things simple and the amount of cheap entertainment is rising, since the public wants to turn away from depressive issues. Open internet, as well as aggregators, emerges to cover a lot of data with little reliability so that public prefer their local activities and regard online as unsafe.

Digital media industry emerges to build cultural capital

As the situation turns politically tense, nations begin to promote their interests through different media channels. Governments become anxious of growing activism on the internet and lack of control on it, so they start to monitor the data and tighten up privacy issues. However, public gets concerned with the high influence of the media monopolies so that strong authorities are able to gather likeminded people in darknets and other closed communities across old national or organizational boundaries.

The main technological evolution has focused on military purposes for the past years and there have been advancements in surveillance and information security. Due to high amount of illegal activities, mobile security and strong authenticity is the base for new media services. When the crisis finally withers away at the end of 2020´s, old national boundaries become restructured and people look for to build cultural capital. There also is a whole generation looking for a fit to society and new media solutions targeted for self-education emerge to satisfy their needs. The elite are able to pay from truthful information in the middle of populism and propaganda and the strong media companies are able to put up their pay walls. There remains a strong polarization between ad-funded mass solutions and subscription based high-end solutions.

5. Discussion

"We see actually that the professional press has a nose for what a story will be—the general public becomes involved once there is a story, and then can come forward and help mine the material."

-- Julian Assange

In this chapter, the implications of the research questions are presented. Three scenarios are analyzed according to industry life cycle framework to give insight for alternative development patterns for the media industry structure. Furthermore, potential disruptive effects are used as a basis for provocative new business opportunities to encourage new discussion.

5.1 Theoretical implications: Industry structure analysis

At times of high market uncertainty and diffusion of new technologies, the future of the news and magazines industry is very ambiguous. To evaluate the relevance of current development projects and targets, it is useful to discuss how the industry structure could look different in each scenario. Three scenarios describe the possible development paths for the industry that are discontinuous by nature.

Case companies had several questions regarding the industry structure: How tablets may change consumption habits? Who will have the most influence on the public? Is there room for local businesses or will the market become purely global? Which kind of business models will be relevant? Is there just a dominant business model, or will there be many competing simultaneously? Which other industries will have an impact on the media industry? Since the 1st research question was stated quite generically: *How could the diffusion of disruptive innovation (tablet) affect the news and magazines industry,* the implications cover the answers regarding the industry structures more specifically.

After constructing the three scenarios in the Delphi-process, they were analyzed according to industry life cycle theory. Osterwalder's (2010) (see Appendix IV – VI) and McGahan´s (2004) frameworks were used to systematically describe the alternative options for Finnish newspaper and magazines industry structures. Following chapter highlight some of the implications of each scenario.

5.1.1 Implications of Continuum scenario

In the time of slow economic growth only ecommerce and entertainment is booming.

Tablet penetration grows as expected providing cheap distribution channel for media companies and new collaboration and communication solutions for consumers. Mobile commerce and purchasing power of consumers rise to the next level as new tablet solutions enable social purchasing and immersive shopping experience. Fast growing amount of data is simplified and made more entertaining to consume through videos, pictures and games. Outsourced marketing or media activities become less popular as use and location data and public made content gives a more holistic insight on purchasing behavior. Thus, manufacturers and retailers are able to efficiently reach consumers directly and achieve immediate sales with smart customer databases. Companies start to invest in entertaining content to encourage positive reviews and activate their customers.

Public urges for cheap global information and services, while trusts only their local networks.

As the economy stays turbulent, the public becomes aware of new influence and old product brands, such as YLE Areena, Iltalehti and Helsingin Sanomat sustain as trustworthy media platforms also on the Internet. However, their influence on political issues or purchasing decisions collapses as people have access to global and peer-to-peer information through aggregators. Google, Facebook and smaller aggregators become the platforms of making use of consumer made content and personal data, and earn majority shares of time consumption. Thus, entertainment, information and commerce are increasingly consumed online, and become ever more global. Since internet is full of amusing stuff, but physical encounters are necessary for trust, people will enhance their reality with virtual add-ons.

People build their identity through local activities, but need someone to make sense of all the data.

People are ever increasingly active in creating content, but it is mainly for their own amusement and pursue of attention. As most content will be produced free by consumers, media companies begin to outsource their newsgathering and cooperate with each other. Five competing reporters covering the same routine is simply inefficient. C*ommunity journalism* process is expected to correct the flaws of the important political and economical issues and force societal change, but in practice only few issues are discussed in public and most of them fall under the noise. Thus, the community curators who are able to activate the discussion and influence the public become the most admired professionals.

MNE´s are a solution for entertainment, information and commerce, while SME's deal the local needs.

Since advertising remains economies of scale type of business and most customers are reluctant to pay for content, small players have little to build on. Aggregation businesses - which are built on long-tail and

mass-personalization - flourish, since public looks for content matching their personal interests. Besides global platforms, local newspapers and metro daily's are in a good position for taking this strategy since their free business model, higher cost per-reader basis and increased local participation. Demand for collectivism grows as well since global issues feel remote in bad economic times. Local SME´s appeal as sustainable providers to satisfy these needs for example by engaging audience around their favorite sports teams. This multi-platform business model enables to earn from consumer paid content and freemium service, as consumers produced content is cost efficiently facilitated by the journalists.

Slow economy and aggregating solutions disrupts traditional mass media industry.

Marketers look to cut expenses that seem irrelevant for achieving immediate sales and news aggregators steadily win market from the old channels with their low-cost targeted ads. Once established at the market's low end, the disruptors—by producing low-cost, personalized and original content—move into the space previously held by the incumbents. Thus, the core activities of news companies get threatened and the industry goes through *intermediating change*. At first, incumbents look to disintegrate their content and outsource content production, but during the period of coexistence, new opportunities for value creation emerge also in traditional media (see e.g. McGahan, 2004) from location-targeted ads, personalized services, selling user information etc. However, the old industry is disrupted in the end as the source of information becomes irrelevant and websites are evaluated based on their user-base and amount of issues in a category (see Figure 14).

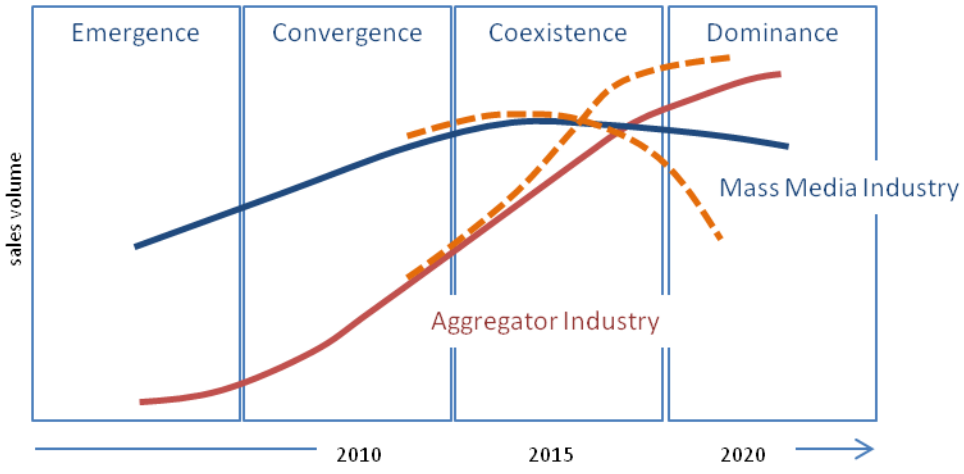

Figure 14 Tablet aggregators disrupts the traditional newspapers

5.1.2 Implications of Alternative scenario

Social production is privilege of everyone; Social apps satisfy the scattered media needs

Thanks to flourishing online activity and social utility apps; tablet penetration reaches 40 % already in 2014. At the same time, mobile overtakes desktops in internet usage and media consumption becomes heavily scattered by time, location and personal interests. Tablet media apps drive the evolution on how content evolves to more appealing form than plain text - content is designed to be touched, tapped, stroked, fingered, and pinched. However, next generation solutions are already evolving after 2016 along with fast diffusion process, and embedded voice and kinetic user interfaces are applied for new media services. Social production becomes the new engine of growth.

As the public is mainly influenced by the public, advertising gets transformed.

Since the online communications gets to the new level, finding new solutions becomes easy, the public does not find the image marketers give of themselves credible anymore, and purchasing decisions are mainly based on social recommendations and popularity. Alas, marketing efforts turn out to look more for utility (or fun), rather than building brand images and tactical ads. Brand image still makes complex choices simple, but it is based on earned media. Thus advertising is not anymore based on economies-of-scale, and even the small players are interested in developing their social images through entertaining videos, games etc. By the means of media, companies start to collaborate with their customers in finding ideas, developing products, accessing finance etc.

A global market of new media solutions for virtual identities overtakes most of the local markets.

