

Veikko Halttunen

Consumer Behavior in Digital Era

General Aspects and Findings of Empirical Studies
on Digital Music with a Retrospective Discussion



JYVÄSKYLÄ STUDIES IN COMPUTING 235

Veikko Halttunen

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ABSTRACT

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Digitization of products and processes has changed consumer behavior in several ways. Changes can be found not only in human actions but also in attitudes and ethics. The music industry has been a pioneer in digitized societies. In the new millennium it has also faced the downsides of the development: digital piracy and, as a consequence of it, declining revenues. These threats are not limited to the music industry but concern many other sectors whose products can be digitized. The mainstream of previous and contemporary IS/IT research has been optimistic and emphasized the positive impacts of digitalization. Those who have considered the negative impacts, such as the consequences of digital piracy, have done it from a single perspective, usually from the business perspective. A wide understanding of how digitalization takes place in societies is missing. This research gap is addressed in our thesis. Although the focus is on consumer behavior of digital contents, in general, and of digital music, in particular, the objective is to get a more comprehensive understanding of digitized societies. Young consumers, as a relevant social cohort, gain a special attention in this thesis. The research is based on a multi-view/multimethod approach—known as triangulation—which helps to build a consistent picture of the complex field. As a conclusion, we argue that consumer behavior in digitized societies will be influenced by an increasing number of contingencies leading to emergent and unexpected behavior. The persistence of the piracy problem—despite ever better commercial products and services—is one example of the challenges of the future societies. Our proposition is that young consumers have an especially strong shaping power on contemporary and future digital products and technologies. It will be a great challenge if they have to decide between ever-expanding spectrum of choices with reduced normative guidance. It is possible that, on one hand, the future generations want to have an unlimited access to the Internet content, but, on the other hand, they are reluctant to pay for it. While many hopes are pinned on the new digital products and services, it will be a big problem, if a great number of demanding consumers remain free-riders on the digital markets. Thus, the digitized society would face the problem of unfairness in production and consumption of digital contents.

Keywords: consumer behavior, digital content, digital music, digital piracy, ethics, generation, illegal use, societal change, social construction

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After finishing my Licentiate thesis in 1994 my idea was to continue with the same theme towards a PhD degree. Life is, however, sometimes different from our thoughts. At that time I was heavily laden with other duties and activities. Hence, I also lost my motivation.

In autumn 2008 Professor Pasi Tyrväinen kindly offered me the position of project manager in the DCM Project. This was a lucky turn in my career. I had an opportunity to work with Markus Makkonen, Research Professor Lauri Frank, and Pasi Tyrväinen in an excellent atmosphere. I shared an office with Markus. During the three years of the project we developed a good friendship that made it easy to collaborate. Besides the research issues, we also shared an interest in ice-hockey. The favorite teams were (and are) different, however. Thank you, Markus, for your fruitful co-operation, and for several nice chats on digital contents, consumer behavior and ice-hockey. I appreciate your friendliness, your accuracy and your excellence in quantitative methods. Lauri, besides being my colleague and director in the DCM project and a co-author of six papers included in this thesis, is the first supervisor of my thesis. Lauri has always been very positive and encouraging. Thank you, Lauri, for helping me throughout this process.

I am also grateful to my second supervisor, Professor Jari Veijalainen, for his comments and conversations. Around two years ago I shortly visited in Jari's project. This two month period was not enough to finish my thesis, but it was a good start in writing the aggregating part of the thesis. The articles included in the thesis were written a couple of years before the project. Due to the heavy load of teaching I had had difficulties in finding time to analyze the empirical studies of the DCM Project as a whole, and thus, to finish my thesis. The project led by Jari gave me breathing space. Thank you, Jari, for providing me this opportunity.

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Most of all, I am indebted to my family – my wife Tiina, my children and my mother Eila – for all that they have given to my life. Tiina is my love, best friend and my loving supporter. Thank you so much, Tiina.

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1 INTRODUCTION

Consumption and consumer behavior are crucial factors in contemporary societies. As Sulkunen (2009, 99) notes, besides welfare state and life-regulation policy these topics belong to the three most important issues of modern capitalism. Considering the last two-three decades, digitalization has been a major factor of consumer behavior. As with all societal developments, digitalization has been producing new ways of life, changing and replacing the previous ones. We talk about the emergence of a new generational cohort, the Digital Natives (Palfrey & Gasser, 2008), also referred to as Generation Z (Bassiouni & Hackley, 2014). Characteristic to this generation is that it is online (Palfrey & Gasser, 2008). Or, as Bassiouni and Hackley (2014) put it, the life of this generation is filled with the possibilities of digital communications.

It is well-argued to say that the drastic changes in contemporary consumer behavior are enabled, in particular, by the services of the Internet (e.g. Soopramanien et al., 2007). The “Internet-induced” changes can be found not only in human actions but also in attitudes and ethics (e.g. Cesareo & Pastore, 2014; Simmons, 2008). This turns up in phenomena such as digital piracy¹. As a recent article in a Finnish newspaper (Helsingin Sanomat 19.4.2015) describes, digital piracy seems to continuously find new forms and shapes.

Since digital music is of a particular interest in this thesis, we briefly describe, as an example, how the field of music as well as the music industry has evolved through the Digital Era. By the Digital Era we mean the time period that started around the mid-1990s as the Internet services came available to a wider audience.

First Phase. In the late 1990s and at the beginning of the new millennium, distribution of digital music started via peer-to-peer (P2P) networks. In contrast to the typical client-server architecture, in those networks each node of a network serves as both a server and a client. This architecture is (cost-)efficient in distribution of digital content such as digital music. It is, however,

¹ Digital piracy is defined as illegal use of copyrighted digital content (compare with Al-Rafee & Rouibah, 2010, 283)

complicated to manage. To no-one's surprise, P2P networks have widely been used for illegal purposes. Hence, P2P networks have also been widely accused of the decline of the music industry (see Halttunen et al., 2010b.)

Second Phase. During the first five to ten years of the new millennium, a large number of music download stores, such as the iTunes Store, emerged. At first, these stores relied on digital right management system (DRM) of various kinds to prevent the illegal use of the offered digital contents. The DRM systems did not prove, however, efficient in general, due to which several download stores followed the decision of the iTunes Store in 2009, to provide music without DRM protection. During this period, piracy remained a remarkable problem. (Halttunen et al., 2010a; Halttunen et al., 2010b.)

Third Phase. Since the music download stores were not as successful as had been hoped, there was a threat that digital piracy would gain ever more ground. New commercial alternatives were, however, became under development around 2010. Most of these new music services are streaming-based, which means that the music is received as streamed instead of being downloaded. A good example of services of this category is Spotify, a Swedish music service. The streamed content is DRM protected. Obviously, Spotify has succeeded in meeting the consumers' needs quite well. However, Spotify has several parallel business models that differ from each other in both pricing and delivering the music content. Therefore, it is difficult to know for the moment how the different alternatives are accepted by the users in a longer run. Despite apparently good user acceptance of streaming-based music services (SBMS) in general, a recent study suggests that the piracy problem has not been resolved by SBMSs (Borja et al., 2015).

The persistence of the digital piracy problem is a good example of the phenomena of the Digital Era that evokes thoughts about needs for a wider understanding of digital content consumer behavior: while at micro level a consumer's needs are better and better met by commercial services, at macro level the problem of illegal use of digital content remains. A crucial question is how this can be explained.

Another interesting trend, which is worth deeper consideration, relates to the materialization/dematerialization of products. While the general trend of the Digital Era is towards favoring dematerialization of commodities (e.g. streamed music or videos), signs of re-materialization have also been found by Magaudda (2011), for example. Since Magaudda's study focused on music, which is usually seen as an archetype of digitizable products, the finding is interesting. There is a similar finding in our own study reported in Article 3 of this thesis (Makkonen et al., 2011). This rises the question of whether it is possible that tangible products may coexist and flourish with their intangible counterparts in a market where digitalization seems to be the trend.

The developments in the Digital Era have often been examined from the perspective of technological or business evolution, or a combination of these. We, however, aim to have a more comprehensive understanding. While realizing the importance of technological and business innovations on societal

developments, we emphasize the ways societies and individuals shape the developments of technologies and businesses. Furthermore, they not only shape the economic and technological evolution but are also in a mutual relationship with each other (see Pilcher, 1994).

Although, in theoretical sense, we are interested in the entire field of consumer behavior of digital contents, a main part of our empirical investigations is limited to digital music. This is done for the following two reasons. First, in a short time, music consumption has gone through several changes that reflect the changed conditions in technology, business, and society². This provides a remarkable benefit when acquiring the empirical data: namely, it implies that even adolescents have witnessed a great deal of the evolution of this area. Second, music is consumed by a majority of people which make it easier to investigate the issue empirically.

In the next subchapters we first describe in more detail the phenomena on which we focus in this thesis. Next, we set the research questions for the thesis, and then we present its structure.

1.1 Field of Phenomena to be Investigated

It is not typical that a certain industry struggles with declining sales while there is even increasing use of its products. This is, however, what the music industry has been doing in the Digital Era (see Figure 1). Despite the fact that a great number of people listen to music with their smartphones or computers on a daily basis, unwillingness to pay for, and illegal use of, music have remained common. As digitization of processes and products is generally seen as a promising trend, contributing to the creation of flourishing new businesses, decline in sales in the music industry is a phenomenon that deserves researchers' attention. We aim to contribute to this by describing and explaining the twofold nature of digital content consumer behavior³ by using digital music as an example.

The phenomenon we refer to above may seem, to some extent, self-evident. It can be simply seen as a consequence of P2P networks that challenge commercial alternatives and may allure some of the consumers to use illegal sources of digital content. However, this seems to be only a part of the explanation. The roots of digital piracy are obviously in a deeper ground than in a particular technology. As a recent study by Borja et al. (2015) shows, streaming-based music services—which are generally regarded as much more

² Although digitalization of music actually happened in commercial sense more than ten years before the Digital era (CDs), in this thesis CDs are considered as physical products as compared with the pure digital products delivered, distributed and consumed in a digital form through the Internet.

³ Solomon et al. (2012, 3-4) defines consumer behavior as a process that consists of pre-consumption, consumption and post-consumption, i.e. selecting, purchasing, using and disposing products, services, ideas and experiences to satisfy needs and desires.

user-friendly when compared to the previously common download stores— have not been able to eliminate the piracy problem. On the basis of this finding, one could ask whether it is ever possible to develop a commercial counterpart for the illegal sources that would be accepted by all consumers. Another interesting and astonishing phenomenon, not visible in Figure 1, is that in the middle of digitalization, there are signs of “re-materialization” of products (Magaudda, 2011). Re-materialization as a countertrend to de-materialization means that some consumers still prefer tangible products to intangible ones. This is in line with the finding of our own study according to which people are often reluctant to pay for digital contents, while some people are willing to buy tangible music product for a reasonable price (Halttunen et al., 2010a; Makkonen et al., 2011).

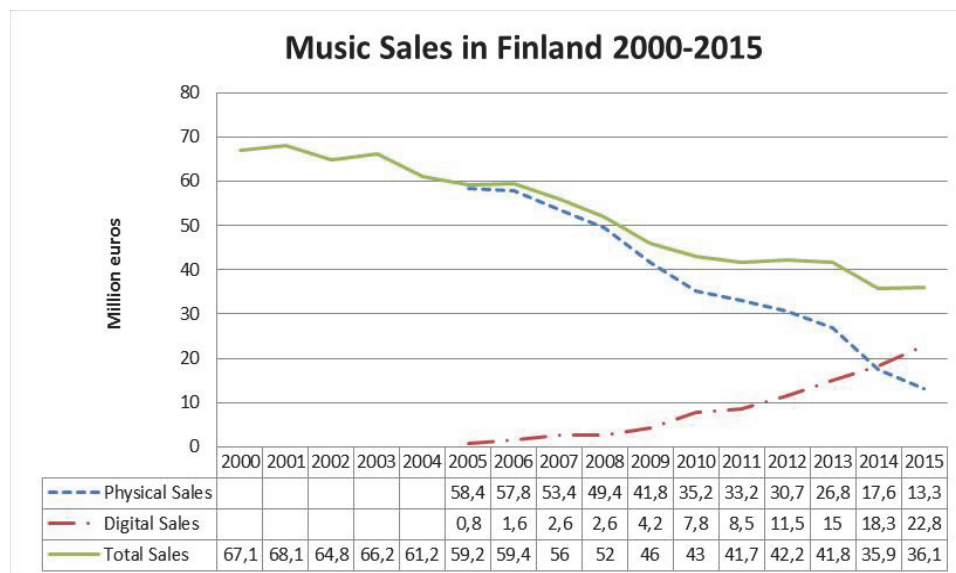


FIGURE 1 Music Sales in Finland 2000-2015 (<http://ifpi.fi/tilastot/vuosimyynti/>)

As mentioned before, our proposition is that the above trends and phenomena cannot be fully understood from a single perspective. Besides individual and business level considerations, societal level analysis is necessary. The research so far has focused, however, very much on the individual level or the organizational level (business sector/business level), while the societal level has gained quite a little attention. Although the legal aspect is also very important regarding digital piracy, we exclude its wider consideration from this thesis. Thus, while acknowledging that digital piracy is illegal, we do not consider it from the point of view of legislation but we rather try to understand digital piracy as part of consumer behavior as a whole (“why people practice piracy?”).

When we consider the previous research on consumer behavior in digital markets in general, and in digital music in particular, we find that research has

been done especially on e-commerce adoption and diffusion (e.g. Kunze & Mai, 2007; Pavlou & Fygenson, 2006; Stahl & Maass, 2006;), e-business models (e.g. Dubosson-Torbay et al., 2002), consumer decision-making (Ahuja et al., 2003; Coyle et al., 2009; Goode & Harris, 2007; Soopramanien et al., 2007; Teo & Yeong, 2003), and digital piracy (e.g. Al-Rafee & Cronan 2006; Al-Rafee & Rouibah, 2010; Bhattacharjee et al., 2003; Chiang & Assane, 2007; Chiou et al., 2005; Cronan & Al-Rafee 2008; d’Astous et al., 2005; Einhorn & Rosenblatt, 2004; Hill, 2007; Holsapple et al., 2008; Lysonski & Durvasula 2008; Peitz & Waelbroeck, 2006; Shoham et al., 2008). However, there is a lack of studies that would integrate the scattered scientific results into a big picture. Furthermore, societal level analyses are rare within the mentioned fields of studies.

In general, it can be argued that the current IS/IT research typically considers the role of IT in an optimistic and positive way. Instead of studying *both* the positive *and* the negative consequences of IT, the analyses have shown bias towards strengths and opportunities of IT (Halttunen et al., 2010c.) This bias may lead to difficulties when attempting to understand socio-technical phenomena such as digital piracy. The digital piracy research referred to above is naturally critical in its approach, but its scope and focus has been, to a large extent, limited to criticism of either P2P technologies and/or individual level behavior. Besides, their main concern has been, in many cases, the music industry, not the phenomenon as a wider societal development. As it seems that digital content consumers use the illegal sources quite consciously and are often indifferent to the infringement of copyright laws (Halttunen et al., 2010a), it is relevant to ask what the role of technology is, and what the roles of the consumers and the society are.

When one believes, as technology determinists do, that technology evolves merely through its internal logic (e.g. see Heilbroner, 1967), all the consequences are then directly or indirectly determined by technologies. This leaves a limited role to humans. Once technology becomes invented because there is no alternative, the role of humans is to decide how to use the particular technology. Using a technology in a “right” or “wrong” way is a moral question. As we know from history, invention of technologies often leads, from the viewpoint of morality, to “misuse” of a particular technology. Nuclear energy is a good example of this. If humans, or a part of them, do not use technologies in a generally acceptable way (compare with digital piracy), one solution could be to build new technologies that “support” peoples’ morality (compare with digital right management systems). However, these technologies, being “restrictive”, do not necessarily have success. For example, let us consider DRM systems in the context of music download stores. These systems whose aim is to prohibit illegal acts—which is a widely accepted aim in societies—have been resisted by consumers. It seems that there are “conflicting forces” that “put pressure” on the technology. There are different interest groups that do not equally benefit from the technology. In other words, the technology, which has a generally accepted target to support legality and fairness, has not reached its target with respect to consumer behavior.

In the 1980s, a number of sociologists, philosophers and scientists of related disciplines founded a new school as opposition to the deterministic thinking about technology. This school is known as Social Construction Of Technology (SCOT) (see Bijker et al., 2012). According to SCOT, the development of technology is dependent on the acceptance of parallel social groups that may have conflicting ideas of the available technologies. Their ideas are usually not simplistic, not limited to economics for example, but include several features of the social context, such as beliefs and norms as well as interpersonal relationships in general. According to them, technology that survives has reached a reasonably wide acceptance of all the relevant social groups. In the SCOT terms, it has reached the *closure* point. This, however, does not mean that the same technology would have been successful in a different societal context.