The high demand for both entertaining and political media becomes satisfied by open data, new tools and social production. The person who first makes the information public or makes sense of the data gets all the credit. Thus, people start to seek their 20 minutes of fame (see e.g. Mannermaa, 2010). These virtual identities become both the new journalists and the mass market. Since physical location is just another variable that applications can be configured to take into consideration, the markets become truly global. Virtual identities are competing on attention by emotionally attractive storytelling, mission based branding and adding value to global discussion. Thus, also populist ideas and ideologies flourish.

Media industry is centralized by virtual globalization and start-ups take over.

Huge amount of new solutions, based on open data and new technologies, and produced by the public, centralizes the media industry. Since innovations spread almost free and instantly in abundance of platforms and solutions, it becomes easy to change the provider so that the life-span of an idea or a solution becomes short. Thus, the dynamic and competitive industry structure resembles that of the "replacing forest" metaphor; entrants tend to replace existing incumbents over and over again (see e.g. Sarkar, 2006). There will be various business models that base on various earning logics similarly to that of the present app market. New earning logics are based on micropayments, crowd-funding, add-on features etc.

Collective media production and transformation of marketing creates the new growth industry.

The core activities of newspaper and magazines companies become challenged as publicly made content replaces professional journalism and the open information challenges the effectiveness of traditional advertising. Also the core assets become challenged as the public is influenced by opinions and adopt new media applications. At first aggregators remain the main platforms for social production with their cost-efficient tactical ads, but at the abundance of delivery platforms, new utility based media apps become the dominant design. They are designed for niche use-cases along with augmented reality, personal assistance and gaming features. New media is fed by traditional media, entertainment, communication and marketing (see e.g. Klepper, 2002), and grows up along tablets suited to the current age, just as radio, film, and television grew in the 20th century (see Figure 15).

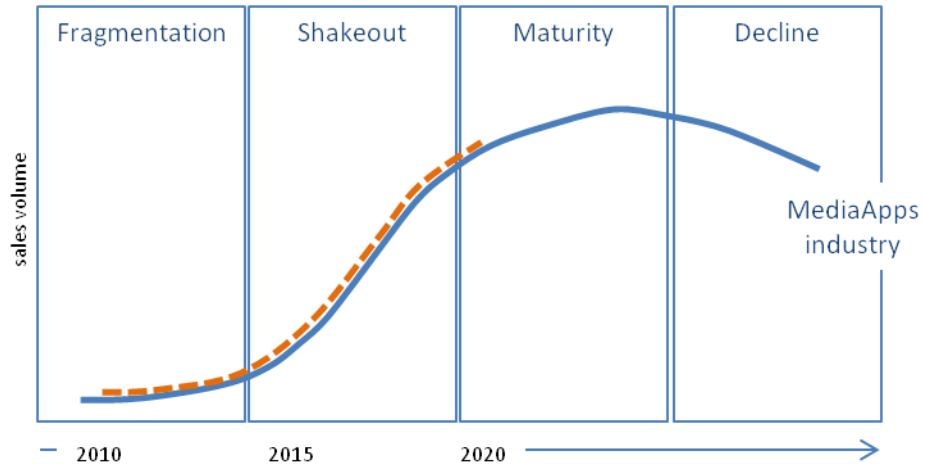

Figure 15 The birth and rapid growth period of the media apps industry

5.1.3 Implications of Chaos scenario

Few channels limit the media consumption and the public is reoriented for the old media.

In the chaos scenario penetration of tablets and smart phones in Finland is cut down to 10 % and 40 % respectively in 2014. Thus, tablets remain mainly as internet access devices for the few. Since there are no remarkable new media solutions and recession limits public consumption, the competition between sustaining channels such as TV, radio, free papers and open Internet gets intense. Also the access for independent quality content remains restricted as governments stay alert for what happened in the Arab Spring in 2010 and their policies become stricter toward open Internet. Instead of abundance of choices, people and advertisers have only few to choose from, and their purchasing power decreases.

Elites influences public with populism, while truthful information remains in access of few.

Public urges for fast and accurate information, but troubled times increase the production of content that is driven either by political or promotional interests. Open internet is considered generally unsafe and its content noncurrent, so that strong media brands remain as relied providers for high quality content. Thus, the polarization becomes strong between crowd-produced entertainments for the public and professionally made investigative journalism for the elite.

People turn to local activities and networks before the crisis redefines the sources of identity.

People get more private and suspicious as their welfare and trust in economics has scattered while governments focus in restricting globalization and authorizing their influence. Thus local media markets and old media channels sustain. However, later as war time actions redefine national boundaries and make people re-evaluate their beliefs, new communities start to emerge based on strong authorities. Thus, national media and local media covering events, politics, business etc. needs to re-segment their markets.

Media industry is centralized by economic crisis and the strongest incumbents take over.

Bad economic situation brings unhealthy media organizations bankrupt and there will be few strong players who dominate the industry. Public seek authority from the reliable old brands and the competition from new solutions or business models is scarce. Thus, the industry structure follows the *"revolving door"* metaphor (see e.g. Sarkar, 2006). Sustainable competitive advantages are built on economies of scale that grant efficiency in cross-platform delivery, old reliable and trusted brands, or secure two-sided platform pattern (see e.g. Osterwalder, 2010) financed with tactical ads or promotional content.

Economic crises consolidate the news and magazines industry, yet to expand on electronic commerce. In the chaos scenario, economic crisis launches a shakeout and mass-extinction in a media industry (see Figure 16). This also decreases firm numbers and entries upstream (see e.g. Bonaccorsi and Giuri 2001) so that electronic commerce, information technology and communication industries concentrate. Media companies look to standardize their products to make portfolios easy to manage and restructure their processes (see e.g. Utterback and Suarez, 1993) according to new cultural needs. Backed by legislation and content funded by political and promotional interests, the industry enters to the period of rapid growth. Vertical integration enables media companies to reach electronic commerce activities or even hardware and software procurement in pursuit of safe and closed systems with constant user experience.

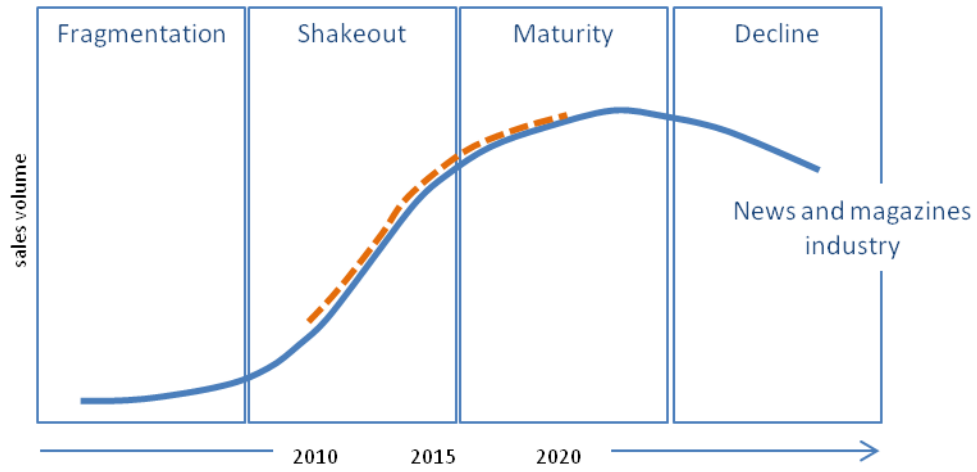

Figure 16 Consolidation of magazines and news industry and a shakeout

5.2 Managerial implication: New business models

Most of the ideas clustered around newspaper boardrooms, industry think-tanks etc. today are unlikely to succeed in the case of industry discontinuity, since the ideas reflect the approach that media industry is simply adjusting to fit for the new age. Thus, ideas re-iterate the "we-control-everything" status quo representing paid access to web news, premium classified ads, customized papers, multimedia ads, e-editions, user-generated content, bundling newspaper subscriptions into new packages etc. There is, however, significant possibility that the current change follows the type of change, where new disruptive ideas succeed. The analysis of possible future structures can be useful in guiding the design of the new business models or innovating around existing models.

As Tim O´Reilly noted there is not a single business model, but a lot of opportunities and a lot of options and we just have to discover all of them (Osterwalder, 2010 pp. 198). The purpose of this study is not to invent new business models, but rather to nurture discussion on new opportunities. Thus the 2nd research question was stated as: *What kind of new media business opportunities could emerge (and when)?* For managerial implications, five business opportunities were identified and business models constructed based on diffusion of tablets and possible scenarios. Even though, the idea behind these opportunities origin from the single future scenario, they may work in alternative futures as well. This is why they are described independently and the premises are discussed individually.

The special focus was addressed in opportunities related to newspaper and magazines as they worked as case industries in this study. Since business model conceptualization often resembles more art than science (Koponen, 2010; ref. Teece, 2010), the business model theory was not included in the scope of this study. However, Osterwalder´s (2010) business model canvas framework was used to design and illustrate the ideas due to its popularity and easiness to use. Furthermore, the trends that open up the opportunities are presented as well as an initial estimate for their timing. The timing estimates were briefly covered in the Delphi discussions, but they have not been validated.