Nearly a synonym for SCOT is the school of Social Shaping of Technology (SST). As its name reveals, in this thinking the shaping force of social factors is seen crucial for the evolution of technology. Of these closely related schools (SCOT and SST), SCOT is more pragmatic providing concrete concepts through which sociotechnical phenomena can be studied. The basic belief of both of these schools is included in the statement by a leading SST researcher, Judy Wajcman: "The content and direction of technological innovation are amenable to sociological analysis and explanation" (Wajcman, 2002).

If we applied the SCOT approach to the DRM technologies, we would say that, at least in the context of music download stores, these technologies have not reached the closure point. Obviously, the technology was developed too much for one interest group, the music industry, while the consumers found just restrictions and cumbersome functions in the technology. If the benefits of digital content producers and consumers have been too far from each other in order to converge, in SCOT terms, there is no *closure* regarding the technology (see Pinch & Bijker, 1984). What was said about DRM in connection with the music download stores, may also apply to other characteristics of the download stores, since only a few of them have had tolerable success in general.

When we realize the meaning of different interest groups for the acceptance of an innovation, we should next inquire, how to identify these groups? Typically, social groups can be found on the basis of gender, task orientation, socioeconomic position, etc. (see Bijker et al., 2012). In this thesis, this kind of consideration is included in part of the studies presented in the articles. However, as our aim is to go further and to have more understanding of the societal level of the phenomenon, we shall analyze the results of our separate studies through "societal lenses" provided in Chapter 2 of this aggregating part of the thesis. In practice, this is done by considering a relevant generational cohort, the Digital Natives, as a relevant social group for digital content products and services. In so doing, we do not argue that this kind of approach reveals all the societal aspects of digital content consumer behavior, but we are, however, convinced that it can be a useful impetus for further studies in this field.

As Pilcher (1994) notes, each generation may have a distinctive historical consciousness that leads to experience and approaches same social phenomena in a different way. One generation may be more law-abiding than another, being, thus, more prepared to accept the “rules” that restricts them and even cause them inconvenience, losing money etc. It is a question of generational factors like moral thinking and behavior. Considering the behavior of the consumers of digital content, this approach can provide a fruitful ground for understanding better the behavior of different consumers, especially consumers of different age.

We do not argue that the morality of generations would be a straightforward issue, so that, for example, previous generations would have been more moral than their successors. However, we could ask, whether the indifferent attitudes of Digital Natives towards digital piracy (see Halttunen et al., 2010a) could be explained by the “generation gap” (see Pilcher, 1994). In so doing, we assume that consumer behavior is affected not only by the practical aspects of decision making, acquiring and using products and services but also by the ethics behind acting in a particular way and that “generational consciousness” (see Edmunds & Turner, 2002) could be a constituent of this ethics.

Ethical issues are not self-evident. Arguing whether some act is right or wrong may vary depending on a person’s idea of how rightness or wrongness can or should be evaluated. According to Hunt and Vitell (1986), a person who deems an act or a decision ethically right or wrong follows either a deontological process or a teleological process, or a combination of these. Deontological evaluation refers to the inherent rightness or wrongness of an alternative, whereas teleological evaluation refers to the rightness or wrongness of the consequences from selecting a particular alternative (Vitell, 2003). These concepts, which are a crucial part of the Hunt-Vitell (H-V) model of marketing ethics, are useful tools for analyzing all kinds of consumer behavior. The concepts are more thoroughly discussed in the next chapter.

While the H-V model provides tools to understand consumers’ decision-making at general level, there is another theory that is especially suitable for discussing consumers’ thinking behind “minor” illegalities, such as digital piracy. This theory is the neutralization theory or, as it was originally called, the theory of delinquency (Sykes & Matza, 1957). The basic idea of neutralization is as follows. When a person commits a crime, (s)he usually knows that (s)he is doing an unacceptable illegal act. However, if the person could explain his/her act in a more morally acceptable light, (s)he could avoid, to a certain extent, feeling guilty. This behavior is called neutralization. Sykes and Matza (1957) suggest five techniques that people use to neutralize their illegal acts. These techniques are described in Chapter 2.

In the following subchapter, we shall define the research questions through which the field of phenomena described above is investigated. We shall also depict the multi-view approach applied and the role of the individual studies as well as the role of this aggregation part of the thesis.

1.2 Research Questions and the Multi-view Approach Applied

As our objective is to have a comprehensive picture of digital content consumer behavior, in general and, of digital music consumer behavior, in particular, our thesis is constituted of a few “sub-targets”. These targets are concretized through three research question that we define as follows:

RQ1: What is characteristic to consumer behavior on the current digital content markets, as considered in its societal and economic context?

RQ2: How consistent is consumer behavior as a whole? Can there be variance in consumer behavior among different consumer subgroups, i.e. between consumers of different socioeconomic status, gender or age, for example?

RQ3: How can consumer behavior be described and explained as part of wider societal changes?

Consumer behavior, like other human behavior, naturally changes in the course of time. Changes take place in connection with technological, economic and other societal developments. We believe that understanding current phenomenon is based on understanding earlier developments and vice versa, that is, predicting future developments requires understanding of current behavior. Thus, predicting what will happen in the field of digital content markets in future requires deep understanding of the current phenomena. This is, obviously, an extremely important question in modern, rapidly digitalizing societies.

By ‘social and economic context’ (RQ1) we mean those technological, business and societal factors and processes, that shape the reality in which a consumer makes her/his choices. While opportunities of digital technologies have gained much attention, other aspects have usually been subordinated to the technological one. In practice, this means that the conversion from technological opportunities to business opportunities, and further, to profitable commercial solutions is often seen too simple. Emphasizing the societal (and economic) context does not mean that we would ignore the great importance of technological developments, but rather to raise the importance of societal factors for the “big picture”. As this thesis belongs to the field of information systems science, we do not, however, go in details of describing the sociological or economic theories and their constituents. However, the necessary core concepts of these areas are discussed in Chapter 2.

As we use the words ‘consistency’ and ‘variance’ in RQ2, our target is simple: we are interested in the basic knowledge through which we can better understand the homogeneity/heterogeneity of digital content consumers. This knowledge is important when building new business models or when fighting

the negative impacts of digitalization, such as digital piracy. Since it is impossible to cover all aspects of this question in one thesis, even if it was the only question, we have selected an inductive strategy to get the answer: through empirical studies, we try to find similarities and differences among individuals' or subgroups' thinking and behavior.

The three research questions are answered by

- (1) a series of studies which combine different research strategies and methods (RQ1 and RQ2) and
- (2) an aggregating analysis (RQ1-RQ3).

Two of the studies referred to in (1) are based on literature reviews and theoretical discussions (see Articles 1 and 2). Two are based on a qualitative interview study (presented in Articles 3 and 4) while the rest are based on a quantitative research (presented in Articles 5, 6, and 7). The summary of each article (background, motivation, research task, method, main findings, and contribution) is provided in Chapter 3. All the articles, with the exception of Article 1, have been produced as part of the same research project (the DCM Project).

As the phenomenon under consideration is complex, a multi-view approach is followed (Figure 2). In practice, this means that the issues are considered from different points of view and at several levels of detail. The separate investigations (reported in the articles and in this aggregating part of the thesis) also have varying scopes. We start with a wide scope by considering the relationships between information technology, research and society. This is mainly reported in Article 1, which calls for more multifaceted and less biased research on the consequences of information technology and information systems. Next, we shall narrow our scope to, and focus on, digital markets: the constituents of digital markets (technologies, businesses and consumer behavior) are considered in Article 2. The next step is still towards a narrower scope, but the analysis is deeper and more detailed. This step consists of a series of studies on digital music consumers, their thinking and behavior. The procedure and findings of these studies are described in Articles 3-7. Finally, we return to the wide scope, and discuss all the above studies against the theoretical constituents discussed in Chapter 2.

A multi-view or multi-method approach is a common way to improve the validity of research. The approach, which is widely used in social sciences, in particular, is called triangulation (Jick, 1979). Denzin (1978, according to Jick, 1979) defines triangulation as "the combination of methodologies in the study of the same phenomenon". Besides that triangulation can be used "to examine the same phenomenon from multiple perspectives", it also provides a means "to enrich our understanding by allowing for new and deeper dimensions to emerge" (Jick, 1979, 603-604). Therefore, it is very useful for our purpose.

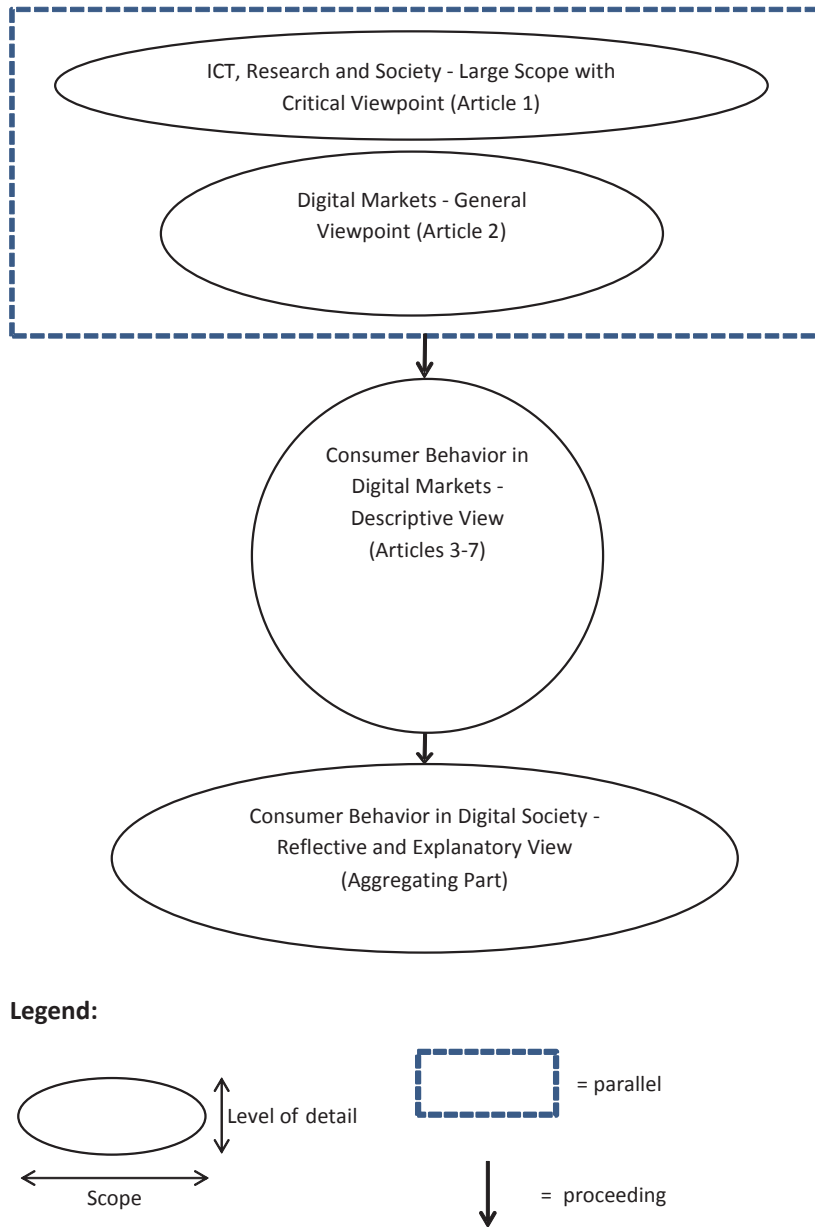


FIGURE 2 The multi-view approach applied in the thesis

1.3 Structure of the thesis

This thesis consists of two parts. The first part (which we refer to as “Aggregating Part”) consists of this introduction chapter and three other chapters. The second part includes the original articles in the form they have been published.

In the previous subchapters, we have described the themes and phenomena that are in our interest and presented the research questions as well as the overall methodological choice. In the subsequent chapters, we first outline the most relevant theoretical background in Chapter 2. Next, in Chapter 3, we summarize the original articles and tell how the author of this thesis has contributed to producing each article.

In Chapter 4 we discuss the main findings of the separate studies on the theoretical and conceptual basis. In order to do this, we introduce in Chapter 2 a few theoretical foundations that are, to a large extent, supplementary to those that are presented in the articles.

Theories have had a different role in each study. One of the studies has been driven by a theory (Article 6) while for four studies theoretical frameworks have provided a means to direct and focus the studies and interpret the results (Articles 3-5 and 7). As mentioned above, the first two of the studies (Articles 1-2) are literature reviews that were accomplished without any previous theoretical framework. The first one (Article 1) relied on going systematically through selected concepts. In the second one (Article 2) an own framework was built on the basis of a preliminary literature review. The framework was elaborated as a result of the final literature analysis. Theories and conceptual frameworks have also provided useful tools to interpret the results of the empirical studies. In the retrospective analysis and synthesis of the individual studies (Chapter 4) theoretical constituents (Chapter 2) play a crucial role.

2 THEORETICAL ASPECTS AND CONSTITUENTS

There are several aspects through which the phenomena described above can be studied. Consumer behavior in the Digital Era is a new, complex and scattered field to be studied. Besides a few theoretical frameworks built for this purpose, theories need to be borrowed from other fields. Utilisable theoretical constituents may include technological, economic, societal, and psychological factors.

In this aggregating part of the thesis we approach the phenomena described above in the context of societal change. Societal change takes different forms. It happens in the developments of technology, micro and macro economics as well as in ethical thinking and behavior. Although the phenomena could be studied as an independent issue, a deeper understanding of them requires an interdisciplinary approach.

To understand consumer behavior in the Digital Era and to integrate and compress the findings of the series of studies included in this thesis, we extract some relevant fields of both sociological, psychological and ethical aspects of consumer behavior.

Since technology has always had a prominent role in societal changes in general, and in economic growth, in particular, we start with a brief introduction to the relationship between the evolving technology and the society within which the technology is developed and used. This is done by reviewing some relevant findings from a scientific field currently labelled Science, Technology and Society (STS). Next, we consider the theory of generations. This helps us to better understand how the cohorts of different eras occur. Finally, we present a few frameworks that can be used for analyzing consumer behavior in general, and consumer behavior in digital markets, in particular.

2.1 Thoughts of technology and society

No doubt, technology has been a main factor in the evolution of modern societies (Wajcman, 2002). Nonetheless, there is no consensus on how prominent the role of technology has been and how technology interacts with the rest of society. The relationship between technology and society is particularly considered in the scientific field that is known as Science, Technology and Society (STS, also referred to as Science and Technology Studies) (see Hackett et al., 2008). Of this field we present the two schools that are the most relevant for our purposes: (1) the school of Social Shaping of Technology (SST), and (2) the school of Social Construction of Technology (SCOT). Since STS can be seen as a counter reaction to the thinking known as technological determinism (TD) it is necessary to know what is that is opposed by STS. Therefore, we start our analysis of STS by first defining the concept of technology and then by summarizing the core ideas of TD.

Working definition of ‘technology’. It is not straightforward to define the concept of technology, since it is used in a wide range of meanings: it can represent things, actions, processes, methods, and even systems (Kline, 2003, 210). This variance in the use of the concept reflects different stances on how controllable technology is to a man. Technology can be seen as a “darwinistic” process with its own internal laws as it was seen by technology determinists, Clarence Ayres among them (Mayhew, 2010).

Technology can be seen as a tool, i.e. as an artefact with which carrying out some action would be possible (see Gehlen, 2003). However, to have tools, humans have to manufacture them first. Thus, one can say that the two aspects consist of manufacturing and using artefacts. All this happens in a social context. This implies that technologies can be seen as (1) sociotechnical systems of manufacturing and (2) sociotechnical systems of use. (Kline, 2003.)

Although sociotechnical systems are common to most animals, innovations that systematically and continuously improve performance are characteristic to human behavior (Kline, 2003). Furthermore, it is widely argued that technology not only occurs in its social context, but also that this context is vital for which technologies are accepted by people and which ones, hence, survive (e.g. Bijker et al., 2012; MacKenzie & Wajcman, 1999). In this thesis, we adopt this social-constructive view of technology. Technology is, thus, in a mutual, evolutionary relationship with the surrounding society. It is seen both as a process in which (1) artefacts are made by humans and (2) those artefacts are given socially constructed meanings. In the following, we open this idea in more detail. The approach is known as social constructivism. We start, however, by briefly describing what is meant by technological determinism.

Technological determinism. The intellectual roots of technological determinism (TD) can be traced to the time of the Enlightenment Age when there was an enthusiastic faith in technology (Smith, 1994). In the spirit of the Enlightenment, new ideas were born in both economics and natural sciences.

The early originator of modern economics, Adam Smith, considered 'competition' in macroeconomics in a systematic way, which had a great influence on biologist Charles Darwin, who applied the idea of competition to biological systems. (Hodgson, 1999, 87-88.) Darwin's theory, in turn, inspired Karl Marx, who analyzed socioeconomic structures through technological evolution. He said: "The hand-mill gives you society with the feudal lord; the steam-mill, society with the industrial capitalist" (adopted from Heilbroner, 1967). In this thinking, as we can see, the socioeconomic structures are dependent on the technology of that time, or even more, these structures are determined by technology.