Business model 1: Empowering the Investigative Journalism Community

HBL personnel began to think of themselves as gatherers, supporters and empowerers of the people to be active in a community (with shared values) and not primarily as creators of news to be consumed. Their web-only strategy focused in aggregating citizenship journalism, whereas editor in chief became the main "charmer". The audience consisting of Swedish speaking Finns adopted the old news brand as their primary access to discuss, feel cohesion and amuse in a virtual community. Company earns some revenues – with micro-payments and sponsorships – from creating and publishing promotional content, but the main revenues originate from members, who fund investigative journalism of their interests. The main assets are technology platform, which enables machine readability and personalization of the big data and content management system, with various mash-up options.

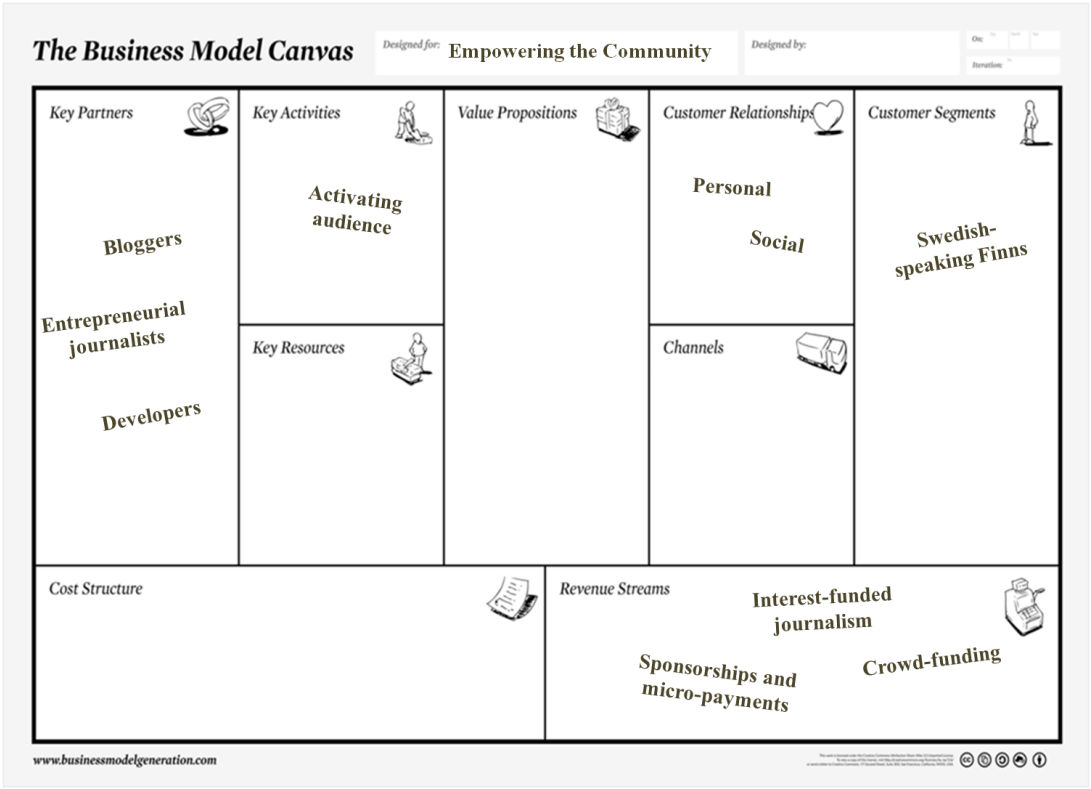

Figure 17 Business model for empowering the community

Several on-going trends could open up this opportunity in 2014. First of all, the growing interest of *the people to join the news process* and increased *local activities and social values* decrease value added by professional journalism and makes the aggregated business model sustainable. Secondly, *the adoption of mobile tablets and development of easy tools of production* (CMS´s, mobile cameras, mash-up features, etc.) switch the focus into curating the data.

Business model 2: Augmented Media Game

Facebook was the first one to combine physical and virtual identity, but it missed the growth in mobile and location based services. Google on the other hand, after buying foursquare struggling with its earning model, came out with an augmented reality game. It became obvious that after granting avatars points and new features, users got more engaged in creating and consuming information. They also let their location to be revealed and targeted with context based ads, but the main business arose around add-on features. Virtual identities bought stories, experiences and insights to make their avatars more appealing. Media professionals make virtual identities however they want.

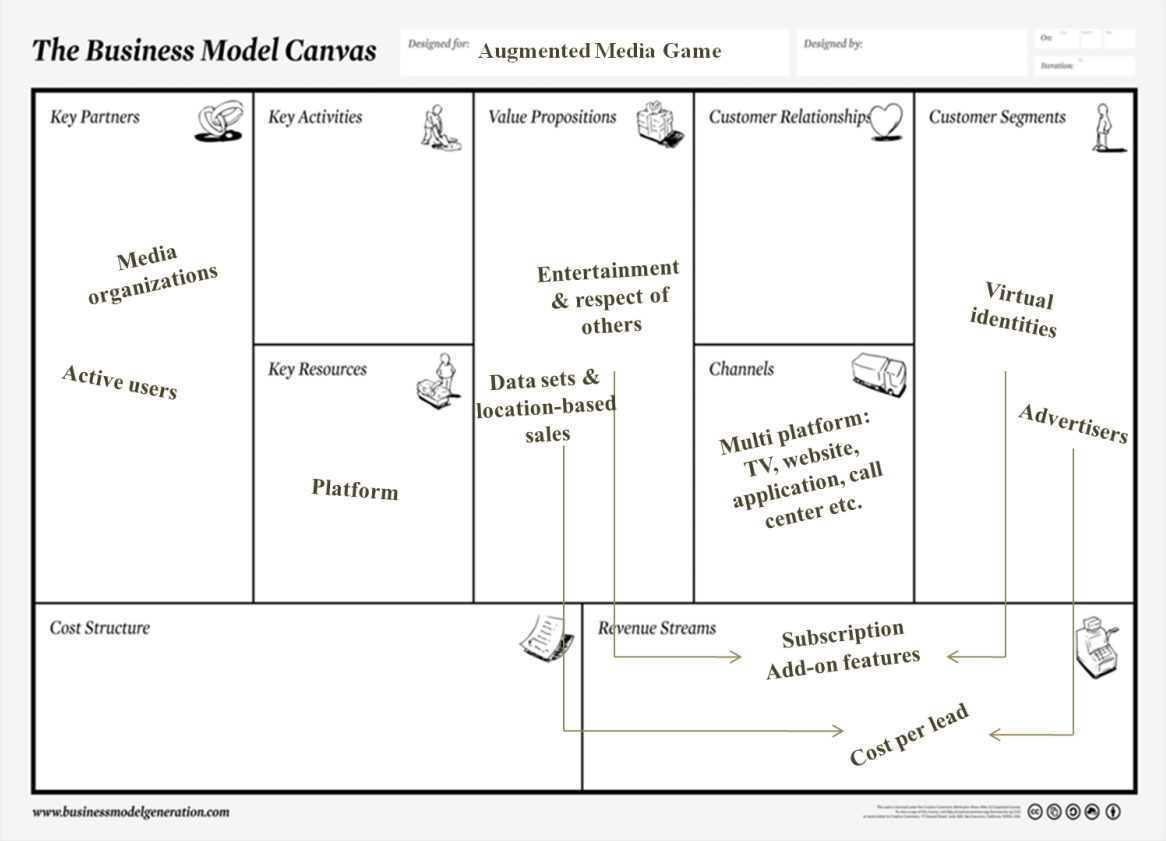

Figure 18 Business model for augmented media game

The abundance in platforms results in a fight over the most useful and amusing content. *Utilization of mobile data* and *augmented reality* become the core competence. Furthermore, as *one billion more people access online with their mobile devices,* the people want to brand and make their virtual identities more appealing through media activities. The more popular an avatar becomes, the more influence the player gets. The sustaining earnings from mobile Internet are not available before applying *gaming features and in-game sales* to services and the window for this opportunity emerges around 2016.

Business model 3: Media Recreation Center

YLE took the first initiative to sustain cultural capital and to boost local media innovations. The initiative took the form of establishing a public media center in Helsinki. All TV shows, movies, music albums, news articles etc. were free to access, edit and commercialize into forms of new applications and solutions. The center encouraged entertainment professionals and entrepreneurs to work for new projects in teams, but also commoners to relax, amuse, educate or participate. It became a popular concept e.g. for virtual travelling, where the travelling experiences were re-constructed by new technology and physical services. As the access and most of the content was free to consume, share or download there emerged also independent shop-in-shops, where entrepreneurs sold their t-shirts, posters, magazines etc.