The core ideas of technological determinism are that (1) technology has a great power to cause changes in socioeconomic circumstances (e.g. Marx & Smith, 1994) and (2) technological development is more or less autonomous (e.g. Bimber, 1994). Depending on how intrinsic the development of technology is seen, it is possible to make a distinction between "hard" TD and "soft" TD. According to the "hard" TD, the advance of technology leads to the determined outcome, whereas in the "soft" TD thinking the technological evolution is more or less dependent on social, economic, political, and cultural circumstances (Marx & Smith, 1994).

Bimber (1994) argues that the distinction between "soft" and "hard" TD makes the idea of TD unclear. If we really think that human history is plainly determined by technology, we are advocates of "hard" TD. This is what Bimber (1994) calls Nomological account of technology. According to it (1) technological developments are seen to strictly follow the internal logic of technological evolution and (2) technological changes cause, in a direct way, societal changes. Bimber (1994) picks up Heilbroner's article (1967) as a good example of nomological interpretation of technology. According to it, technological developments can be seen as a sequence of pre-determined steps. In practice, this implies that when considering technological developments from technology A through technology B to technology C, there is no alternative, direct way from A to C. Instead, B is the necessary antecedent for C (see Heilbroner, 1967). Furthermore, for this interpretation, C is the only possible outcome of B, and B is the only possible outcome of A.

By arguing that the concept of TD should be considered as a synonym for "hard" TD, Bimber (1994) actually makes the practical use of TD very narrow. Nevertheless, TD, in its wider or narrower meaning, has had a great influence on thinking about science, technology and society. In the 1970s and 1980s, its neglect or marginalization of social and human factors inspired a large group of multidisciplinary scientists for a counter reaction which led to the emergence of the school of Science and Technology Studies (STS) (Wajcman, 2002).

Social Shaping of Technology and Social Construction of Technology.

Within STS, two approaches, Social Shaping of Technology (SST) and Social Construction Of Technology, gained much multidisciplinary attention (thorough considerations of these areas can be found in Hackett et al., 2007; Jasanoff et al., 2001 (STS); MacKenzie & Wajcman, 1999 (SST); Bijker et al., 2012

(SCOT)). The research traditions of both SST and SCOT have vitally contributed to the understanding of the sociotechnical nature of the development of technology. They are closely related and they share the same target: to open the black-box of technology (e.g. see Williams & Edge, 1996 and Hackett et al., 2007). As Williams and Edge (1996) note, they are often treated as synonyms. Yet, they can be, at least conceptually, distinguished from each other. Although for our purpose it is not necessary to make a strict distinction between the two schools, we provide the basic ideas of both these approaches.

Two persons who have had a great influence on social constructivism in general, and on SCOT in particular, are Wiebe Bijker and Trevor Pinch. Their seminal research paper (Pinch & Bijker, 1984) provided a starting point for the development of the approach. They have also edited, together with Thomas Hughes, a widely used handbook of this approach (Bijker et al., 2012). Donald MacKenzie and Judy Wajcman, in turn, are two central figures of SST. They have published several influential articles around SST and, furthermore, edited a handbook of this approach (MacKenzie & Wajcman, 1999). Of these two approaches or traditions we first introduce SST, since it can be seen as a “broad church” (Williams & Edge, 1996) providing, thus, ground to going further with SCOT that deals with more strict concepts, such as ‘interpretative flexibility’, ‘closure mechanism’ and ‘social group’ (Pinch & Bijker, 1984).

Although the idea that technology does not evolve autonomously but is socially shaped is not new, it was not until the mid-1980s when the approach of SST was clearly advocated (Bijker, 2001). That was the year when the handbook of SST, ‘The Social Shaping of Technology’ (MacKenzie & Wajcman, 1999), was published for the first time. The book includes a great variety of ideas on how technology is “socially shaped”. We concentrate on the basic ideas of this approach.

The origin of STS, of which SST is a part, is that “the content and direction of technological innovation are amenable to sociological analysis and explanation” (Wajcman, 2002, 351). According to this view, technology does not have any internal rules that would force its evolution to one and only one direction. Rather, there are several technical options that can be selected. Whereas TD assumes that technology evolves and humans must just adapt to technological changes, SST argues that technological development is shaped by social actions such as public discussion and political decisions (MacKenzie & Wajcman, 1999, 5).

Recognizing the importance of social shaping factors does not imply that other shaping factors would not exist or would not have enough importance. MacKenzie and Wajcman (1999) discuss how economics, science and technology itself, or perhaps better say economic, scientific or technological “laws”, shape technology. Science has been seen as a driving force for technological development. MacKenzie and Wajcman (1999, 7), however, note that technology cannot be considered just as application of science, since “technology has contributed as much to science as vice versa”. Although the idea that technology shapes technology is partially true, MacKenzie and

Wajcman (1999, 8-9), nevertheless, deny that there is a causal relationship from an older technology A to a newer technology B, and that B *must* occur when A is present. Rather, it is obvious that an existing technology is a precondition of a new technology.

In the neoclassical approach it is assumed that technologies that give best profits to the companies are selected (MacKenzie & Wajcman, 1999, 13). Apparently, companies try to maximize their profits, but how can they know when selecting a specific technology that it will give the best profit? So, while acknowledging that in the modern world the role of economics is emphasized, it is highly arguable that businesses alone decide which technologies will survive.

Social shaping of technology occurs because of a wide set of social factors. When science, technology and economics are seen like SST scholars see them, in connection to each other, and furthermore, to political and cultural factors, they are mutually affected by all the other factors (e.g. see MacKenzie & Wajcman, 1999; Williams & Edge, 1996). Basically, thus, the idea of SST is simple: technological development is not pre-determined but dependent of the complexity of circumstances. The approach of SST is also utilized in explaining the development of information technology (e.g. Usman et al., 2014; see also Williams & Edge, 1996, 880-889) and media (Boczkowski, 2004).

As mentioned above the social construction of technology approach is often paralleled with SST (Williams & Edge, 1996, 866). However, rather than being the same, these two approaches should be considered as “closely allied” (Bijker et al., 2012, xxii). We argue that the difference between SST and SCOT is in the strictness of conceptualising. Whereas SCOT relies on the basic concepts of the seminal article by Pintch and Bijker (1984), SST can be seen as a broader and maybe more pragmatic approach (see Williams & Edge, 1996).

‘Interpretative flexibility’, ‘closure mechanism’ and ‘social group’ are the basic concepts of SCOT (Pintch & Bijker, 1984). ‘Interpretative flexibility’ refers to the cultural interpretation of technological artefacts. This implies that there is flexibility in (1) how people think of or interpret artefacts and (2) how artefacts are designed (Pintch & Bijker, 2012, 34). Because of the interpretative flexibility there are several options of how technologies evolve. ‘Social group’ has a crucial role in the adoption of a technology. ‘Social group’ refers to institutions and organizations as well as organized or unorganized groups of individuals who share the same set of meanings attached to a specific artefact. (Pintch & Bijker, 2012, 23.) Consumers of an artefact can easily be conceived as a social group.

According to Pintch and Bijker (1984, 2012) technological development can be depicted and explained by three pictures each of which deals with a simple relationship (Figure 3). The first relationship is between an artefact and its relevant social groups. The second relationship is between a social group and problems seen by the social group. Finally, the third relationship is between a problem and alternative solutions to the problem. While a technology-deterministic view emphasize that an artefact occurs because it *must* occur as a

causal result of earlier developments, the SCOT approach puts the above three relationships together and argues that the technological outcome is dependent on how the relevant social groups see the artefact, its ability to solve the problems that are relevant to the social group(s). Pitch's and Bijker's classical example of social construction of technology considers the development of the bicycle. We do not go further into this analysis, but the picture of their analysis is provided in Figure 4 (Pintch & Bijker, 2012).

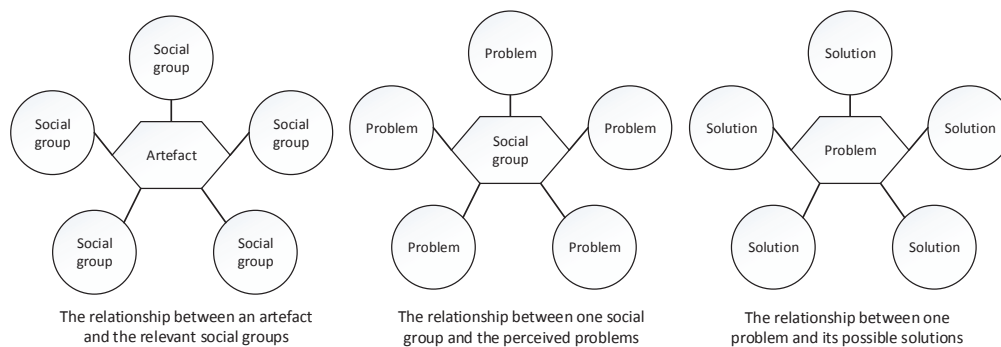


FIGURE 3 Artefacts, social groups, problems and solutions (redrawn from Pintch & Bijker, 2012)

Since not all artefacts are similarly successful – some survive and have success, while some die without any success – it is necessary to find a mechanism that explains this process. In SCOT, the mechanism is called closure. Closure means a mechanism that leads to “the stabilization of an artefact and ‘disappearance’ of problems” (Pintch & Bijker, 2012, 37). By saying that there are no problems anymore does not mean that the artefact is free of technological problems, but rather that the relevant social groups do see that the technology has solved their problems. This implies that technological success and, in many cases, commercial survival and success, is dependent on how the crucial social groups see this issue.

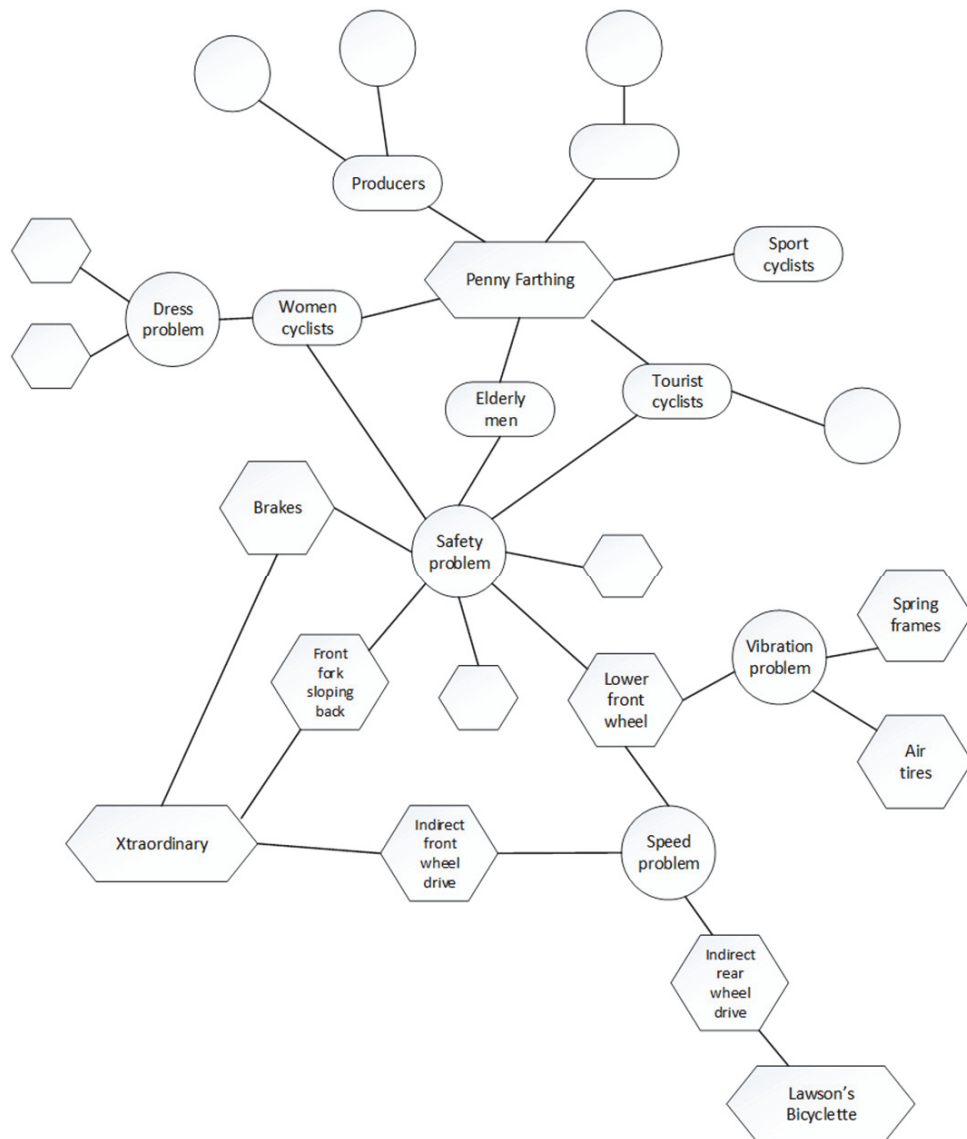


FIGURE 4 Relevant social groups, problems and solution in development of bicycle (redrawn from Pintch & Bijker, 2012)

2.2 Thoughts of generations

In common language, the notion of generation is widely used “to make sense of differences between age groupings in society and to locate individual selves and other persons within historical time” (Pilcher, 1994). In a scientific sense,

the term is probably best known from the writings of sociologists. It was introduced in a systematic way by Karl Mannheim (Eyerman & Turner, 1998; Pilcher, 1994). In Mannheim's sociology, the concept of generation was used as an alternative to such concepts as 'social class' to explain social change. It has been utilized, for example, in analysis of specific generations such as the Lucky Generation or the Sixties. (Eyerman & Turner, 1998.)

Eyerman and Turner (1998) define generation as "a cohort of persons passing through time who come to share common habitus, hexis and culture, a function of which is to provide them with a collective memory that serves to integrate the cohort over a finite period of time". Each generation may have a distinctive historical consciousness leading it to experience and approach the same social and cultural phenomena in its own way (Pilcher, 1994). Applying this finding to the SCOT approach presented above, it can be assumed that a generational cohort could be considered as a potential 'social group' of a technological artefact. This will also be done in the post-analysis of our empirical studies (Chapter 4).

Within a generation two calendars are intertwined: the one of personal life span, and the other of history (Pilcher 1994). Thus, a generation consists of both an individual, or psychological element, and a sociological element. On one hand, belonging to a particular generation implies that an individual can share the meanings of experiences with other individuals of the same cohort. On the other hand, the ways of sharing individual experiences, that is, communicating, are typical within a generation. Thus, a generation adopts both visible cultural elements like language, clothing, and hobbies that are typical for that generation, and invisible cultural elements like values, beliefs and even moral attitudes. For our analysis the latter ones, especially the moral or ethical issues have a great importance.

It is sometimes difficult to decide where a generation ends and starts. However, big historical events, like wars or periods of prosperity and welfare or of a deep recession, tend to start new generations. Thus, we can talk about the War Generation referring to those who share the experiences of the World War II, and about the Sixties generation when referring to those who share the experiences of the atmosphere of hopefulness after the difficult decades of 1940-50. By defining a cohort as Edmunds and Turner (2002) do, "as a collection of people who are born at the same time", timing of a cohort is straightforward.

When Mannheim introduced his ideas of generations, he was not able to understand what the situation would be in the 21st century. As we now know, generations are no more tied to their national contexts but rather they are global. (Edmunds & Turner, 2002, 114-115.)

The generation that is of a special interest in this thesis is the one that is known as Digital Natives. The above-mentioned "globalism" is characteristic to this generation. There is no clear consensus about when this generation has emerged. Palfrey and Gasser (2008, 1) say that "[t]hey [Digital Natives] were born after 1980 when digital technologies [...] came online". We argue that this definition is not the best possible, since it is quite obvious that those who were

born 1980-1990 got acquainted in their youth with IT that was more often off-line than online. The biggest change in this took place when WWW technologies became available to nearly everyone in the Western World during 1995-2000. Hence, it is logical to consider that the “real” Digital Natives were born in the 1990s or later, or in the end of the 1980s at the earliest.

Besides the previously-mentioned global aspect, what are the characteristics of the generation born to be “online”? Palfrey and Gasser (2008), whose book “Born Digital” belongs to the widely referred literature dealing with this theme, note that Digital Natives have faced a technological revolution that brought with it both threats and opportunities in one package. The Digital Natives have had to cope with drastic changes with respect to identities, privacy, safety, quality and overload of information, ethical issues such as piracy, and the ways of participating in building the society as well as producing and using the content of the digital world. In their synthesis, Palfrey and Gasser (2008, 273-290) discuss, on one hand, how the Digital Natives are masters in “shaping the culture in which they are growing up” (Palfrey in Gasser & Palfrey, 2008, 287-288). On the other hand, they consider how former generations as legislators, and as parents, educators etc. can contribute to fighting the threats of the digital world (Palfrey & Gasser, 2008, 279-287). While the world of Digital Natives seems to have changed in every aspect, there is also a link, and always has been, between the youngest generation and the previous generations.

At the beginning of the new millennium, it was typical to emphasize the technological skills of Digital Natives (Oblinger & Oblinger, 2005; Palfrey & Gasser, 2008). While acknowledging the Digital Natives’ abilities in using information technology researchers have questioned the idea that Digital Natives are born with inherent skills (e.g. see Margaryan et al., 2011). Furthermore, there is empirical evidence that Digital Natives, as users of digital contents, are much more “spectators” than “creators” (Williams et al., 2012). “Born to be online” is obviously more related to psychological factors such as beliefs, values and trust, than to technological excellence.

In changing technological, social and societal environment, generational approach provides—as Edmunds and Turner (2002) note—a respectable conceptual instrument to analyze the emerged changes in societies. In terms of technological innovations that have changed people’s lifestyles, the emergence of personal computing along with effective telecommunication technologies has meant a dramatic change in everyday life. Use and delivery of digital contents through the Internet, which is the focus of our thesis, comprise a main part of these changes.

2.3 Theories and models for explaining consumer behavior

Consumer behavior has been explained by several theories and conceptual models (e.g., see Solomon et al., 2012). Keeping in mind our objectives the most

interesting theories are those that focus on (1) acceptance of new technologies, particularly IT applications, and (2) consumer decision-making and ethics.

One of the best known theories (in social psychology) for predicting human behavior and understanding the motivational influence on it is the theory of reasoned action (TRA) (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). Basically, the TRA model is simple (Figure 5). The volitional behavior of a person is affected by behavioral intention which, in turn, is influenced by attitudes and subjective norms. In other words, attitudes and subjective norms can be used to predict a person's behavioral intention, which can be used to predict the volitional behavior.

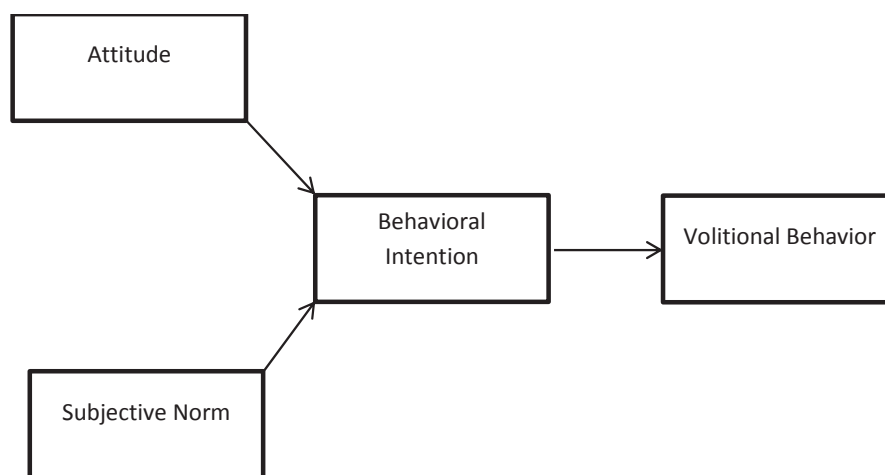


FIGURE 5 The TRA model (Fishbein & Ajzen, 1975)

TRA is developed further in the theory of planned behavior (TPB) (Ajzen 1985; 1991). Compared to TRA, TPB includes an additional element called perceived behavioral control (Figure 6). This factor refers to a person's beliefs of his/her abilities to perform a certain behavior. These abilities may include skills, facilities, and opportunities. In other words, it refers to the extent by which the person considers the behavioral situation is in his/her own hands.

TPB is designed to be a general model to explain many kinds of human behavior (Ajzen, 1991). It is widely utilized in different fields of research (see Ajzen, 2011), including the field of IS/IT (e.g. Cheng & Huang, 2013; Pavlou & Fygenson, 2006; Phau et al., 2014; Wang & McClung, 2011; Yoon, 2011). It was also applied in the study reported in Article 6 of this thesis.

Another application of TRA is the Technology Acceptance Model (TAM) originally designed by Davies (1986). In TAM, it is assumed that the actual behavior is directly affected by behavioral intention, similarly to TRA or TPB (Figure 7). The factors affecting behavioral intention are, however, different. Since TAM was developed in the context of IS use, the factors reflect this scope.

They are called perceived usefulness (of a system) and perceived ease of use (of a system). According to TAM both of these factors affect directly the behavior intention. Besides, perceived ease of use directly affects perceived usefulness. TAM has been utilized and developed further by, for example, Davis (1989), Davis et al. (1989), Venkatesh and Davis (2000) (TAM2) and Venkatesh et al. (2003) (UTAUT).

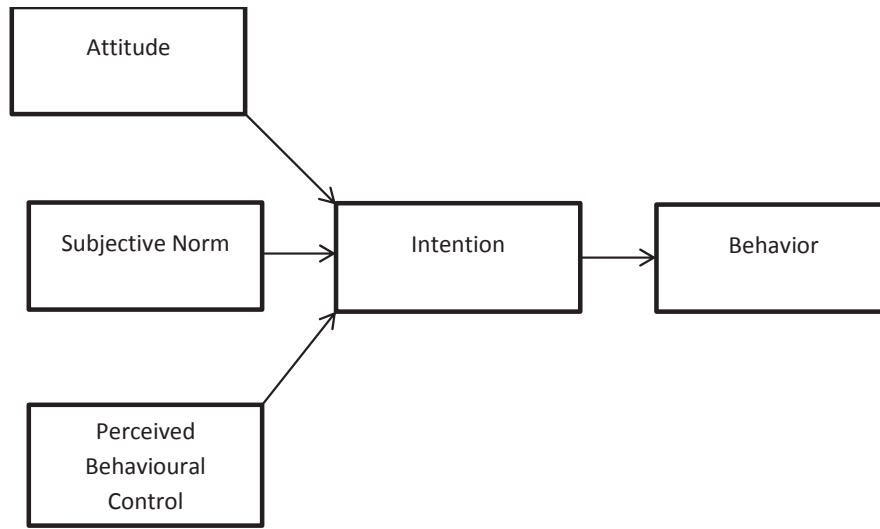


FIGURE 6 The TPB model (Ajzen, 1985)

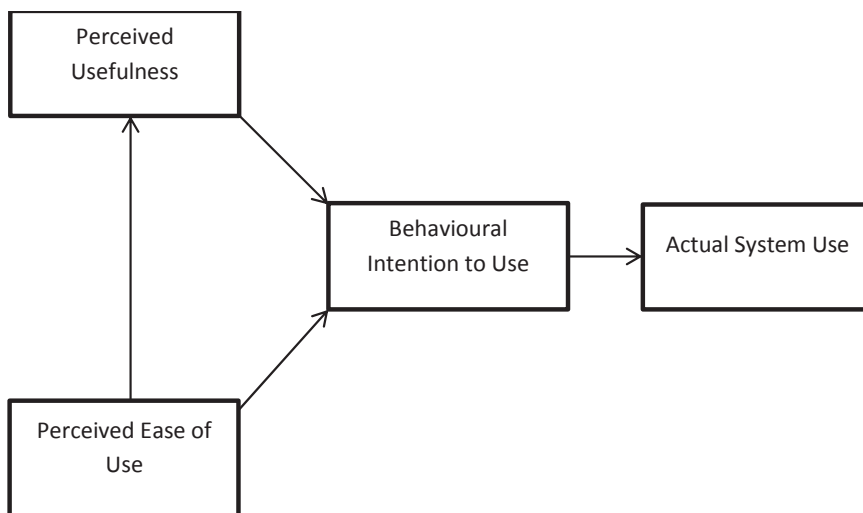


FIGURE 7 The Technology Acceptance Model (Davis et al., 1989)

An important perspective of consumer behavior is the one of consumer ethics. These issues are thoroughly discussed and modelled by Hunt and Vitell (1986, 2006). Their theory is a general theory of ethical decision making (Hunt & Vitell, 2006). While the other models of marketing ethics usually consider the issue from the seller's point, the Hunt and Vitell theory can be applied to analyzing the consumer's ethics, too (Vitell, 2003).

The Hunt and Vitell (H-V) model is rather complex (Figure 8). However, its basic structure is simple. It has components similar to those of TPB (behavior, behavioral intentions, and factors affecting these two). The H-V model can be seen as an ethical decision-making model. Its starting point is a situation where an individual confronts a problem with ethical content (Hunt & Vitell, 2006). What is seen as an ethical problem depends on cultural and personal factors (called cultural environment and personal characteristics, in the model). Besides these two groups of factors included in the general theory, Hunt and Vitell (2006) also describe three other sets of factors for "professional and managerial contexts: professional environment, industry environment, and organizational environment. As the ethical problem is realized, the decision-maker goes through a set of alternatives for how to behave in the situation. Usually, all possible alternatives are not available for the decision-maker, just a subset of them. Next, the decision-maker goes through both or either of the two basic evaluation processes: a deontological evaluation and/or teleological evaluation. Deontological evaluation means that "the individuals attempt to evaluate the inherent rightness versus wrongness of various behaviors or alternatives" (Vitell, 2003). The teleological evaluation, instead, means "the consumer's assessment of how good versus bad will result from the decision" (Vitell, 2003). While the deontological evaluation is based on deontological norms that represent the individual's values, the teleological evaluation considers which alternative brings most good over bad. Thus, it can be argued that deontological evaluation is more absolute in its nature whereas teleological evaluation is more relative. Both of the two evaluations affect the ethical judgement which, in turn, affects the behavioral intentions. According to Hunt and Vitell (2006), teleological evaluation has also direct effects on the behavioral intentions. Actual behavior can be seen as a result from behavioral intentions that are affected by action control factors (compare with PBC in TPB).

Typically, a consumer's ethical judgment is a function of both deontological and teleological evaluations. However, since teleological evaluation has also direct effects on intentions, the intentions may differ from ethical judgments. In other words, if certain behavior is preferred because it is seen most ethical, an individual may still intend to adopt a different alternative due to the highly desired consequences (Vitell, 2003). In other words, if an action can be doomed from a general point of view, it can still be performed due to the remarkable positive consequences on the acting individual.

It is notable that when the behavioral intentions and actual behavior are "inconsistent with ethical judgements, there will be feelings of guilt" (Hunt &

Vitell, 2006, 4). This was also realized in our empirical studies, especially in the interview studies reported in Articles 3 and 4.

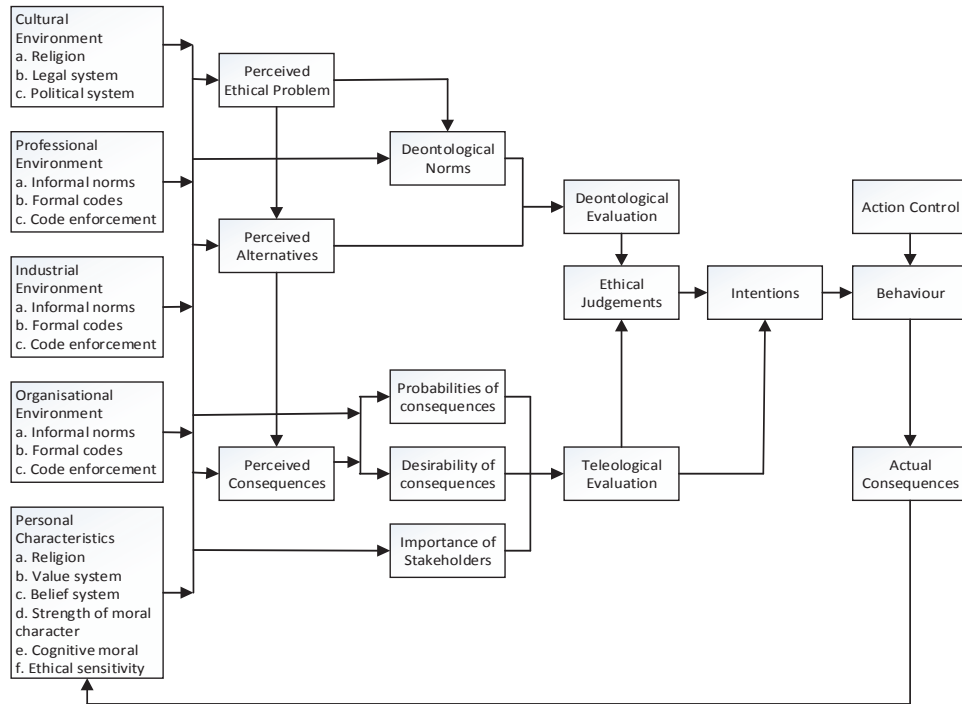


FIGURE 8 The Hunt-Vitell Model (redrawn from Hunt & Vitell, 2006)

What happens when a person feels guilty? One of the theories that attempt to explain such situations is the neutralization theory or, as it was originally called, the theory of delinquency (Sykes & Matza, 1957). In their seminal article, Sykes and Matza considered juvenile delinquency and the ways young criminals could deal with feeling guilty or shame. When a person commits a crime, (s)he usually knows that (s)he is carrying out an illegal act which is wrong. However, if the person could explain his/her act to make it morally acceptable, (s)he could avoid, to a certain extent, feeling guilty. Sykes and Matza (1957) present the following five techniques through which this neutralization of guilty feelings could happen: (1) the denial of responsibility, (2) the denial of injury, (3) the denial of the victim, (4) the condemnation of the condemners, and (5) the appeal to higher loyalties. Since these techniques provide a way to explain certain behaviors of young digital content consumers found in our empirical studies, we briefly introduce in the following each technique according to the original ideas of Sykes and Matza (1957, 667-669).

The denial of responsibility is a neutralization technique by which the responsibility of the illegal act is shifted to outside of the individual. The act can

be argued to be an accident, or a result of somebody else's behavior, for example unloving parents' behavior. Thus, by this technique the person doing illegal acts can escape the responsibility for his/her action.

The denial of injury is a very basic neutralization technique since it clearly makes an illegal act morally acceptable. According to this technique, a person may argue that the act caused no harm to anyone. Thus, vandalism against people who "can afford it" means nothing to them, or auto theft can be seen as "borrowing a car".

The denial of victim is a neutralization technique by using which the actor of a crime sees that the victim of the crime is actually not a victim. Instead, it is seen that the victim may have earlier acted in a way that well deserves punishment, for example. Robin Hoodism is a form of this technique: robbing from unfair people translates to a "well-argued" punishment on those people.

The condemnation of condemners is a neutralization technique that "shifts the attention from his own deviant to the motives and behavior of those who disapprove his violations" (Sykes & Matza, 1957, 668). For example, the police may be seen corrupted, and is, therefore, unable to condemn anyone else.

The appeal to higher loyalties is the fifth neutralization technique. This technique underlines that the wrong-doing person does not deny the rightness of laws and other rules as such, but being in a dilemma where other rules – "higher loyalties" – are in conflict with laws, the person may follow the "higher loyalties" and, thus, commit an illegal act. Friendship is an example of what a higher loyalty can be based on.

Neutralization theory is applied also in the field of IS/IT research (e.g. Hinduja, 2007; Ingram & Hinduja, 2008; Siponen & Vance, 2010; Riekkinen & Frank, 2014). Regarding this thesis, it is especially useful when discussing the issues reported in Article 4, namely, the indifferent behavior of young digital content consumers.

When considering digital piracy and consumers' unwillingness to pay for the digital content, the Hunt and Vitell theory may provide a valuable tool to explain the ethical thinking behind actual consumer behavior. Together with the neutralization theory presented above it forms a fertile ground to understanding the ethical aspects of a digital content consumer.

There are plenty of other theoretical models and frameworks that could be utilized, such as diffusion of innovation (Rogers 2003), its application to electronic market (Stahl & Maass 2006), and user acceptance of information technology (Venkatesh & Davies, 2000; Venkatesh et al., 2003), but it is impossible to include them all in one thesis. However, we pick one additional viewpoint in Dhar's and Wertenbroch's article on hedonic and utilitarian dimensions of consumers' decision-making (Dhar & Wertenbroch, 2000).

Dhar and Wertenbroch (2000) start with the argument that "consumer choices are driven by utilitarian and hedonic considerations". 'Utilitarian' here refers to instrumental and functional properties, whereas 'hedonic' refers to experiential consumption such as fun, pleasure and excitement. Typically, goods may have both utilitarian and hedonic features (e.g. a car or an

apartment). When the consumer mainly selects a product or service on the basis of its hedonic features, that product or service can be called a hedonic commodity. Correspondingly, when the utilitarian features decide the consumer's choice, the product or service can be called a utilitarian commodity.