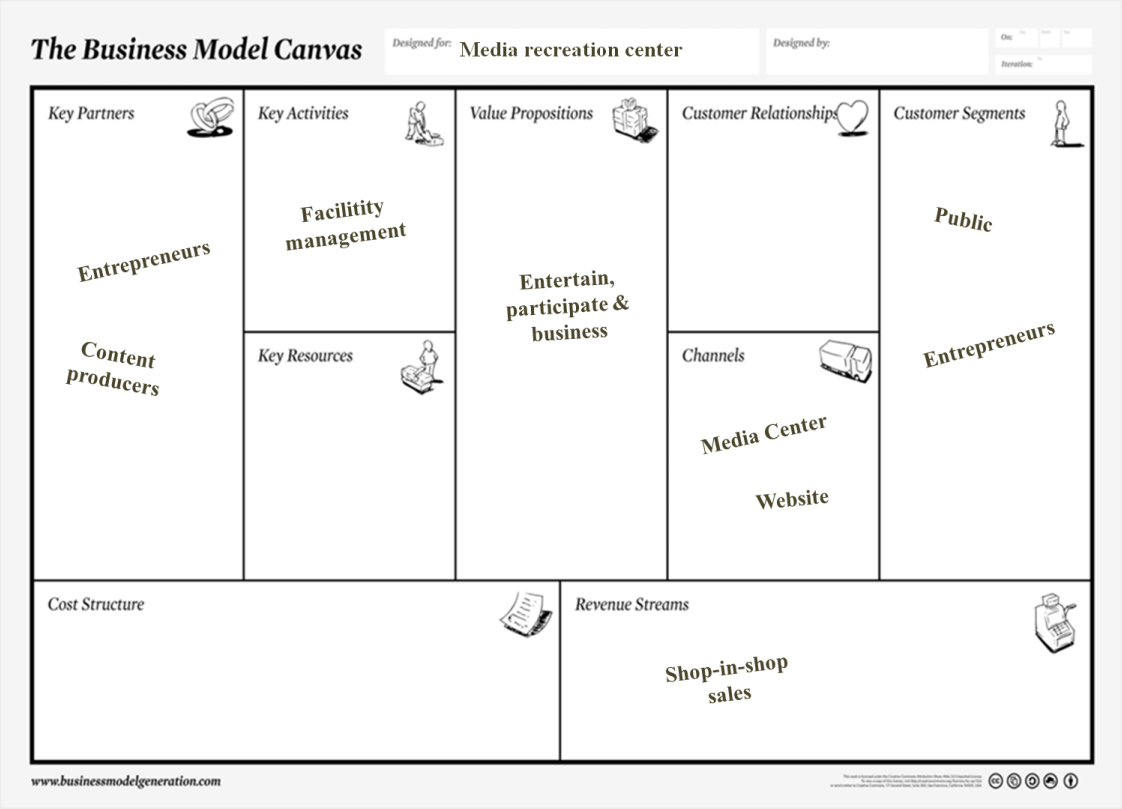

Figure 19 Business model for media recreation center

This opportunity is backed up by trends of *engaging physical activity, expanding number of independent entrepreneurs and citizen producers* as well as *growing attention on cultural heritage and local activities*. Young people already tend to hang around in shopping centers where people pass by and entrepreneurs in young and small companies enjoy working from cafés. In Tokyo there are also attempts to integrate media shops with travel agencies, coffee shops and reading corners. The business model would leverage all of these needs and become relevant already in 2015.

Business model 4: Personal Assistance Applications

After purchasing many financially desperate local media brands, Sanoma turned its development efforts towards mass personalized utility applications. Machine readability via Semweb let computers talk to each other and users were able to tune their tablet applications for intelligent agents. Users became able to program one agent to find great travel deals, another to spot trends that influence the value of investment and third to work as a romantic matchmaker. It got simple to do something like selecting headlines based on time, location or future plans and mashing them up with calendars, navigation and shopping lists etc. For Sanoma, these applications represent more control than money, since they have access to customers' discovery and distribution process as well as consumer insight. However, as applications develop, value added revenues emerge from user based transactions.

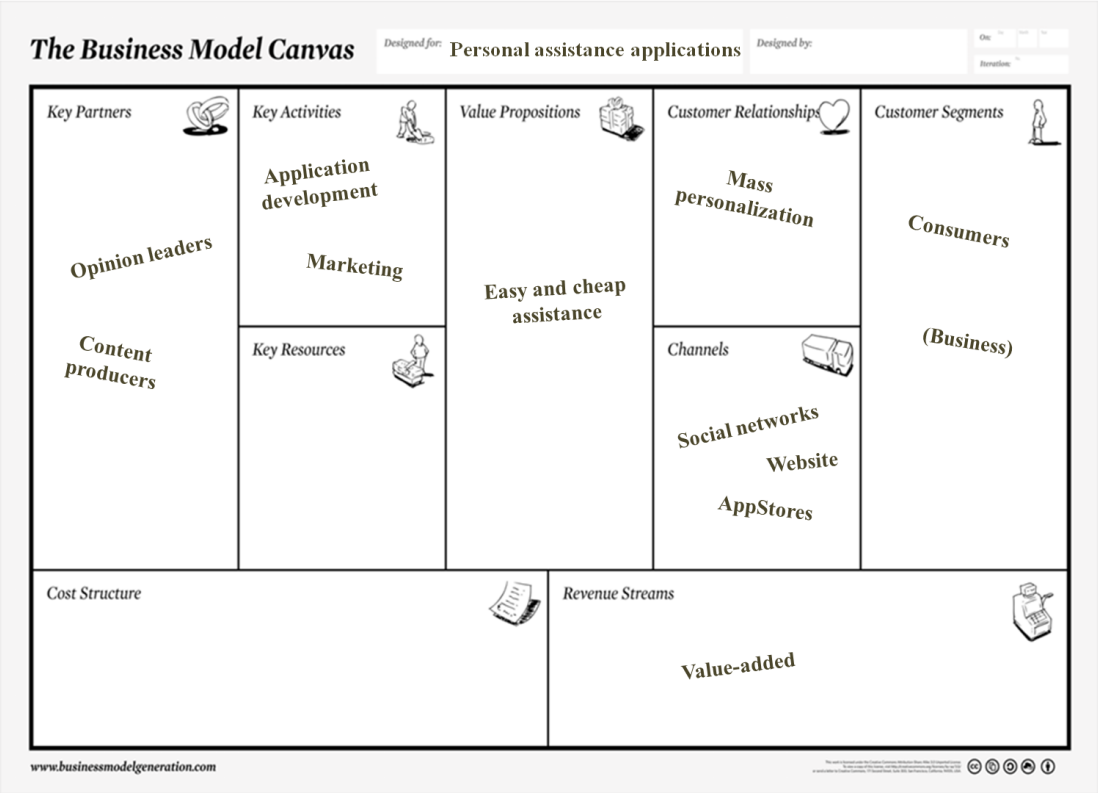

Figure 20 Business model for personal assistance applications

As *tablets get adopted by main stream* and *media needs become more fragmented*, new *information products emerge from automated content processing* in 2017. As *machine readability and semweb foundation is in place*, users expect a rapid proliferation of intelligent agents from various vendors, including news organizations. Journalists are to produce machine-readable XML files first, with the human-readable narrative existing as a sub-set of that file.

Business model 5: Independent Data Journalists (and Activists)

Public attention moves toward information sources that demonstrate their understanding of event and situations via "predictive accuracy" – rather than objectivity – and it becomes a de facto standard. New market is lucrative for professionals, who have a nose for what a story will be, and activate the public to mine the material and involve in prediction. This is accomplished through informatics, artificial intelligence, taxonomy/folksonomy systems, smart archival and curation techniques, plus multiple reputational and credibility scoring systems. Although the line between activism and journalism has always been fuzzy, it will become even fuzzier in the new age.