Dhar and Wertenbroch (2000) found in their study that there is a difference in whether the consumer's preferences are considered in an acquisition condition or in a forfeiture condition. The first condition means that when making his/her decision, the consumer thinks about what (s)he is gaining through different possible choices. The latter condition means that the consumer evaluates what (s)he would have to give up as a result of his/her choice. For example, when buying a new apartment, one option may have remarkable utilitarian features (a short distance between the new house and job), while another option may have remarkable hedonic features (an extremely beautiful scenery). Depending on the current situation, the consumer's choice may be different. If the consumer's current home does not have either of the above characteristics, the choice would be an acquisition decision. Vice versa, if the consumer's current home has both of the features mentioned above, selecting between the options is a forfeiture decision. The main finding of Dhar's and Wertenbroch's study (2000) was that in a forfeiture condition, the consumer is likely to prefer the hedonic features of goods. The researchers do not, however, explain in detail why this happens. One explanation could be that the consumers develop symbolic relationships with things they possess and that these relationships could be stronger for hedonic than utilitarian possessions, but this argument was not verified by the Dhar's and Wertenbroch's study. Interestingly, Dhar and Wertenbroch (2000) discussed ideas that are utilized in currently successful business models of digital music, like Spotify, in particular. The idea to utilize the hedonic behavior of consumers is harmonious with the development of Spotify from a free-of-charge service to pay-per-month service with premium options.

2.4 Aspects on consumer behavior in digital markets

Despite the fact that digital markets have existed for almost as long as Internet services have been available to businesses, research specific to consumer behavior in digital markets has been relatively scattered. Furthermore, while during the first decade of the new millennium the research on the area was rather vital, it is difficult to come across novel research findings since 2010. Retrospectively, it can also be argued that the mainstream of research in 2000-2010 could not, reflect the rapid changes in the consumer behavior related to digital contents.

In general, research on digital markets has been especially focused on e-commerce adoption and diffusion (e.g. Kunze & Mai, 2007; Pavlou & Fygenson, 2006; Stahl & Maass, 2006), e-business models (e.g. Dubosson-Torbay et al., 2002; 2004), consumer decision-making (Ahuja et al., 2003; Goode & Harris, 2007;

Soopramanien et al., 2007; Teo & Yeong, 2003), and especially on the darker side of consumer behavior, i.e. digital piracy (Al-Rafee & Cronan, 2006; Al-Rafee & Rouibah, 2010; Bhattacharjee et al., 2003; Chiang & Assane (2007); Chiou et al. 2005; Cronan & Al-Rafee 2008; d’Astous et al., 2005; Einhorn & Rosenblatt 2004; Hill, 2007; Holsapple et al., 2008; Lysonski & Durvasula 2008; Peitz & Waelbroeck, 2006; Shoham et al., 2008). Nevertheless, there is a lack of theories and frameworks that would integrate the scattered scientific results into a big picture. One aim of this thesis is to increase understanding of different aspects of consumer behavior that could be utilized in building such a general model. This is done in Chapters 3 and 4. In order to better realize our analysis, we briefly present some relevant issues of previous research in the following.

General aspects on adoption and diffusion of e-commerce and digital business solutions. A mainstream of research on diffusion and adoption of e-commerce and on the consumer behavior in digital markets is based on the theory of planned behavior (TPB) or corresponding theories that rely on the intention-behavior relationship (TRA, TAM) (e.g. Bhattacharjee, 2000; Goode & Harris, 2007; Hsu et al., 2006; Pavlou & Fygenson, 2006). In general, these studies show the usability of intention-based models for studying consumer behavior in modern electronic markets. The studies highlight different constituents of the theories. For example, Bhattacharjee (2000) underlines the role of Subjective Norm (of TPB), while Pavlou and Fygenson (2006) pay attention to Perceived Behavioral Control (of TPB). Some of the findings seem to be conflicting (compare Bhattacharjee’s (2000) findings on subjective norms with Hsu’s et al.’s (2006) findings). Obviously, most of the conflicting findings may be explained by different research settings, and TRA, TPB and their successors can be considered as valid instruments to study the adoption of technologies also with respect to digital contents.

Among other issues, utilization of the intention-based models in the context of digital markets is briefly discussed in their relevant contexts within the next few paragraphs. In fact, a very large part of the research reviewed below utilizes intention-based models in their research settings (e.g. Borja et al., 2015; Chiou et al., 2005; Kos Koklic et al., 2016; Wingrove et al., 2011).

Business models and consumer decision-making. A business model is typically defined as a description, representation, or architecture that describes the way a company intends to create value with a product or a service (Poel et al., 2006; Zott et al., 2011), but it can be used for other purposes, too, such as for classifying e-business types (Zott et al., 2011). Business models are considered as a valuable tool to understand market developments (Poel et al., 2006). In research, great attention has been paid to business models of electronic markets (Zott et al., 2011).

At the beginning of the new millennium, digital contents were, to a large extent, downloaded from a distributor to a user and the profit-making logic was based on the pay-per-download model. The download stores typically relied on DRM protection to prohibit the illegal use of digital material, and their technological implementation was based on the client-server architecture. Peer-

to-peer (P2P) networks whose architecture was different (i.e. each node of the network can be both in a client's and server's role), provided an efficient way to distribute digital content. Despite that P2P networks have been considered as a potential business opportunity by some researchers (e.g. Andersen & Frenz, 2010; Kwok et al., 2002; Hughes et al., 2005), those networks have been widely used for illegal purposes. (Halttunen et al. 2010b.)

As Apple Inc. in 2008 decided to provide music from its iTunes Store without DRM protection, a new wave of digital business started. The pay-per-download model combined with DRM protection had come to the end of its lifecycle. Generally, with the exception of the iTunes Stores, download stores never proved very successful in terms of business (see Halttunen et al., 2011). Instead, new business models that have been replacing traditional download stores, subscription-based music services especially, have been more successful (Cesareo & Pastore, 2014). An example of businesses of this category is the Spotify music service (<https://www.spotify.com>).

Digital music business models face the same basic problem as do every other business: does the service or the product meet the customers' actual needs and preferences? Hence, researchers, e.g. Amberg and Schröder (2007), have called for better understanding of the behavior and needs of consumers of digital content when aiming to develop successful business solutions. In the context of digital music this may be an especially difficult task since digital markets have continuously changed with a high velocity.

Besides the factors that are typically important for consumers, such as price, quality and variety of choices, digital content consumers' decision-making may be affected by other factors that have specific features with respect to digital services. These include ease of use of and access to the service, technological skills of the consumer, the consumer's trust on the service provider, and most recently, impacts of numerous virtual groups based on social media. All of these can shape the ways of how a consumer makes decisions.

Digital piracy. A wide range of research highlights the negative impacts of P2P networks on consumer behavior (e.g. Al-Rafee & Rouibah, 2010; Cesareo & Pastore, 2014; Chiang & Assane, 2007; Cronan & Al-Rafee, 2008). However, the question is not only of a particular technology but of a large set of interacting factors (Hill, 2007). These include moral development as well as social, psychological, and economic factors (e.g. see Hill, 2007 and Bhattacharjee et al., 2003).

In the context of digital music, piracy is generally seen as a harmful phenomenon (e.g. Borja et al., 2015; Chiang & Assane, 2007; Chiou et al., 2005; Kos Koklic et al., 2016; Nandedkar & Midha, 2012). Nevertheless, research on the actual consequences of digital music piracy on the music industry is partially conflicting (e.g. Oberholzer-Gee & Strumpf, 2007 vs. Liebowitz, 2008).

There is research evidence on that digital piracy is often seen as a minor wrong-doing when compared to shoplifting, for example (Wingrove et al., 2011). The researchers discuss the reasons and suggest that general public support for

laws that punish for downloading and sharing digital music is low. This seems to be true especially among young people. Without this general public support, fighting digital piracy will fail.

Kos Koklic, Kukar-Kinney and Vida (2016) studied individual, interpersonal and societal factors as determinants of digital piracy behavior. They found that both perceived risk (individual factor) and moral intensity (societal factor) are negatively related to piracy behavior. Perceived risk is related to individual consequences and moral intensity to societal consequences of piracy behavior. The researchers argue that piracy intentions could be efficiently affected through these two factors.

A study that combines TPB and ethical aspects in the context of digital piracy is provided by Yoon (2011). Yoon notes that subjective norm (included in TPB) can be regarded as deontological evaluations (included in the H-V model). In other words, this implies that normative ethics affect subjective norms as well as deontological evaluations. Second, Yoon (2011, 411) argues that “moral obligations have a direct impact on intention to commit digital piracy”. Third, the factor called Justice was found to have a negative impact on subjective norms towards digital piracy, meaning that the respondents of the study considered digital piracy as unfair and unethical, and “justice” was not seen as equal to “equity”, like in some earlier studies (Glass and Woods, 1996, according to Yoon, 2011). Yoon (2011, 414) also found that perceived benefits and perceived risks (reflecting the teleological evaluations) have significant impacts on attitudes towards behavioral intentions.

It seems that illegal P2P networks often meet consumers’ needs and preferences much better than their legal rivals. Besides that the material is available for free, the illegal sources are easy and quick to use and, furthermore, they include a wide range of digital music, for example (see Halttunen et al., 2010b.)

At first, there was a strong belief that DRM systems would be the solution in fighting digital piracy (e.g. Einhorn & Rosenblatt, 2004), although this belief was also questioned (e.g. Haber et al., 2003). Later, DRM was seen as just one solution among others (e.g. Peitz & Waelbroeck, 2006; Prihandoko et al., 2012). For example, Al-Rafee and Rouibah (2010) found that religion and awareness treatments were more efficient than legal treatment in fighting digital piracy. As utilization of DRM is largely based on legal aspects, the research finding by Al-Rafee and Rouibah (2010) implies that DRM is not efficient alone as a piracy protection method.

There are hopes that the current trend of increasing use of streaming-based and subscription-based music services (SBMS) will ease the piracy problem. For the time being, there is not very much empirical research available on the issue. Two recent studies, however, shed light on it. The one by Borja et al. (2015) provides an interesting and surprising finding on the relationship between music streaming and piracy behavior. Namely, the study suggests that music streaming increases the probability to download music illegally. The study does not, however, give answers on how the practical mechanism of

these effects functions. Another study (Cesareo & Pastore, 2014) focused on SBMS. They found that positive attitudes towards digital piracy are negatively related to willingness to try a legal alternative, i.e. SBMS. Furthermore, hedonic and economic benefits were positively related to digital piracy, while moral judgment had a negative effect on it. The researchers also noted that interest in SBMS was positively related to the willingness to use these systems. When summarized, these findings can be interpreted to mean that despite the many opportunities provided by SBMS the problem of digital piracy is not solved by any single technology or business model, but that there also several individual, social and societal factors that needs to be taken into account.

2.5 Conclusions

The purpose of this chapter is twofold. On one hand it provides a means to better realize the brief summaries of the individual studies presented in Chapter 3. On the other hand, it is necessary in order to comprehend the retrospective analysis presented in Chapter 4. Thus, the concepts, theories and frameworks we have considered and discussed provide a theoretical background through which our studies can be analyzed and interpreted.

Because technology, both as a concept and as a practical constituent of everyday life, has an important role in our analysis, we started our presentation by discussing what is meant by technology. This was followed by theoretical considerations on the relationships between technology and other constituents of society. We especially made a distinction between the deterministic school, and the constructivist school, of technology. We showed the usefulness of the school of Social Construction Of Technology (SCOT) for our purposes. In the rest of the chapter we reviewed theoretical frameworks that are suitable for analyzing consumer behavior in general, and digital content consumer behavior in particular, including the "dark side" of the behavior, i.e. digital piracy.

It is notable that while providing valuable insights into the phenomena under consideration, as separate these theoretical constituents are much less useful than when combined. The weakness of the frameworks utilized for analyzing digital markets and digital consumer behavior is that they do not consider the phenomena at societal level, which we have seen necessary (see Article 2). Theoretical thoughts of generations and of the relationship between technology and society presented in this chapter, instead, provide a wider scope with the focus on societal aspects. However, they have not been broadly utilized, prior to this thesis, for explaining consumer behavior in digital markets. Furthermore, as pointed out in Article 2 of this thesis, the phenomenon we are interested in is so manifold that a single perspective is not alone sufficient.

In the next two chapters, we first summarize our studies presented in the attached articles (Chapter 3). Next, we retrospectively analyze the findings of the studies against the theoretical constituents (Chapter 4).

3 ARTICLES

In this chapter we summarize the articles that describe the accomplished studies. The original articles are included in the Appendices of the thesis.

3.1 Article 1: Less, Slower, Better. Do Information Society Visions Have Healthy Alternatives?

Background. Research on IT and its applications has been biased by optimism related to the effects of IT on individuals and societies. Generally, technology has been seen as a great opportunity rather than a potential threat. The impact of IT on the developments of societies or on individuals' social lives is considered in a relatively deterministic way in current research.

Motivation. This paper provides an analytic insight into the relationships between IT, societies and individuals. It aims to highlight some minefields of over-optimism related to IT. This could help direct the research of IT and information society in new areas that are neglected or underrated by now.

Research Task. Our task was to critically analyze current trends in practice and research of information systems from the information society's point of view. By doing so, we aimed to find new fertile ground for the long-range research of, and for, the information society.

Method. The research is based on an analytical literature study combined with a small experiment. The emphasis of the literature study is not on extensiveness but rather on deep interpretations of the relevant literature. The experiment was carried out as a set of Google Scholar searches. More precisely, a few Google Scholar searches were done to estimate how the advantages and opportunities of IT/IS, on one hand, are represented in the current research literature, and how the disadvantages and threats of IT/IS, on the other hand,

are represented. The role of the experiment was to find support to our assumption on biased orientation of the current research.

Main Findings. The main finding of our paper was that we need a more proactive attitude towards the development of the information society. We pointed out that information society was considered very much as technology-driven without actual criticism about the technology itself. Even constructive criticism was difficult to find if compared to how easy it is to find articles that emphasize the positive effects of IT. In other words, the information society is seen as an outcome of purely positive evolution where technology is the main impetus. As a result of our study, we, instead, argue that the information society is mainly a construction of human and interpersonal processes that may also be negatively affected by new technology. These potentially negative effects should be researched more thoroughly.

Contribution and my role in it. The study revealed a potential black box in developing IS/IT in the modern societies. The paper was equally contributed by the three contributors in each phase of the study. In writing the paper, Chapters 1 and 5 were my responsibility.

3.2 Article 2: Perspectives on Digital Content Markets: a Literature Review of Trends in Technologies, Business and Consumer Behavior

Background. At the time when this study was planned and carried out, digital content market was a relatively new and scattered field of research. There was a need for a comprehensive understanding of different aspects of digital markets.

Motivation. By this study we aimed to provide a sound starting point for further studies of the area. The result of the study was seen as a roadmap to prioritize and select the most relevant issues for more focused studies.

Research Task. The first task was to construct a big picture of the digital content markets. The second task was to analyze the state-of-the-art knowledge through the construct. The third task was to use the analysis to find relevant areas for further study.

Methods and Process. This study was an analytical and constructive literature study. After a preliminary literature study, a light framework for a more thorough literature study was built. On the basis of the framework, relevant literature was searched for through the Internet. The found literature was analyzed and categorised according to the preliminary framework. Finally, implications were made and the framework revised.

Main Findings. There were two primary findings from this study. First, it was observed that there was a need to integrate separate perspectives—business, technology and consumers—into a whole. In our paper, we called this “whole” the *society*. Society is not only an additional perspective in the framework but also a collective level that includes and integrates the mentioned three perspectives. Second, we found that as regards to the digital markets, understanding of consumer behavior was scattered and thin. It was argued that deepening this understanding should be a main focus of research hereafter.

Contribution and my role in it. The study provided a comprehensive view on digital content markets based on the scientific knowledge of that time. As a result, a simple model was developed that relates four perspectives - technology, business, consumer, and society - to each other. Furthermore, ideas for subsequent studies were generated. Planning the study was a common task, whereas realization and writing the paper was my and Markus Makkonen’s responsibility. I was responsible of writing the Introduction, Analysis of the Technology Perspective and the Implications. Writing the Consumer Perspective was a common effort with Markus Makkonen. As this article was a revised version of a conference article, I was responsible for revising the article.

3.3 Article 3: Exploring the Acquisition and Consumption Behavior of Modern Recorded Music Consumers: Findings from a Finnish Interview Study

Background. As found in the study presented in Article 2, understanding of consumer behavior of the Digital Era was thin and scattered. Earlier studies had either focused on a narrow phenomenon or had not taken into account the dramatic changes in the sociotechnical environments (e.g. social media, viral networks, and piracy). In particular, the music industry was going through these changes.

Motivation. By this study we aimed to have a holistic view of music consumers’ attitudes, thinking and behavior. We also pursued for a deeper understanding of phenomena related to music consumption in general. All this information could help understand rapid transitions taking place in the consumer markets of the Digital Era.

Research Task. In this study we had two questions to resolve: How do modern consumers acquire and consume recorded music? What kind of perceptions of relative advantages and disadvantages drive their usage of different acquisition channels?

Methods and Process. To answer the questions above, we conducted an interview study of 14 young Finnish consumers of recorded music. The interviews were semi-structured, meaning that we provided a relative short list of themes with a few open-ended questions that we discussed with the interviewees. The selected data collection approach enabled the use of both interpretation and classification in the analysis of the data. Prior to the actual interviews, the research instrument was pre-tested with two postgraduate students. Females and males were equally represented in the study (7 of each gender). The interviews lasted from 49 to 99 minutes. It is necessary to remind that data gathered through the interviews also included information that we used in a parallel study reported in Article 4.