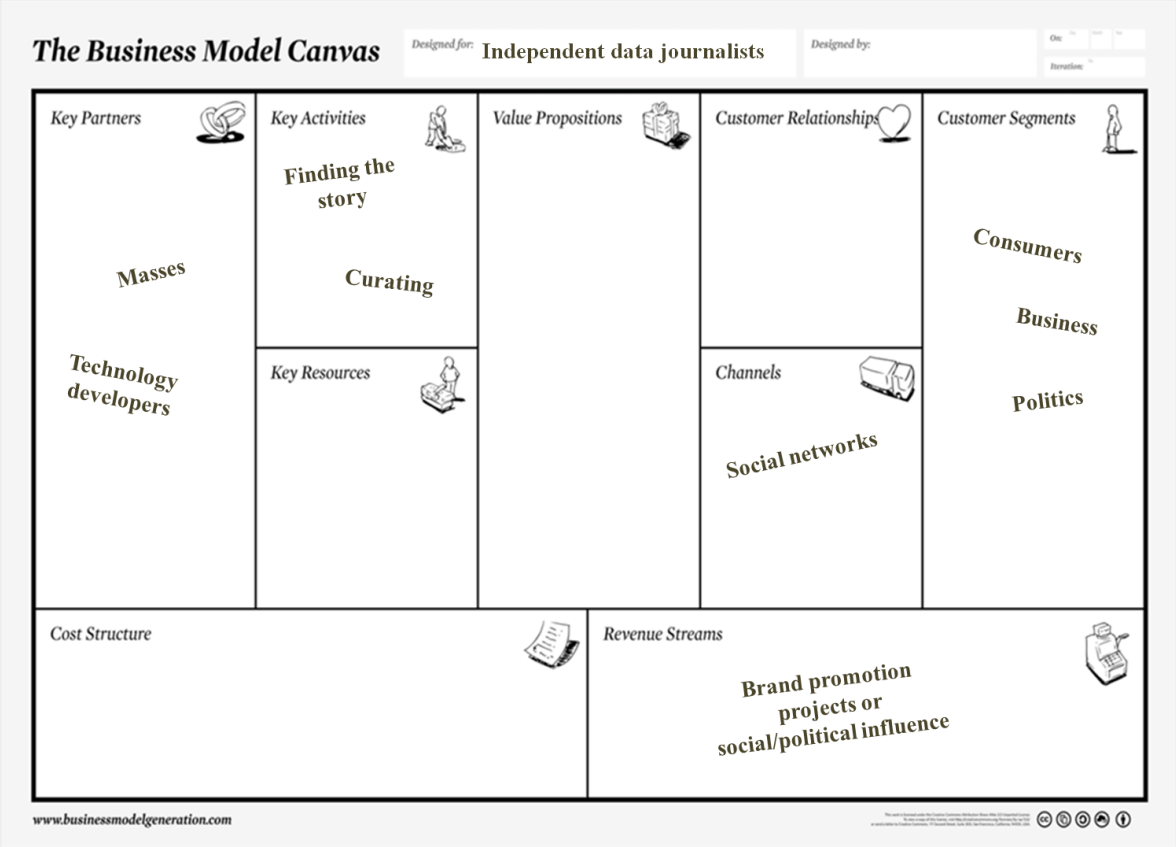

Figure 21 Business model for independent data journalists

Major issue in modern communication is the *superhuman rate of expansion in information production.* Mainstream media attempts to deal with the issue by artificially limiting the "meaningful" sources and then applying "news judgment" to that limited stream while new media teaches a generation to talk back, produce, and consume as they please. The objective stance of journalism, which evolved in the age of "journalism as lecture", had to pass away from the age of "news as conversation". Old journalism had limited value in an information-rich environment where the goal is finding the signal in the noise.

6. Conclusions

"Disruptive innovators that rely on forecasting face a nasty dilemma. In the short run, they can forecast but cannot act. In the long run, they can act but cannot forecast."

-- Tom Peters

In this chapter the methodological contributions of the study are discussed in detail. The validity, reliability and limitations of the study are evaluated to give perspective on the discussion. Furthermore, ideas for further research are given for both managers and researchers.

6.1 Methodological contribution

This study approached the potential discontinuity of the media industry applying futures study methodologies such as scenario analysis and Delphi interviews. The idea behind the concept of using futures studies methodologies in industry case study is to create imaginary environments for a) analyzing industry structure and b) designing provocative new business models. Beneficial imaginary environments are those that have implications to the actions of the companies i.e. they reveal possible, probable and desirable future states. Thus, using futures methodologies is both revealing and rational in the context of industry insight. The learned aspects of this study provide a methodological contribution for applying futures studies methodologies in studying industry discontinuities, which is quite unique.

Because the Delphi technique is the main method in this study, the sources of criticism regarding the method are discussed in the following. The origins of the Delphi critique base on the points that Sackman raised into the scientific discussion (Turoff and Linstone, 2002). Many of the points in the critique focused in the conventional Delphi, and the progress of the latter versions of Delphi, namely the Policy Delphi (Turoff 1975) and the Argument Delphi (Kuusi 1999) have sharpened the core essence of the technique as a scientific method. Tapio (2002, pp. 85-92) presented eight core pitfalls of the Delphi studies and it is used as a framework of the discussion. According to Koponen (2010), when the pitfalls are taken care of, the Delphi study is very applicable for collecting relevant future related opinions and insight especially from those who are in the position to affect the future.

Biased selection of the panelists is one of the most severe pitfalls (Tapio, 2002). In this study this was avoided by constructing an Interest–Competence Matrix (Table 3, pp. 32). Matrix was used to select at least one panelist from each set of competencies and from each set of stakeholders, providing as wide set of views as possible. As the target was to evaluate the media industry's development overall, more general expertise was selected into the panel as Rikkonen (2005) proposed.

The second pitfall mentioned by Tapio (2002) is the lack of commitment caused by anonymity. His solution to avoid this pitfall is that panelists should represent their organizations instead of themselves. Then, even if some of the panelists drop out from the latter Delphi rounds, they can be replaced by other members of their organizations. This approach was partly adopted in the thesis as the panelists represented one of the interest groups (academics, business or consulting). More practically this pitfall was avoided as Kuusi (1999) proposed; the panelists were told who the other panelists were, but specific opinions and arguments were kept anonymous.

Seeking consensus was the main reason for severe criticism towards Delphi studies in the seventies (see e.g. Kuusi, 1999). Third pitfall, forgetting disagreements, is solved by making a policy Delphi instead of a consensus Delphi (Tapio, 2002). This means that no consensus is sought, but a set of alternative long-term scenarios were produced.

The actual questions have been especially criticized for being too abstract and leaving room for too many interpretations (Tapio, 2002). This fourth and fifth pitfall, ambiguous questionnaires and oversimplified structured inquiry, Tapio solves by using trend curves and well defined open form questions. Defined questions were used in the first interview round, while the scenario constructs worked in a similar manner to avoid pitfalls in the second round.

Sixth pitfall, scarce feedback between rounds, Tapio (2002) solves by putting effort to generate easy to read summary report from each round to participants. In this study, a summary report was produced in a PEST framework for the first round and in a scenario construct for the second round. Specific contra-arguments, as suggested by Tapio (2002), were not provided due to time limitations. However, the interviewer challenged the arguments with expressions such as 'to your argument a typical contra-argument is presented…' as proposed.

According to Turoff (1975) although the fundamental ideal of Delphi is that the best argument should win, in actual applications arguments have not had a central role. Thus, Tapio´s (2002) seventh pitfall is forgetting the arguments. As the arguments played significant role in the first round, the interviewer

closed the second round with mixed feelings. Interviewees were surprisingly unanimous regarding the scenario constructs and little input was put in estimating the timing of changes. This could be due to psychological tendency for people easily adapt to scenarios if they are in a narrative format.

Eighth pitfall is that Delphi user either lacks theoretical understanding of the methodological procedure or framing of the substance (Tapio 2002). Since the substance was framed quite loosely, a similar Disaggregate Delphi approach as Tapio (2002) presented was applied closely; a goal of alternative scenarios (instead of accurate prediction), case of interest groups, anonymity limited to the argument phase, and questionnaire and interview forms of data. Thus, the only exception was that the cluster analysis as a statistical test was replaced by selecting three macro drivers for clustering the scenario constructs. This change was discussed together with Kuusi.

Selecting the scenarios from a vast quantity of variables is a formidable task and possible approaches differ from cluster analysis based approaches to drafting best, worst and tendency scenarios based on the Delphi manager gut feeling (Koponen, 2010). In this study, a deductive scenario approach (see e.g. Rikkonen et al. 2006) was applied by locking certain variables in each scenario (i.e. three macro-economic drivers and three market types). The construction of scenarios based on the structure on which the Delphi process was organized. A wide range of sustainable media variables as future images were gathered and the relative importance was rated by the panel as Rikkonen (2005) proposed. Variables were then cross-analyzed with the disruptive innovation diffusion theory to make scenarios more profound and surprising. And finally, variables, formed as arguments, were categorized according to the rationale of the scenario construction (Rikkonen, 2005). Although the construction process lacks construct validity, the author suggests it as a systematic tool when the goal is to construct industry scenarios from separate incoherent variables. However, the author suggests the method to be used especially for industries potentially facing non-linear change, since it is able to provide provocative future models rather than exact predictions.

6.2 Evaluation of the study

The study is evaluated by discussing the validity and reliability of the study and the limitations of the study. Reliability and validity are the criteria for assessing the quality of the case study research (Yin 2003). This study is seen as case study regarding the newspaper and magazines industry. Validity is estimated in three metrics that are construct validity, external validity and internal validity. In this study, there are five steps that require estimation from the validity perspective. These steps are *the scenario constructions, Delphi study, scenario analysis, implications on industry structures and business model constructions*. After that, the reliability of the study is discussed.

Construct validity

Construct validity means the validity of the methods that are used to study the data of the study (Yin 2003, pp. 35). The construct validity of the Delphi-based scenarios derives merely from their ability to reflect the arguments of the Delphi panelists. The process was done solely by the Delphi manager, which clearly is a shortfall in the reliability of this study. Nevertheless, this shortfall is not as critical, since the experts were able to see their arguments on the second round and were able to comment on the mistakes accordingly. In this study, there are three methods which construct validity needs to estimate; the *Delphi study, the scenario analysis and the implications of the scenarios* for industry structure.

A Delphi study according to Aaltonen and Sanders (2006) is a systems thinking approach towards futures thinking methodologies that is especially relevant for testing linear assumptions. Thus, it is not a clear representation of emergent ontologies, but rather sometimes promotes linear thinking (Aaltonen and Sanders, 2006). This effect is nicely demonstrated in trend estimates made by the Delphi panel, in which panel was rather unanimous (Appendix III). This notion underlines both the benefits and the problems with Delphi: it is impossible to know whether the smaller difference in arguments is a sign of larger probability of the anticipated event in question or a sign of biased selection of panelists (Koponen, 2010). For this reason theory of disruptive innovation diffusion was combined with Delphi findings to construct scenarios with discontinuous and disruptive results.

The scenarios are built on Delphi-derived arguments. Instead of being valued by their probability (there are no probable scenarios as the probability of any specific scenario to ever being realized is diminutive), scenarios should be valued based on their ability to help decision makers today (Koponen, 2010). Three aspects follow from this. First, successful scenarios are plausible i.e. there is a rational route from

present moment to the world described by the scenario. This is the reason why present situation ought to be carefully considered (in chapter 4). Second, scenarios should be internally consistent. This is the reason for constructing the scenarios in a deductive manner. Third, scenarios should be interesting and exciting to make the future feel real and to allow them to have an impact on decision making processes (Koponen, 2010; ref. Glenn, 2009). This is why scenarios were discussed and developed together with the panelists in the second interview round.

The implications that the scenarios suggest to have to contemporary *industry structure* are based on the Delphi arguments, understanding of the dynamics of the current business and synthesizing knowledge created from the collision of the industry life cycle theory. Multiple supporting sources increase the construct validity of the implications. Consequences and implications of the scenarios were discussed with selected researchers and personnel from the media industry. The implications were generally accepted. Therefore, the construct validity of the implications is validated with a weak market test.

Internal validity

Internal validity of the case study considers the causal constructions within the study (Yin 2003, pp. 36). However, in a constructive research, which aims to produce significant, simple and easy-to-use constructions, the internal validity should not be evaluated by criteria that measure the ability of these constructions to reflect reality, but instead by their helpfulness (Koponen 2010; ref. Lukka 2006). In this study internal validity should be considered regarding *the scenario and the business model constructions*.

The internal validity of *scenario constructs* is confirmed by the academic framework and the Delphi process, which test the internal coherence of the selected variables. As the academic framework of disruptive innovation diffusion is one of the most tested ones and pitfalls were avoided in the Delphi, internal validity of scenario constructions is quite strong. On the other hand, the internal validity of *business model constructs* relies on Delphi findings and logical reasoning. Thus, the internal validity of business model constructions exists but is weak. Internal validity was also tested by presenting the scenarios for the research group and business partners as well as in a research seminar for a larger audience. In general, the constructs were considered helpful, which indicates good internal validity. The internal validity of business model constructs was not tested in a similar manner in the scope of this study.

External validity

It is possible to generate theories from case studies (Koponen, 2010; ref. Eisenhardt, 1989) and thus external validity means the level of which the results can be generalized beyond the case (Yin 2003, pp. 37). The cases in this study were newspaper and magazines industries in Finland and the findings apply to related industries only indirectly. These related cases include newspaper and magazine industries in other western countries and other media related industries in Finland, such as trade magazines, comics, books, brochures, radio and television. To these industries the applicable findings are the potential directions of change mentioned in the thesis. To conclude, external validity is low, since similar industry cases represent fairly distinct and complex system.

Reliability

Reliability of the study means that the study can be replicated with same findings and conclusions if similar steps and procedures are taken, i.e. doing the same case over again – not replicating it (Yin 2003, pp. 37-39). Errors and biases in this study were avoided as discussed. Also the taken procedures are recorded and extra material stored in detail so that the qualitative nature of the study does not pose a challenge to the reliability as explained by Koponen (2010). However, replicating the study might lead to different results: the study relies on the opinions and views of the Delphi panelists. In addition, scenario drafting and the industry structure analysis are extremely qualitative tasks that are dependent on the specific case. Thus it is good to remember that similar conclusions and findings can be reached through many paths. If the Delphi panel is carefully selected, the Delphi arguments are successfully debated and the scenarios are written coherently, the researcher would be able to make the similar conclusions. Taken the qualitative and future-oriented nature it has, the research is concluded to be reliable.

6.3 Limitations

The selected empirical research methods pose certain limitations to the study. In this study, an iterative expert interview technique is used to gain arguments about the future. As these arguments are built from expert opinions they are not knowledge and should not be treated as such. Thus, these arguments reveal intentions and goals of various actors, which are useful in scenario construction, but cannot be used to show preference of one option over another.

The scenario variables that are constructed based on the expert opinions are viewed inside the contemporary discourse in which many arguments will most likely look silly and confusing when looking back at them later on. The selection which chooses a set of variables (i.e. a scenario) to a closer inspection is based on what seems important tomorrow based on a gut feeling of the author today. Thus, the scope of the thesis is not to synthesize a clear image of the future but instead to bring different possible angles under discussion.

There are also limitations in a theoretical sense. Taking all the interrelations of the theoretical fields into account, the use of the theoretical literature is vast in this study and because of this there are even greater numbers of theoretical limitations that face the researcher.

The nature of this study is to provide more questions than answers. Nevertheless, in addition to a vast number of questions and gut feelings, there are some answers that can be said out loud. The results of the study are strictly limited to two notions: 1) There is a significant probable that the media industry will face a non-linear future, where major activities companies currently pursue are challenged. Thus, there would be reason to discuss new business models from alternative futures point of views, rather than trying to fix the current business models. 2) Tablets are likely to change the media consumption habits in a way that the demand for current online and offline media products becomes vague. Thus, even the earnings model from tablet made media products is still undistinguished, it is worth testing new solutions and most likely together with the customers that are in early adaptor segment.

The futures should be something that are desired, not feared. Strategy should be about managing to position the company and design its resources so that the future seems to create possibilities instead of challenges. The role of insight in this kind of strategy process is clear: the more insight a company has, the more options it sees.

6.4 Future research

This study opens many doors and closes only a few, leaving behind a vast number of unanswered questions. Discussion about the futures is always a statement about the futures and futures research will (and should!) affect the future by revealing the probable, the possible and the desirable. However, the future is vast and one point-of-view is not enough. For this reason, futures should be discussed and studies be conducted by people with alternative experiences and especially young people. This is because young people are by nature closest to the future.

For business purposes, it would be beneficial to evaluate specific company and its specific businesses, such as sport news, within alternative scenario frameworks. This could help in identifying new risks regarding current businesses or putting identified challenges into a new perspective. Also new business opportunities could be designed, for example with the brainstorming method, in aspect of specific competences and competitive situation. A team, that has members from the young generations with various backgrounds, could be the best for this business model designing process. Furthermore, implications for industry structures and provocative business models should be discussed. Gathering the most surprising and provocative issues may help managers to find better their own stand and also nurture new discussion with other managers.

From an academic perspective, suggestions arise from those regarding the methodology and those in the substance. First of all, scenario constructs could be validated by a mass survey. This could give an interesting comparison between crowd sourcing and professional techniques, such as Delphi. The methodology could also be applied to totally new industries facing similar change, such as paper or travelling. For further studies in media industry, the unique dominance of family owned companies should be covered, since they are most likely to survive from the paradigm changes. Furthermore, discourse analysis should be conducted to analyze how non-linear industry changes and provocative business models are actually discussed. New perspective on transformation could also be obtained by repeating the study once a year, i.e. by utilizing a longitudinal approach.

Furthermore, there is a growing need to turn the complexities into visions as the sum of data and knowledge in the world grows and the world becomes increasingly complex. Therefore, the author calls for more futures-oriented research especially in fields potentially encountering a non-incremental and sudden change such as the media industry.