Main Findings. The study showed a great divergence in the ways music was acquired and consumed. New online channels were used actively. Most of them were free. The usage of paid online channels was rare. However, quite surprisingly paid tangible channels such as traditional CDs were still quite popular. Regarding the relative advantages and disadvantages associated with the channels, perceptions varied significantly from one interviewee to another. In some cases, the same feature of a channel was seen as an advantage by one interviewee but as a disadvantage by another.

Contribution and my role in it. The study provided starting points for both further research and development of new business models. It revealed that the consumers of recorded music is a heterogeneous group, which implicates that more detailed information would be needed on how such factors as age, gender and commitment of a consumer affect the behavior of the consumer. The initial planning of the study was a common effort of all the three contributors, while the detailed planning and implementation of the study were my and Markus Makkonen's responsibility. Markus Makkonen was in charge of the analysis as well as writing the paper. I contributed to the implications and conclusions as well as to the revised versions of the paper by providing my discussions and comments.

3.4 Article 4: Indifferent Behavior of Young Digital Content Consumers - An Interview Study

Background. While this study was a parallel effort with the study described above (Article 3), the background was similar to what was presented in Chapter 3.3.

Motivation. By this study we aimed to contribute to the understanding of the ethical behavior of the consumers of digital content. As our literature survey presented in Article 2 explained, digital piracy has been a significant part of the

online consumption of digital contents. Digital music had a prominent role in the study, which was not, however, limited to it.

Research Task. In this study, our aim was to have a comprehensive picture of digital content consumers' ethical thinking and behavior, and the relationship between these two. The final goal was to gain deeper understanding of the complex issue of using digital content illegally.

Methods and Process. The data was collected simultaneously for this study and the study presented in the previous section (Article 3), where a brief description of the methods and the process can be found. However, the analysis was slightly different as compared to the previous study. First, the answers were classified into four large categories dealing with illegal use of digital contents. Second, each category was analyzed by going through all the answers classified into it. Next, the categories were grouped into two sub-categories according to the gender of the interviewees in order to investigate the differences in answers of males and females. Then, a summary of each category was made. Finally, the cross-analysis of each interviewee's answers to all questions was conducted.

Main Findings. The study revealed that illegal use of digital content is common. In general, it seemed to be quite unclear to most interviewees what is legally right or wrong. However, most interviewees understood that using P2P networks to acquire copyright-protected material is illegal. The interviewees' ethical thinking and behavior were, however, inconsistent and uncertain. Their ethics seemed somewhat flexible, which implied that the interviewees might utilize a psychological method called neutralization that gives an individual an opportunity to feel less guilty in situation where people normally would have such feelings.

Contribution. This study provided support for the assumption that illegal use of digital contents is common. It also showed that young digital content consumers are quite indifferent to both the legal and ethical aspects of digital content consumption. As with the previous study (Article 3) the initial planning of the study was a common effort of all the three contributors, while the detailed planning and implementation of the study were my and Markus Makkonen's responsibility. This time, I was in charge of the analysis as well as writing the paper. Markus Makkonen and Lauri Frank contributed to the revised versions of the article.

3.5 Article 5: The Effects of Socioeconomic Characteristics and Consumer Involvement on the Adoption of Music Download Stores and Paid Music Subscription Services

Background. At the time this study was carried out, there was an increasing trend in the music industry's revenues from digital channels. However, the increase had not been able to offset the sharp drop in the sales of physical formats (see Figure 1 in Chapter 1). Digital piracy, which was seen as a main reason for this problem, was studied to relatively large extent while studies on consumer behavior in the context of legal digital music retailing were rare.

Motivation. Our primary motivation was to improve understanding of consumer behavior in the context of legal music distribution channels, i.e. music download stores and paid music subscription services.

Research Task. By this study, we aimed to reveal the effects of three socioeconomic characteristics (gender, age and income) and one personality variable on the adoption of music download stores and services.

Methods and Process. The study was based on a hypothetico-deductive research model. Hypotheses were set to test the dependencies between the above-mentioned socioeconomic and personality variables and the adoption of download stores or subscription services. The data was collected through an online survey. The survey link was promoted by invitation e-mails to thousands of people. The addresses were received through internal communication channels of our own university as well as through an electronic mailing list provided by a Finnish retail chain. Altogether, 1447 complete and valid responses were received.

Main Findings. The study revealed statistically significant dependencies between all explanatory variables and adoption variables, except the one between age and the adoption of subscription services. In other words this means that socioeconomic characteristics and consumer involvement in music have had significant effects on the adoption of both download stores and subscriptions services in Finland. The study also revealed differences between stores and subscription services. For example, while the greatest growth potential for download store reside in age groups < 25 years and > 45 year, for subscription services there seems to reside great potential in all consumer segments.

Contribution. The study provided new information on the behavior of different consumer segments in the context of legal music distribution channels, in particular, information on dependencies between socioeconomic and involvement variables and adoption of music download stores and services.

The basic planning of the study as well as design of the data collection instrument was a common effort by all the contributors. Markus Makkonen was responsible for the implementation of the internet survey instrument as well as writing the first version of the article. He also made the statistical analysis but the results were discussed and the article improved by all the three contributors.

3.6 Article 6: Applying the Theory of Planned Behavior to Explain the Usage Intentions of Music Download Stores: Gender and Age Differences

Background. This study was based on the same survey described above with respect to Article 5 and it was planned and carried out from the same starting point. In contrast to the previous study, this study was, however, theory-based.

Motivation. There are a few theoretical models by which individuals' behavior can be described and anticipated. The theory of planned behavior (TPB) is a well-known example of these models. Our motivation was two-fold. First, we wanted to explore the applicability of TPB in the context of music download stores. Second, as we already had an idea of gender and age differences among music consumers, we wanted to investigate these differences with respect to the TPB constructs.

Research Task. By this study we aimed to examine the applicability of four major constructs of TPB in explaining the usage intentions of music download stores. The four constructs on focus, *intention, attitude, subjective norm and perceived behavioral control*, comprise the "intention part" of TPB leaving, thus, the "behavior part" of the model outside. Next, we also aimed to examine to what extent gender and age differences exists in relation to the model constructs.

Methods and Process. This study was a theory-based quantitative study. The data was collected through an Internet survey (N = 1418) as described above. The analysis was based on Structural Equation Modelling (SEM) and multiple group analysis.

Main Findings. The results of the study indicate that TPB can be successfully applied to explain the usage intentions of music download stores. As hypothesized, the usage intentions regressed positively on attitude, subjective norm and perceived behavior control. Attitude was the most important explanatory factor for the usage intentions, whereas the effect of perceived behavior control was only marginal. With respect to gender and age differences in the four constructs of TPB, the study revealed some significant findings. For example, when comparing men and women, women seemed to have a stronger subjective norm towards using music download store but weaker perceived

behavioral control over their usage, and their actual usage intentions were weaker. Regarding age differences, the study revealed a number of interesting details. Perhaps the most surprising finding was that in the age group of < 30 years, the attitude was relatively negative and subjective norm weak. This can perhaps be explained by the popularity of alternative music acquisition channels.

Contribution. The study provided new information on the applicability of TPB. Furthermore, it provided insights into different consumer groups in the digital music area. The roles of the authors were very similar to those referred to in Article 5.

3.7 Article 7: Why Haven't People Adopted Music Download Stores?

Background. Despite optimistic visions that had appeared since the beginning of the 2000's only a small proportion of the digital music business opportunities had been successful. It seemed that people acquired music from sources other than commercial download stores. Digital piracy had been blamed to be the main reason for this problem, and little emphasis was put on examining systematically the variety of reasons why consumers condemned commercial acquisition channels of digital music.

Motivation. Without understanding the reasons why consumers acquire music from other places than music download stores, it is difficult to meet the consumers' needs and preferences. Therefore, our motivation was to provide a comprehensive investigation on the reasons for the meagre usage of music download stores. This would give us a better means to explain consumer thinking and behavior in the context of music consumption. Since the earlier research had shown that two demographic factors—gender and age—had a significant role in adoption of new technologies, we also included this aspect in our study.

Research Task. By this study, we aimed to find out (1) what the consumers considered as primary reasons for the non-usage of music download stores, (2) what the consumers considered as additional reasons for the non-usage of the stores, and (3) whether the answers of different age groups and genders differ from each other.

Methods and Process. The study was an explorative quantitative study. The data was collected through the Internet survey described above. The analysis methods included percentage tables for describing the frequencies of the primary and secondary reasons. The dependencies between the reasons and the

demographic factors were analyzed by using Pearson's χ^2 -tests of independence and Cramer's V coefficients. The article includes the following error that, however, does not have significant effects on the results: The basic analysis of the adoption of music download stores was actually completed with a bigger N than presented in the article (N=1610 vs. N=1447). The error is limited to Section 3.1 of Article 7 and it has been corrected as a separate sheet in connection with the attached Article 7. Furthermore, the correct percentages as well as the values of χ^2 -tests differ little from what has presented in Section 3.1 of Article 7. Significant deteriorations in p-values did not happen. The error occurred as the data on the adoption of music download stores was analyzed in two different ways. The analysis was completed (1) to all those answers that included all the relevant data for this study (N=1610) and (2) to those respondents who had completed the whole questionnaire (N=1447). Since the results are very similar the analyses were changed. The correct analysis was, however, based on the N=1610 and this number was used as the starting point for the further analysis in Sections 3.2 and 3.3 (the reasons for non-usage of the download stores).

Main Findings. The study revealed that only one fourth of the respondents had used music download stores. Although this might seem quite surprising, it was in line with our interview study, for example. The study also reported gender and age group differences in adoption of the stores. With regard to age groups the differences were very significant ($p < 0.001$). These findings were similar to earlier findings on adopting new technologies. Concerning the primary and secondary reasons for non-usage of music download stores, the most interesting finding was that one-fourth of the respondents still wanted a physical product. This was also in line with our interview study. The other two top-3 reasons, "I do not buy music" and "I am used to acquire music elsewhere" could be related to digital piracy but also to other sources, such as free streaming services. Factors noted in some previous studies as important barriers to online shopping in general and to online music services in particular, namely security and privacy concerns (Ahuja et al., 2003; Kunze & Mai, 2007), did not have significance in our study.

Contribution. The contribution of our study was two-fold. First, it showed that the usage of music download stores was relatively low, which can be seen as an indicator of that the stores had been unsuccessful in meeting their customers' needs and preferences. Second, the study exposed a wide variety of reasons for the non-usage of the stores. This information is important when attempting to understand the thinking and behavior of different consumer segments. The basic planning of the study as well as design of the data collection instrument was a common effort by all the contributors. I was responsible for the analysis and writing the first version of the article. The analysis was discussed and the article improved by all the three contributors.

3.8 Conclusions

The seven articles included in this thesis form a whole by which consumer behavior of digital content markets can be approached from different perspectives and discussed at several levels of detail. They put the studied phenomena into a socioeconomic context in a way that helps us to understand the changes taking place in the contemporary digitized society.

It seems that technologies are becoming a more complex driving force in the societal developments. It is ever more difficult to predict the ways in which new technologies shape societies and societies shape technological developments. For example, as the music industry turned into the Digital Era, one could have supposed that music download stores would have been a successful business. In practice, they were not. The reasons can be searched for both in technology and in the changed consumer behavior. When technologies do not meet consumers' primary needs and wants, they will most apparently fail in their missions. However, as our studies show, technology and its characteristics are only one side of the coin. The other side, being perhaps even more important, is the psycho-sociological factors behind the consumers' thinking and behavior. These factors include attitudes, social pressure and an individual's ethical thinking.

A drastic change in modern societies took place in the middle of the 1990's when the Internet started to infiltrate everyone's life. Individuals who were born at that time or a few years earlier are usually referred to as Digital Natives. In the series of our studies, we had several opportunities to study the thinking and behavior of adolescents and young adults and through part of the studies also to compare our findings to what was found in respect to older age groups. Although no systematic comparison research on the phenomena was completed, the synthesis of our studies suggests that younger people tend to think and behave in such a way that they can be considered as a new generation, in a sense similar to the Baby Boomers or Generation X. For this generation, digital content seems to be a common/public resource that, in general, is free to use when there is a free access to that resource. These people still respect the law in their own way, but several other issues, such as loyalty to friends, may have become more important. It is obvious that as compared with the earlier times, the triangular relationship between technology, business and consumer is affected by a new consumer generation both directly and indirectly. Digital piracy and the generation's attitude towards it is a good example of the power the generation can have on businesses. It also implies that these issues are becoming ever more societal concerns.

In the next chapter we shall reflect the findings of our studies in more details by combining them with the theoretical aspects presented in Chapter 2.

4 THEORETICAL RETROSPECTION OF ACCOMPLISHED STUDIES

In this chapter, we aim to integrate the findings of our studies into a big picture that is then reflected against the theoretical foundations provided in Chapter 2. We start by summarizing and discussing the main characteristics of digital content consumers' intentions and behavior. Second, we discuss how our findings and conclusions from them can be interpreted and explained through the theoretical constituents of SCOT. Third, due to the fact that the young consumers and their behavior gained a specific attention in our studies, we discuss the characteristics of the Digital Natives as a generational social cohort. Finally, we summarize and conclude our analysis.

4.1 General Aspects of the Behavior of Consumers of Digital Content

Regarding business models in digital markets quite a lot has happened during the last fifteen years. It seems that the business innovations are based on technological advances and non-scientific knowledge on consumers rather than on scientific research. For example, in the context of digital music, the shift from downloading music to streamed music could be seen as a "natural trend" but in research this was realized, to a large extent, afterwards. The empirical studies reported in this thesis were carried out in the middle of the turning point of digital music products and services. Thus, in the beginning, music downloading was the main interest, while later on, new business models, i.e. subscription-based music services, gained increasing attention.

Waldfoegel's article (2010) is a good example of how quickly the changes happened. In the article published only five years ago, the author considers iTunes Music Store as a big change on the market of digital music. However, he did not pay attention to the new services, such as Spotify, that was going to replace most of the old-style music download stores.

Although download stores never became successful, downloading digital content illegally from peer-to-peer (P2P) networks has been flourishing since the beginning of the new millennium. This has been seen as a major problem from the music industry's perspective. As Cesareo and Pastore (2014) note, it is necessary to ask why people still want to use illegal options when there are also legal and inexpensive options available. We suppose that there are several possible answers to this question. First, illegal options have been—besides that they are usually free—easier to use and they also provide better opportunities to find digital content, even such content that is not available in commercial options (Halttunen et al., 2010b). Second, illegal behavior is not seen as indefensible as some other, similar crimes, such as shoplifting (Wingrove et al., 2011; see also Chiang & Assane, 2007). Third, digital content consumers actively use neutralization techniques that ease their feelings of guilt (Halttunen et al., 2010a). Fourth, using digital contents is especially intensive among young people, who take free, shared music for granted (Huang, 2005; see also Halttunen et al., 2010a). Fifth, P2P networks often provide music without annoying advertisements, which may be a key factor for some consumers. As a conclusion, it is obvious that digital piracy, as being such a manifold problem, cannot be solved by a single solution, such as DRM technologies. Instead, a deep and wide understanding of individual, social and societal factors is needed. (Halttunen et al., 2010b.)

An interesting finding of our empirical studies was that paid tangible channels (e.g. buying CDs) were in favor with so many music consumers while unwillingness to pay for using intangible channels was high (Makkonen et al., 2011; Halttunen et al., 2011). We explain this as follows. Despite the fact that listening music can be in any circumstances considered as having a strong hedonic content, having a physical product can imply that the consumer can also attach a utilitarian content to music (e.g. receiving respect of people). Thus, acquiring music is a decision and act that relates not only to the listening experience, but also to possessing something useful. As one of our interviewees said in the study reported in Articles 3 and 4, the music consumer may like to tell to other people of her/his involvement in some music genre, for example. Owning a selection of CDs is one way to do this. From this perspective, we should ask, whether music is, as a hobby, leisure time action, or a symbol for belonging to some cultural groups, diverging into different subcategories which each are characterized by consumer behavior that is specific to them and reflecting diversified utilitarian and hedonic values. Furthermore, an interesting question is that if this is true for music, is it true for other digital contents?

When considering the changes in consumer behavior during the ongoing decade, it is necessary to note the dramatic change in technologies available to consumers. The rapid emergence of smartphones makes it quite easy to understand the success of the streaming-based music services. What is surprising, however, is that the subscription-based business models have not been able to solve the problem of digital piracy (Borja et al., 2015). This makes us convinced that positive changes in behavioral factors, such as consumer

ethics, cannot be accomplished by technological or business solutions alone. The key thing is to understand the consumers as a part of complex social networks, and part of the entire society. Thus, belonging to a particular social group obviously guides a consumer's behavior as much as technological or business offerings.

With respect to digital piracy, there may be a spiral effect in a consumer's behavior (see Hinduja, 2007). This means that an illegal act, such as digital piracy, often leads to using a neutralization technique. When the consumer learns of such technique, (s)he may be more susceptible to the same illegal action in the future. Thus, there is a negative spiral of illegal action. To contain illegal behavior, this behavioral spiral should be interrupted.