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APPENDIX I: List on trends and drivers

PEST analysis on trends and drivers for digital media				
(focus b2c in News and Magazines content)				
		-2=Decreases considerably - 1=Decreases 0=Stays unchanged 1=Increases	1=Extremely uncertain 2=Uncertain 3=Fifty-fifty change 4=Quite certain 5=Extremely certain	1=Not important at all
	Change	Probable Change (when?)	Certainty of the change (with what?)	Importance of change (why?)
P1	**New recession** would dramatically surge printed news papers and magazines circulation			
P2	Tougher taxation (such as **VAT**) will kill unprofitable printed news papers and magazines			
P3	The **old product and company brands** are not credible or attractive at internet			
P4	Possibility to choose on **privacy issues** will change the marketing game			
P5	**Content made by advertisers** (RedBull, Åre) etc. will change the rules of journalism			
P6	New market of **freelance journalists** and data scientists is emerging ('breaking up vertical integration')			
P7	**Billing relationship** will be owned again by media companies (ie. Not by manufacturer or operator)			
P8	Higher control on **property rights** will enable the business model for electronic content			
P9	Media companies will partner with technology providers and content will be **bundled**			
P10	News and Magazine Industries will emerge together and with **Entertainment Industry**			
E1	People to take extremely cheap or **free online content** for granted			
E2	Consumers will **pay only from entertaining experience or personal value adding services**			
E3	By context awareness, tablets will enable new **revenue model to earn from consumers** (location, experience etc.)			
E4	Global giants (such as **Google and Facebook**) will get major market share on digital ads			
E5	Total amount of advertisement money for traditional awareness will decrease 60 % (**'CPM'**)			
E6	Local media companies can´t sustainably operate with cost-per-click (**'CPC'**) business model			
E7	Customer information will be business only if succesfully integrated to customer processes ('cost per lead, **CPL**')			
E8	Provision based eCommerce opportunities emerge only from own stores ('cost per action, **CPA**')			
E9	New business opportunities will emerge from promotional content and brand building projects ('**inbound marketing**')			
E10	**Mobile advertisement** will grow to take 1/3 of all advertisement budgets			
S1	Consumer **time will spread** to wide variety of channels enabling the long tail effect with few mass services			
S2	News media will be **unbundled** to small chunks, which are consumed **on-demand**			
S3	Magazines media will be mainly consumed in **communities** (with authors and like-minded readers)			
S4	New generations mainly look for entertainment and will never turn to the old media			
S5	Consumers will insist on access behind stories and analysis ('**media criticism**')			
S6	There are unsatisfied needs for **hyperlocal** and localized content (recency x closeness)			
S7	Tablets will bounce back the demand for **long professional stories**			
S8	eReading devices will disrupt the consumption of written media to **videos**			
S9	Communication and media will get closer to each other			
S10	Consumer **trends** will come and go faster (such as ecology, subjetivism, hipsters, retro etc.)			
T1	**Cheap and easy eReading devices** will surge printed news papers and magazines circulation			
T2	Increasing competition between content delivery platforms will kill the **closed appstores** (such as Apple's)			
T3	Content will be easy and cheap to deliver for different devices and channels ('**HTML5**')			
T4	Content will be mainly found by **social spreading, algorithms and aggregators**			
T5	**Gaming** will be the main issue with tablets, but it is not for media companies to pursue			
T6	New solutions will enable cost-efficient testing of **living stories, exclusivity, utility apps,** etc.			
T7	**Smart customer databases** will decrease the need of traditional interruption marketing			
T8	The combination of the **data deluge and clever software algorithms** opens the door to new business opportunities			
T9	**Easy-to-use payment** systems will enable the business model for electronic content			
T10	**Augmented reality / Semantic Web** applications will massively increase the use of local content			
	The following issue(s) should be added to the questions concerning the future of media use on tablets:			
	The most important effect/change factor concerning the future of media use on tablets is/will be:			
	Other comments, additions and corrections to the questions on the future of media use on tablets:			

APPENDIX II: Categorized trends and drivers

Table 5 Trends for new media products regarding tablets

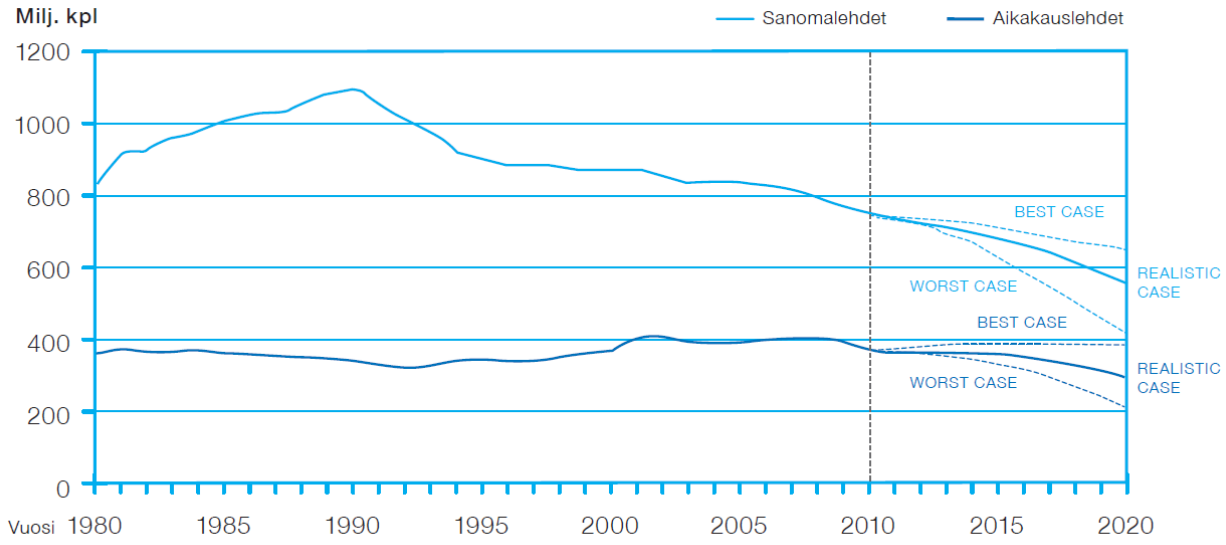
TRENDS	EXISTING MARKET	RESEGMENTED MARKET	NEW MARKET
Consumption	Media use converts to tablets, which offer better user experience and sharing features	Low-cost entertainment market is built upon tablets with media games, videos, social media etc.	Tablet services create unique value with hyper-local content, augmented reality, personalization etc.
Earning	Digital income keeps steady as existing content is repackaged, bundled, extended etc.	Large user bases, crowd sourcing and context base targeting appeal to advertisers after a delay	People are willing to pay from entertaining experience or personal value adding services
Distribution	Customers are loyal to old brands and products and they can be found with all devices (HTML5)	Similarly to internet, aggregators and social media platforms grant primary access to services	Open appstores dominate, since it offers marketing and sales platform for start-ups and professionals

Table 6 Trends regarding customer behavior in media industry

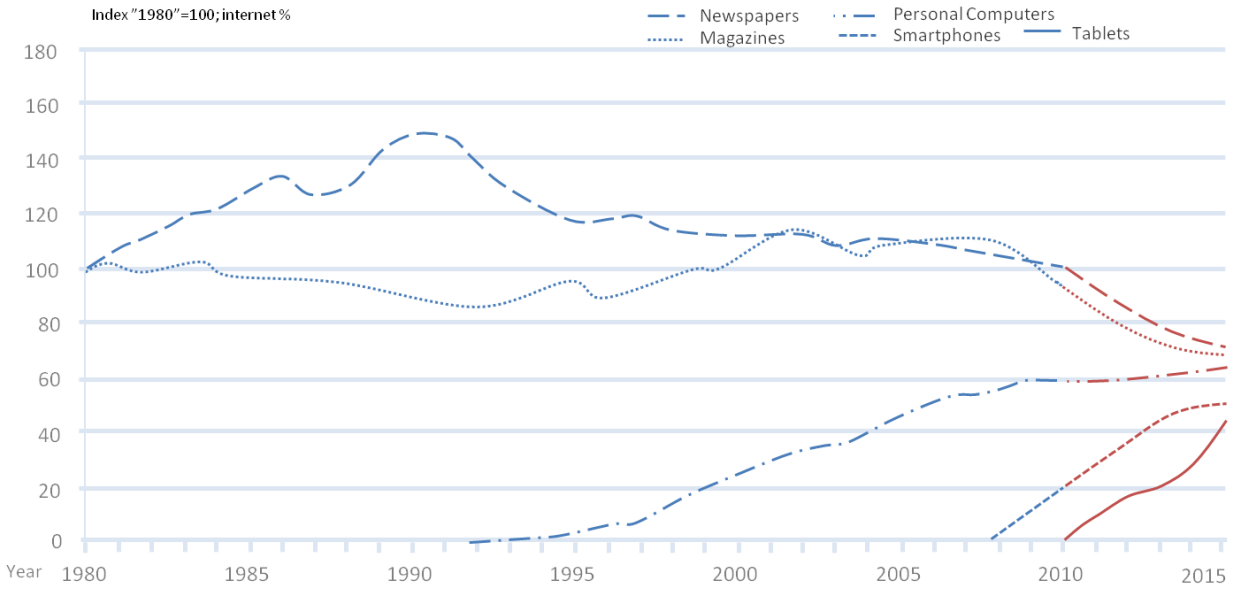
TRENDS	CONTINUUM	ALTERNATIVE	CHAOS
Marketing budgets	Economic downturn decreases budgets slowly and shifts them from print to online	Overall marketing budgets grow, but the focus transforms into own and earned media	Economic crisis cuts down budgets heavily and rapidly
Role of journalism	Entertaining user generated content slowly replaces professional journalism	Political journalism grows as people look to reveal facts and do not trust authorities	Demand for professional journalism increases, but few can afford to pay for it
Public focus	Global matters are of interest, but local networks are trusted and people seek to meet face-to-face	People are global, digital networks flourish and openness is demanded	People turn to local matters, are more private and turn suspicious on open Internet
Diffusion of tablets	Tablets diffuse as expected; new products are limited	Innovations spread fast in a connected society; touch UI is adopted in every device	Tablet diffusion plummets and old brands and products are rejuvenated