Regarding commercial digital music channels, the relative success of subscription-based music services as compared to music download stores, can perhaps be explained by the finding in Dhar's and Wertenbroch's study (2000) according to which in a forfeiture condition, the consumer is likely to prefer the hedonic features of goods. As mentioned previously, consumers may develop stronger symbolic relationships with things they possess if the question is of hedonic rather than utilitarian possessions. When buying music from a download store an acquisition condition may be prevailing, while, when using SBMS, a forfeiture condition may be of higher priority in a consumer's decision-making. In other words, when buying music from a download store a consumer is acquiring something that (s)he does not have, while when using SBMS (s)he is (un)willing to (dis)continue to listen music. The Spotify's strategy to first provide its music services for free is obviously good in terms of getting a consumer accustomed with the service. Later on, the consumer may change to become a paying customer.

4.2 Social groups, their problems and technological solutions

Regarding digital contents, what are the relevant social groups that shape the development of the artefacts? To begin with, we must remind that it is not possible to generalize digital contents and related products and services into a single artefact. However, by taking a piece of digital content, which in this case is digital music, the consideration makes more sense.

At the most general level, the relevant social group for digital music is *the digital music consumers* (like the cyclists in the case development of bicycle). As the music consumers as a whole form a heterogeneous group, starting the consideration with this level is not very useful. Hence, we analyze here the relevant social subgroups.

First, we could categorize the consumers according to their taste of music, listening habits as well as their involvement in music in general. This categorization could result, for example, in the following consumer groups: *enthusiasts*, *ordinary users* and *occasional users*. It would be useful when considering how to provide music for different consumers, i.e. finding out what

the suitable business models for different segments are. From the enthusiasts' point of view, the problems most apparently relate to the coverage of the selection and to accessibility. They also may emphasize the quality of music as well as the format in which the music is delivered. An enthusiast might be willing to pay relatively high price for the music, but this depends, of course, on his/her income. An enthusiast with a low income may easily slip into using illegal sources for having music, if (s)he did not possess a highly moral attitude. From the ordinary users' point of view the main problem might include ease with which to find and access to music. Secondly, (s)he would probably not pay high price for the music (s)he listens to. Whether (s)he acquires music from legal or illegal sources depends very much on his/her ethical thinking and the subjective norms. An occasional user may be rather rare among music consumers. Their number apparently increases with aging, meaning that among younger people the number of occasional users is lower than that among older people. An occasional user would likely be unwilling to pay for music. (S)he would listen to music when there is suitable occasion. (S)he can also manage without music. In brief, (s)he is an enormous challenge for the commercial music providers.

If we consider the above relevant social groups related to digital music, we can assume that they actually shape the development of music products and services in the future. Despite the fact that new technological innovations provide the basis on which the future business models are built, another, similarly crucial, question is where to find paying customers when there are free-of-charge options also available.

The above categorization of relevant social groups would be useful when considering business solutions, but when analyzing the other side of the coin, i.e. the illegal use of digital music, a different categorization may be more useful. This categorization should be based on factors that reflect the differences in the ethical thinking and behavior of the different social groups. Good candidates could include gender or age.

Although gender is, to a certain degree, considered in our empirical studies, more attention is paid to different age groups. In the analysis of our empirical studies, age is considered as a factor possibly affecting the attitudes and intentions of the consumer. Alternatively, the analysis is accomplished for a specific age group (young people). These analyses combined with the theoretical foundations presented in Chapter 2 provide us here the starting point for a further analysis.

There is the intergenerational factor that affects the subjective norms that, in turn, affect the intentions of a consumer, but there is also a factor that reflects the norms that are developed within a generation. As argued in theories on generations, *each generation builds its own ways of thinking and behaving* (e.g. Edmunds & Turner, 2002). In our analysis, we are especially interested in what the intrinsic thinking of Digital Natives could be. Our assumption is that the generation of Digital Natives as a social group can exert a strong impact on the ways by which the social construction or shaping of digital content technologies

happens for now and in future (compare with Palfrey, in Gasser & Palfrey, 2008, 273-290). This analysis is done in the next section.

4.3 Digital Natives as a Generational Cohort and Social Group

Despite the differences in how to describe the generation of Digital Natives, it can be argued that such a generational cohort actually exists (Palfrey & Gasser, 2008). The emergence of personal computing and the Internet technologies can easily be seen as such a big societal event that usually forms a basis for a generation with its distinctive customs, thinking, symbols and behavior (see Edmunds & Turner, 2002).

When considering the development of digital contents in general and digital music in particular, from the perspective of illegal use, it is quite obvious that the younger generation, the Digital Natives, is a relevant social group. As Huang (2005) notes, “[a]lmost all the younger generation of music consumers take free, shared music for granted”. Similar findings are provided by our interview study, in which it was also found that the young people were, in general, indifferent to their unethical behavior (Halttunen et al., 2010a).

Whereas in the earlier world consumption was based on the utilitarian values, today hedonic evaluation plays an ever more important role (see Sulkunen, 2009). Thus, while the development of the 19th century’s bicycle also included both utilitarian and hedonic evaluations done by the different social groups, *we argue that the hedonic evaluation is often determinant in the context of digital content products and services*. In fact, a large number of these products and services aim to appeal to the consumers’ hedonic evaluations (see Dhar & Wertenbroch, 2000). *Hence, it can be asked whether the problems Digital Natives see are more often based on their hedonic wants*. If this is true, what would the consequence on their behavioral intentions and, finally, on their behavior be. As it is noted by Dhar and Wertenbroch (2000) hedonic aspects have a stronger role in a forfeiture condition than in an acquisition condition. This finding may explain why illegal use is so common among young people: namely, they have had technological opportunities to start the illegal behavior in their childhood and early youth when the ethical thinking is not fully developed, and they can accidentally or because of social pressure slip into illegal behavior. Once they have started their illegal behavior, which may have a high hedonic value to them, they may find it difficult to give it up.

If our analysis is correct, it suggests that the problems of the social group, which in this case is the Digital Natives, could be more affected by hedonic evaluations than utilitarian evaluations. Although this could be true for all the digital music consumers, differences between the Digital Natives and older generations may become highlighted. *First, as discussed above Digital Natives are born to be digital*. They do not have experiences of the world without digitalization. This may imply that they are more susceptible to hooking on all that can be found in the Internet. *Second, digital music is intangible* (Note: CDs are

here not considered as digital music since they have a physical form). Previously, when a youngster wanted to copy music, he had to do it in a way that made the illegal action very conscious (burning CDs or reproducing music on cassettes or LPs required both suitable technologies and skills). Thus, those with experiences on CDs and LPs may have a more strict moral instinct even when using music directly from the Internet. This, nevertheless, does not necessarily mean that the moral instinct always leads to moral behavior. *Third, social media that normally affects almost everyone's life, may, again, be a stronger factor for young people.* As young people "live in social media" compared with older people who "visit social media", they may face more severe problems in realizing what is wrong and what is not. All the characteristics described above may affect the ways Digital Natives conceive what is an acceptable solution to their wants and preferences as consumers.

4.4 Discussion and Conclusions

Our proposition is that *the behavior of the consumers of digital content tells us, in a fine-grained way, about the drastic changes that are taking place in digitized societies.* It is not easy, perhaps not even possible, to characterize those changes in a simplistic way. Nevertheless, on the basis of our analysis, *we dare to suggest that consumer behavior in the future will be influenced by an increasing number of contingencies leading to emergent and unexpected behavior.* In the following, we attempt to describe the visibility of this phenomenon in modern societies.

It is the dualistic nature of digitalization that is in the core of our interpretation. While digitalization, on one hand, is seen as a major solution to the problems of humankind, there is, on the other hand, the huge challenge to fight the illegal and unethical ways of using new digital technologies. Whereas information society refers to an entity for which information plays a crucial role as a resource to which a great number of people have an easy access, the digitized society goes, in our view, beyond that. We suggest that the digitized society should be seen as a society in which the consumer society with its challenges (see Sulkunen, 2009) is tightly intertwined with advanced digitization of processes and contents. Characteristic to a digitized society is (1) that people are ever more dependent on these digitized contents and services and (2) that they not only face the freedom of choice but also the imperative of choice. As Sulkunen (2009, 101) notes (referring to British sociologist Alan Warde) in his analysis of consumer societies, the modern consumer faces an endless necessity of choice having, however, no guidance from clear norms or traditions. We believe that this idea could rather well explain the challenging situation reported in our empirical studies, especially the one reported in Article 4 (Halttunen et al., 2010a). Younger generations in general, and the Digital Natives in particular, are most vulnerable to these challenges, since, on one hand, the norms and traditions for using digital contents are not well-established or they are rapidly changing, and, on the other hand, these

generations may have difficulties to turn to the traditions or norms of earlier generations. Since the Digital Natives as a relevant consumer group ('social group' in the SCOT terminology) have a strong shaping power on current and forthcoming digital technologies (e.g. see Palfrey and Gasser, 2008, 287-288), *it will be a great challenge if they have to decide between ever more choices with ever less normative guidance.* We have already discussed the failures of DRM systems. Take a fictitious situation, where the Digital Natives would not have been involved in the development at all. Would the resistance of the other consumers (of older generations) who might have a clearer idea of the copyright issues, has been lower if there had not been the shaping force of the youngsters present? This a relevant question, since it seems that even the better commercial alternatives, such as the streaming-based music services, have apparently not been able to resolve the problem of digital piracy (Borja et al., 2015).

When norms and traditions are missing, there will be more room for emergent behavior. Digital piracy, excluding ideological pirating (a form of anarchism), can be considered as emergent behavior, since it is often excused by referring to other peoples' behavior without any clear idea of the morality of these people (see Article 4). *This kind of behavior is reactive and may continuously change without any knowledge of, for example, the ethical or ideological grounds of the behavior.* This can be a problem not only from the legal aspects but also from the commercial aspects. *The more consumer behavior is based on situational factors the more difficult it is to assume what the consumers' wants will be in the future.* This would imply that the prediction of the behavior of consumers with different profiles, which Molteni and Ordanini (2003) called for in their study, would be an ever more difficult task. In the worst case, commercial alternatives, from here onwards, would leave a great number of consumers unsatisfied. While many hopes are pinned on new digital products and services, it will be a big problem, if a great number of demanding consumers remain free-riders in the digital markets. As digitalization creeps further, traditional industries that start to digitize their products and services will also face problems similar to those already faced by the music industry (e.g. see Appleyard, 2015).

While digital piracy has been bad news to music industry, research findings also reports about a rather an unexpected trend that should be considered as good news from the music industry's point of view (see e.g. Article 3; Magaudda, 2011). Magaudda (2011) calls this trend re-materialization. Re-materialization means a countertrend to de-materialization, which, in turn, means a change process from tangible products to intangible ones. A good example of de-materialization is the change from LPs and CDs to digitized music that is used and delivered via computer networks. The countertrend, re-materialization, means that a certain number of consumers especially want to have the tangible product, i.e. an LP or a CD. This segment of consumers may have gained too little attention, which is natural, since the trend has been hidden within the mainstream. While Magaudda (2011) speaks about re-materialization, our own study (Article 3) tells of a trend that has been present

throughout the digitalization of music, i.e. that a certain part of music consumers have always wanted a tangible product (e.g. collectors of music).

When going deeper in our empirical data, some interesting findings can be pointed out. As the studies reported in Articles 5-7 show, some variances in digital music consumer behavior of different age groups and genders can be found. Briefly, according to the studies men were more apt than women to adopt both music download stores and subscription-based music. This result was in line with earlier studies and our prediction. On the other hand, according to our qualitative study, men's attitudes towards using illegal sources were also more positive. In other words, it was found that the female participants of the study were more against digital piracy than the male interviewees. This finding was not a surprise, either. However, the analysis of the assumed association between the age groups and adoption of music download stores and subscription-based services provided an interesting and somewhat surprising finding. The adoption followed a logical trend among age groups of 25-34 years and older (the older the age group the lower the adoption). However, the age group of the youngest respondents (< 25 years) remarkably deviated from this trend, meaning that the youngest respondents had adopted the commercial sources of digital music notably less frequently than the next older age group (25-34 years). This could be explained, of course, by the effect of income, as the young people typically have lower incomes. However, in our quantitative study (see Article 5), a statistically significant dependency was found only between incomes and adoption of music download stores, not between incomes and subscription services. *This gives us a reason to ask whether adolescents and young adults are, on average, more reluctant than the older generations to pay for digital music and for digital contents, in general.* The results from our study on the reasons for not using music download stores can be interpreted as support to this assumption.

As a conclusion of what we have presented above, *we suggest that the behavior of the consumers of digital content, besides being heterogeneous among all consumers, is strongly affected by younger users.* The evidence provided in this thesis is compiled from several sources, including both empirical studies and theoretical discussions. The evidence might be regarded as being still thin, but it is, nevertheless, converging. The findings on the Digital Natives are partially logical and partially surprising. *The wide use of digital contents from illegal sources does not surprise, but the low use of commercial digital content does.* Obviously, a large part of the phenomenon can be explained by superior features of the illegal sources, i.e. by the fact that they are free, easy to use, and that they provide a very wide range of digital material. However, not even Spotify-like commercial services have succeeded to resolve the persistent piracy problem. *The roots of the problem seem to be deeper in consumers' thinking.* Digital Natives may play a bellwether's role here. The crucial factor is that they often consider the contents of the Internet as a shared resource without entertaining the idea of 'common good'. As Sulkunen (2009) notes, the common-good-thinking is disappearing in consumer societies. This was taking place already before the

Digital Era, but digitalization of services and products may carry the development further and do it fast as well. This was realized in our interview study that focused on young adults (Articles 3 and 4). When the matter of how the production of digital contents could be financed was discussed with the interviewees, a tax-like common charge, which would actually reflect the common-good-thinking, gained very little support among young adults. We can find here a contradiction. *On one hand, young people want to have an unlimited access to the Internet contents, but, on the other hand, they are reluctant to pay for it.* In this sense, subscription-based music services meet consumers' needs much better than do download music stores, whose prices for music were widely considered as too high.

Since, as we believe, 'common good' will be replaced, to a wider extent, by 'extended self', the digitized society will face ever bigger problems of unfairness in production and consumption of digital contents. We have argued in Article 1 that a more proactive attitude towards the development of the digitized society is needed. In practice, to be more proactive means that more conscious policies must be developed and followed by the society. Currently, when regulation is generally seen as counterproductive, this claim may seem unacceptable. However, as described in this thesis, digital piracy, for example, will not be resolved on its own, nor can it be resolved by advanced technologies or better business solutions alone.

Summary of Contribution. In this thesis we have provided both detailed information and deep knowledge on the behavior of the consumers of digital content in general, and on digital music consumer behavior in particular. Since the detailed descriptions of the findings and contributions of the literature reviews and the empirical studies are presented in Chapter 3, we focus here on the contribution of the retrospective analysis. By integrating the findings of the literature reviews and the empirical studies, we suggest that digital content consumer behavior can be characterized as more unexpected and emergent than what may have been thought. We also suggest that young consumers, who are often reluctant to pay for digital content and also quite indifferent to illegal use of digital content, have had an especially strong shaping power on contemporary digital products and technologies (e.g. music download stores, streaming-based services, peer-to-peer networks, DRM). Similarly to how the consumer society was built upon the young generation of its time (the Baby Boomers), the digitized society will be built upon the generation that was born to be online. We have shown that the attitudes and ethical thinking of young consumers, i.e. Digital Natives, has an important role in this process.

Implications for research and practice. Our analysis implies that *research* on the behavior of the consumers of digital content should have a much wider scope than what it has previously. Consumer behavior in the digitized society is obviously a much more complex phenomenon than thought before. It does not consist only of technology-driven (technology perspective) humans' individual actions (psychological perspective). Nor is it purely an efficient organization of the factors of markets (business/economy perspective). To a large extent, it is

also a societal issue. Therefore, future IS research should concentrate more on both the positive and the negative impacts of IT/IS solutions at the societal level. The main implication of our analysis for *practice* is that the emergent and unexpected features should be accepted as part of the behavior of the consumers of digital content. This does not mean that business models that rely on consumer segments or profiles would be useless, quite the contrary. However, as the persistent piracy problem show, some problems should be resolved at the societal level. It is necessary to remind ourselves that our understanding related to these issues became ennobled during the research process: in the beginning we were quite sure that the piracy problem is largely due to the malfunctioning commercial alternatives, but our retrospective analysis revealed more complex explanations for the contemporary consumer behavior. Hence, we are quite sure that developing new technologies and business models that would survive requires a good understanding of the digitized society as a whole. Besides consumer psychology we should know much more about consumer sociology.

4.5 Limitations and Further Research

Validity and generalizability are major concerns of all researchers. In this thesis, the validity of the individual studies is discussed within each article. However, since this aggregating part consists of a contribution of its own, it is necessary to consider the validity of the retrospective analysis.