APPENDIX III: Trend estimates for news and magazines consumption

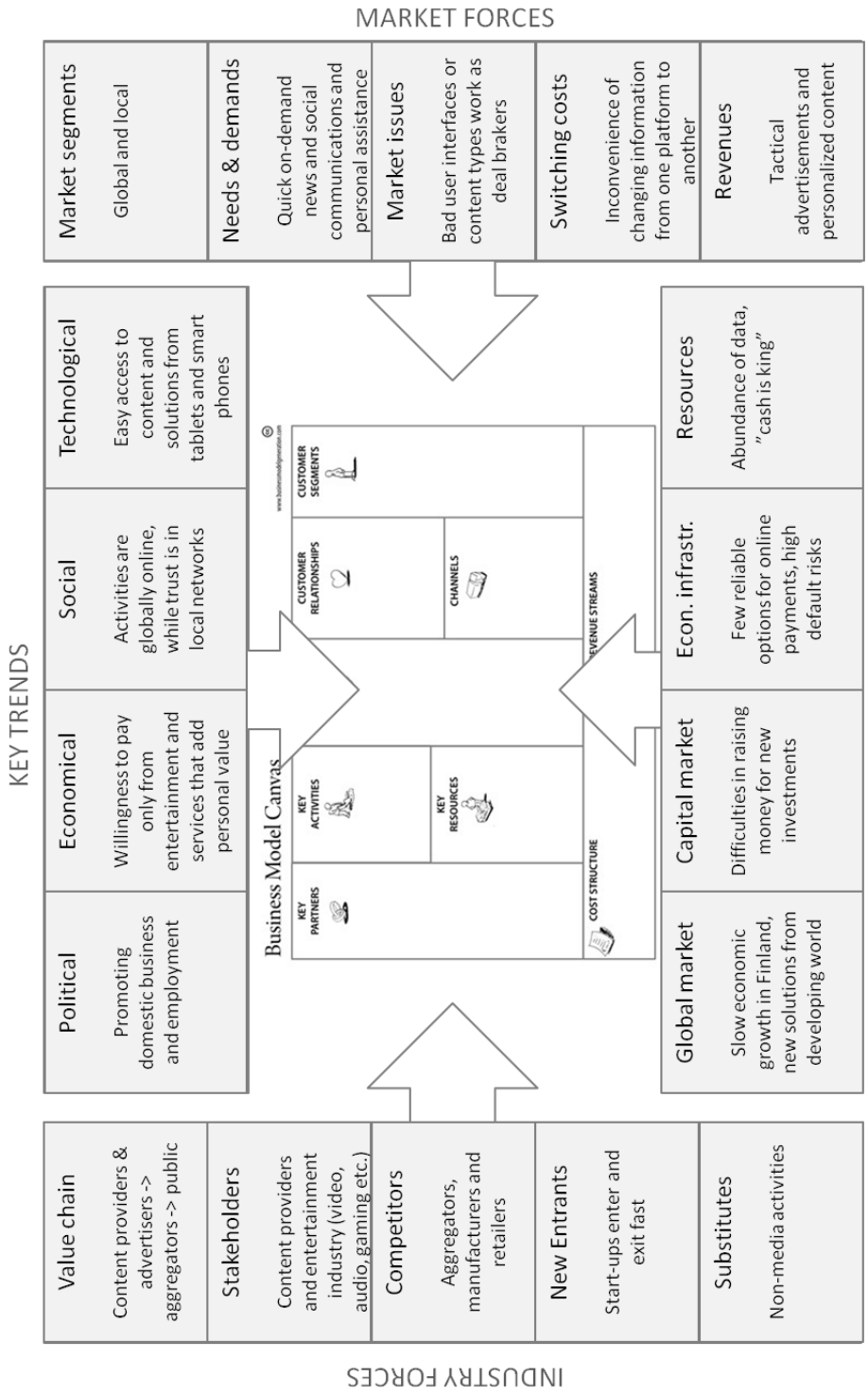
News and magazines sales estimates (Keränen et al., 2011)



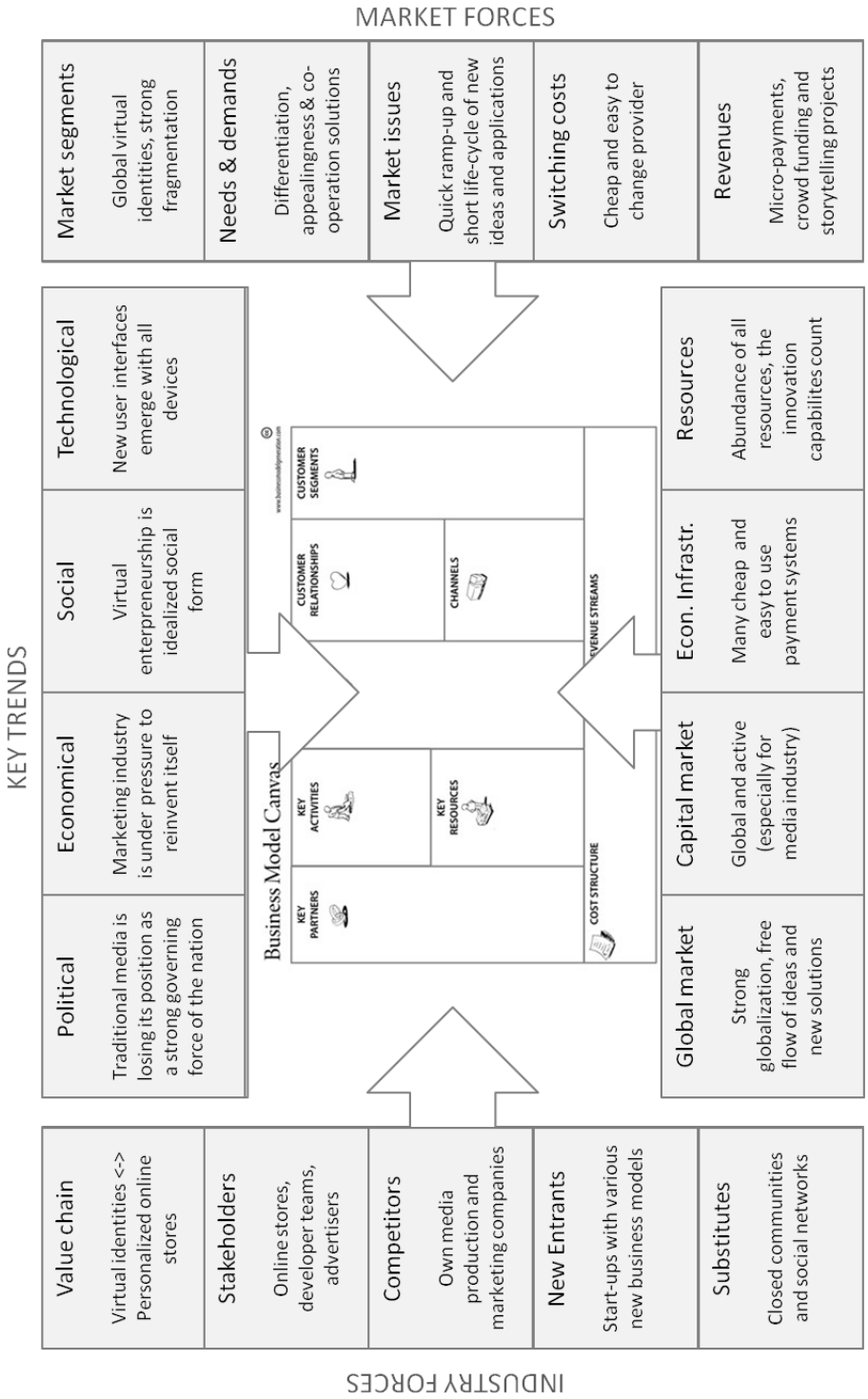
News and magazines consumption from alternative devices (Keränen et al., 2011; Estimates by Laivuori)



APPENDIX IV: Summary on media business environment in continuum scenario



APPENDIX V: Summary on media business environment in alternative scenario



APPENDIX VI: Summary on media business environment in chaos scenario