As we briefly described in Chapter 1, a multi-view/multi-method approach is well-argued when examining a complex phenomenon in all the aspects for which a single method could be blind. This multi-view/multi-method approach is known as triangulation (Jick, 1979). In triangulation, different methods or approaches are not seen as competing but, rather, complementary. Thus, both qualitative and quantitative methods can be used to study the same phenomenon. In triangulation, the validity of research is based on the convergence of the results. In other words, when all the research findings seem tell the same story, the validity of a multi-view study can be regarded as good.

Generalizability refers to “the validity of a theory in a setting different from the one where it was empirically tested and confirmed” (Lee & Baskerville, 2003). In statistical research, its position is well-established and sound. However, generalizability is an applicable concept to qualitative research, too. Lee and Baskerville (2003, 232-238) consider IS research and provide a generalizability framework that describes four types of generalizing. The types are

- (1) generalizing from empirical statements to empirical statements (EE),
- (2) generalizing from empirical statements to theoretical statements (ET),

- (3) generalizing from theoretical statements to empirical statements (TE),
and
- (4) generalizing from theoretical statements to theoretical statements (TT)

We briefly describe the meaning of each type. The EE type generalizability means generalizing from data to description (Lee & Baskerville, 2003, 232-233). This is typical in statistical research in which data from a sample is generalized to a larger portion of population. The ET type generalizability is characterized as generalizing from description to theory (Lee & Baskerville, 2003, 235-237). This type of generalization is also called analytical generalization or Level-2 inference (see Lee & Baskerville, 2003, 236). Level-2 inference refers to interpretation of interpretations. In other words, it can be seen as second-order interpretation of empirical data. This is very much what we have done in the aggregating part of the thesis.

The TE type generalizability refers to a situation where the researcher has a developed, tested and confirmed theory and uses it in a new research setting (Lee & Baskerville, 2003, 237-238). The theory provides a means to make predictions of what could be observed in the new context in which the theory is now applied. However, to justify the claim that the theory is valid also in this new context requires that it is actually tested and confirmed in the new context. Finally, the TT generalizability means generalizing from concepts to theory. In IS research, for example, this type of generalization relates to how consistently theoretical concepts, such as IS success, are used (Lee & Baskerville, 2003, 238) and how generalizable they are, thus, in theoretical sense.

In our thesis, several types of generalization are relevant. Since each article includes a discussion of the generalizability and limitations of the individual study, we mainly concentrate here on the generalizability, validity and limitations of the aggregating part of the thesis.

The aggregating part of the thesis consists, to a large extent, of interpretations of the findings of the individual studies, i.e. the literature-based studies and the empirical studies. Thus, the ET generalizability is the most relevant type of generalizability in this case. Regarding this generalizability, it is necessary that “the empirical statements” from which “the theoretical statements” are generalized, are valid. We have attempted to reach this target by leaning on triangulation described above, i.e. on using a multi-view approach that aims to spot the converging findings of the individual studies. Despite the multi-view approach applied, there are still several limitations that should be carefully taken into account. These limitations (e.g. the sampling of the inquiry studies and the selection of the interviewees) are briefly discussed in the following.

While the studies provide a wide range of information on the behavior of the consumers of digital content in general, and digital music consumer behavior in particular, the aggregation of the studies has challenges of two kinds. First, since the empirical studies have different scopes, focuses, and object groups, comparisons and integration of the findings is challenging and

may lead to wrong interpretations. Second, as the literature review (Articles 2)⁴ and the interview study (Articles 3 and 4) investigated the behavior of the consumers of digital content at a more general level than the survey (Articles 5-7) which focused on digital music consumer behavior, it was also challenging to assess to what extent and in which way these studies explain the same phenomenon—especially, to what extent the findings from the field of digital music can be generalized to the digital content consumer behavior as a whole. To cope with these challenges, we have attempted to carefully limit the selection of “empirical statements” that we have regarded as the best in describing the phenomenon we have been interested in.

Besides the above-mentioned challenges, the individual studies included a few limitations that must be mentioned. First, the number of the participants of the interview studies was relatively small (7 males, 7 females) and, furthermore, all of them were students of our own university. While explaining that this selection was done for practical reasons, we acknowledge that it causes remarkable challenges for generalizing the findings, even as a result of a qualitative research. Second, the sampling of the inquiry studies was biased, meaning that, besides openly distributed invitations to participate, some of the respondents were reached through registers that themselves were samples of the entire population. This causes limitations to the generalizability of the studies. Furthermore, it must be mentioned that all the empirical data was collected from Finland. To generalize the findings worldwide would require similar studies to be carried out in several other countries.

Finally, we would like to note that the retrospective analysis of the individual studies was accomplished by utilizing the theoretical concepts and frameworks introduced in Chapter 2. We acknowledge that borrowing ideas from neighboring disciplines provides potential pitfalls. One of these pitfalls is that of neglecting some of the crucial knowledge of the discipline. We have attempted to elude the pitfalls by relying on well-known and widely-referred information on the relevant issues (i.e. concepts and theories on technology, society, and generations).

We believe that this thesis could serve as a step towards a new direction in information systems research. We have called for a more thorough understanding of the impacts of IT applications on societies, as well as the impact of the societal and social shaping forces on IT applications. This field should not be left to sociologists only, since a comprehensive understanding requires also a good knowledge on information technologies and business solutions. These issues should belong to the core interests of the IS field.

Regarding the issues for further studies at a more practical level we mention the following ones. First, although we have provided multifaceted knowledge on young consumers of digital content in particular, further investigations are needed on how specific these characteristics really are to this age group. Second, assuming that young consumers, also referred to as Digital

⁴ The other literature-based article, Article 1, had the widest scope. It dealt with the relationships between information technology, societies and research on these.

Natives in this thesis, are a suitable social cohort for predicting future consumer behavior, more information is needed on the values, attitudes, and thinking of this cohort. Third, while Digital Natives obviously are a remarkable shaping force on digitized societies, it would be necessary to know more details on the thinking and behavior of other age groups, or generations in relation to digital content consumption. A particularly interesting question is whether the new technologies bring generations closer to each other, so that, for example, more of the older people could consider themselves as immigrants in the generation of the Digital Natives rather than belonging to some earlier generation. Fourth, there are signs that the future generations will be more reluctant to pay for digital contents. This would be an important subject for further studies since a lot of hope is pinned on commercial, digitalized products and services. An interesting question is: What if the concept of 'common good' will have an ever more individualistic or selfish meaning without any reference to responsibility or duty to "contribute" to 'common good', i.e. that everything which can be accessed through the Internet, for example, is regarded as common, shared and taken for granted? Fifth, since repetition of consumer behavior (i.e. repeat purchasing of legal content or continued use of illegal content) plays an important role when developing fair and healthy markets of digital content, it is necessary to know in detail the mechanism through which a consumer gets engaged in his/her behavior. A good starting point for these studies could be the widely-researched Expectation and Disconfirmation Approach (e.g. McKinney et al, 2002; Venkatesh & Goyal, 2010). Sixth, taking the argument that consumer behavior in the digitized society is becoming ever more emergent and unexpected as a starting point, it is necessary to ask whether there are contingencies that "shape" the behavior and what these contingencies could be. Finally, as the problems concern societies, solutions should also include societal considerations. Therefore, it should be investigated, for example, what the roles of regulation and proactive policies could be (e.g. in fighting digital piracy).

YHTEENVETO (FINNISH SUMMARY)

Digitalisaatio on yhteiskunnassamme keskeisimpiä kehitystrendejä. Digitaaliset sisällöt ja palvelut muuttavat kuluttajakäyttäytymistä monella tavoin. Muutokset eivät koske ainoastaan kuluttajien tietoista toimintaa vaan myös käyttäytymisen taustalla olevia asenteita ja etiikkaa, jotka puolestaan vaikuttavat myöhempään kuluttajakäyttämiseen.

Musiikkiteollisuus on ollut yksi digitalisoituvien yhteiskuntien pioneereista. Se on kohdannut sekä digitalisaation mahdollisuudet että varjopuolet. Äänitetty musiikki on mitä luontevin kohde tuotteiden ja palvelujen digitoinnille. Toisaalta musiikin digitointi ja digitoidun musiikin jakelu Internetiä käyttäen ovat tarjonneet mahdollisuuden musiikin laittomalle käytölle, piratismille. Digitaalinen piratismi (engl. digital piracy) onkin ollut musiikkiteollisuuden keskeisin huolenaihe koko 2000-luvun ajan.

Digitaalinen piratismi ei ole ainoastaan musiikkiteollisuuden ongelma vaan koskee kaikkia niitä aloja, joiden tuotteet ja palvelut ovat digitaalisessa muodossa Internetissä. Tämä ongelma on jäänyt kohtuullisen vähälle huomiolle laajemmassa yhteiskunnallisessa keskustelussa, sillä tietotekniikan hyödyntämisestä ja digitalisaatiosta käytävä keskustelu on painottunut ennen kaikkea näiden tuomiin hyötyihin. Tietojärjestelmätieteen piiristä digitalisoituvan yhteiskunnan kehittymisen kokonaisvaltaista ja kriittistä tarkastelua on vaikeaa löytää. Esimerkiksi laajahko musiikkipiratismiin liittyvä tutkimus rajoittuu suurelta osin kaupallisiin näkökohtiin.

Digitalisaation toteutuminen moderneissa yhteiskunnissa edellyttää kokonaisvaltaista näkemystä, joka ottaa huomioon teknisen ja liiketoiminnallisen näkökulman lisäksi ihmisten toiminnan niin yksilö- kuin yhteiskunnallisellakin tasolla. Tämä tutkimuksen tärkeimpänä tavoitteena oli juuri tällaisen kokonaisvaltaisen kuvan luominen. Vaikka tutkimuksen empiirinen osuus rajoittui digitaalisten sisältöjen, ennen kaikkea digitaalisen musiikin, kuluttajakäyttäytymiseen, on tuloksia pyritty tulkitsemaan laajemmasta, digitaalisen yhteiskunnan kehittymistä kuvaavasta näkökulmasta. Nuoret ja nuoret aikuiset, joiden katsotaan kuuluvan "diginatiivien" sukupolveen, muodostivat tutkimuksen keskeisen kohderyhmän. Aineisto ei kuitenkaan rajoittunut vain "diginatiiveihin".

Tutkimus toteutettiin soveltaen monia menetelmiä ja lähestymistapoja. Tällainen triangulaatioon perustuva tutkimustapa soveltuu erityisen hyvin monimuotoisten tutkimusongelmien ratkaisuun. Sen avulla pyritään lisäämään tutkimusaineistosta tehtyjen johtopäätösten luotettavuutta.

Tutkimuksessa todettiin, että digitaalisiin sisältöihin liittyvä kuluttajakäyttäytyminen sisältää monella tavoin yllättäviä piirteitä. Mielenkiintoisimpana havaintona todettiin, että kiinnostus digitaalisiin sisältöihin ei välttämättä näy halukkuutena maksaa näistä sisällöistä. Yhtenä syynä voidaan pitää piratismia sen eri muodoissaan, mutta koko ilmiötä tämä ei selitä. Toisena selityksenä tutkimuksessa esitettiin, että digitaalisen aikakauden kuluttajien käyttäytymisen perustuu muuttuneisiin asenteisiin ja etiikkaan, jotka ovat erityisen tyypillisiä uudelle sukupolvelle. "Diginatiivien" sukupolven ongelmana näyttää ole-

van myös se, että tarjolla on yhä enemmän vaihtoehtoja, joiden väliltä pitäisi tehdä valintoja samalla, kun normatiivinen ohjaus on vähäisempää kuin aiemmillä sukupolvilla.

Tutkimusten tulokset tuovat uuden näkökulman digitaalisen yhteiskunnan kehittymiseen ja kehittämiseen. Tähän saakka digitalisaatio on nähty lähes yksinomaan mahdollisuutena ratkoa kansakunnan ja laajemminkin koko ihmiskunnan ongelmia. Digitalisaation on katsottu esimerkiksi luovan huomattavan määrän uusia työtehtäviä. Työpaikat ovat viime kädessä kiinni kuitenkin siitä, ovatko kansalaiset, kuluttajat, valmiita maksamaan tuotteista ja palveluista. Tämän tutkimuksen valossa halukkuus kuluttaa digitaalisia sisältöjä ja palveluja on selvästi suurempi kuin halukkuus maksaa niistä. Tämä epäkohta kaipaa laajamittaista lisätutkimusta.

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ORIGINAL ARTICLES

I

LESS, SLOWER, BETTER. DO INFORMATION SOCIETY VISIONS HAVE HEALTHY ALTERNATIVES?

by

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Less, slower, better. Do information society visions have healthy alternatives?

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Abstract

Technical issues currently dominate public and academic discussion of the information society. There appears to be abundant optimism about the application of new technology in the construction of an information society for citizens. Individualism, formalised in the notion of postmodernism, promotes the idea of an individual-centric information society, in which individuals are connected with technology in terms of individual wants. This paper questions the current trend, in which the bigger picture seems to be lost. There are already clear indications that the cost of the prevailing IT-driven cultural phenomena will be high in terms of well-being.

Keywords: critical, information technology, information society, social, well-being

¹ The authors' names are arranged in alphabetical order corresponding to their equal contributions

1. The development of information technology – An unquestionable success story?

Computer-based information technology (IT) has a history of only a few decades. However, its development has been so rapid that humans have had difficulties following it. Today, information technology is offered as a solution for any kind of local or global problem.

Since the 1980s information technology has been seen as a crucial factor in increasing the competitiveness of business organisations, e.g. [1]-[3]. Later on, the potential of IT for other sectors, like education, e.g. [4] and medicine, e.g. [5], has attracted the attention of both researchers and practitioners. Nowadays IT appears to have an unquestioned role in all the developments of modern societies. The frequent use of the concept of information society highlights the importance of and trust in the opportunities of IT in all areas of life.

During the 1990s, with respect to business applications, the relativity and perishability of the advantages gained by using IT began to be emphasised, e.g. [6]-[7]. It was realised that IT as such is not a strategic weapon but rather the way it is utilised.

At the same time, several nations published their first strategies for an information society. For example, Finland was among the first to launch its information society strategy in the middle of the 1990s [8]. This report is very optimistic about the futuristic opportunities based on information and technology (i.e. information technology). Since then the national strategy has become more “human-centric”. The [Finnish] National Knowledge Society Strategy for 2007-2015 is entitled “A renewing, human-centric and competitive Finland”. In this strategy the primary national vision is stated as “A good life in the information society” [9]. However, despite its human aspects, technology seems to have the prominent role. For instance, with respect to the SWOT analysis, there are few mentions, besides the vulnerability of information society, of the threats that could be brought about by IT, directly or indirectly, through changes in human behaviour. To some extent, technological shortcomings are recognised, yet the resolution seems too technological: developing better technologies for overcoming information security or privacy risks, for example. Instead, scenarios for alternative futures are totally missing. In brief, IT seems to form the settings for tomorrow’s society, and it appears that the other factors should be adapted to them.

In this paper we question the “almightiness” of information technology and the neutrality of research that considers the weaknesses and strengths of information technology. We also aim to provide argumentation for why futuristic IT research should take seriously the risks of the blind belief in IT. This study is conceptual. It is based on surveying the literature of several areas. Realising that the topic is extremely complex, we rather aim to present well-argued questions than invalid answers. In so doing, we would like to contribute to the critical discussion on IT-based societal development.

2. Information society and postmodernism

New technology and communication constitutes the core of the information society. Information and communication are seen as generators of human progress and well-being. Connectivity, the access to information and the ability to contribute information and knowledge are enabling factors in the development of the information society [10]. Enabling greater use of innovative technologies wherever it is possible is seen as an accelerator of well-being and economic and social progress. In these visions each person should have an opportunity to gain the skills to participate in the upbeat knowledge economy the information society represents.

Fundamental values of freedom, solidarity, tolerance, equality and responsibility are the values of cherished in information society visions [10]. The importance of ethics is acknowledged. Cultural and linguistic diversities are recognised as elements of the individual's identity, and the preservation of cultural heritage for the future is one high priority in building an inclusive information society. This kind of value-basis reflects postmodern ethics, where pluralism and relativism are emphasised. The term *postmodernism* is usually associated with the change in the field of art in the 1900's, when the combination of different styles, meta-fiction, parody and playfulness became important ways to express artistic visions. In philosophy, postmodern refers to stylistic experiments as well, but also to the questioning of the foundations of modernism. Sociologists introduced postmodernism in the context of society in the 1960's, when it was used to describe the post-industrial society with such characteristics as individualism, non-hierarchical social relations, pluralism, and diverged social communities, e.g. [11]-[13]. The significance of postmodern ethics has been seen as a reaction to the problems that the information, media and consumer society produced, and to societal change in general. Also individual sense of responsibility is stressed. On the other hand, the aspects of individualism and the non-political nature of postmodern ethics have been criticised by e.g. Charles Taylor and Alasdair MacIntyre. In Taylor's critique the accent is on the demand for communal values and resistance policies [14], when MacIntyre criticises the development of ethics in 1900's for its individualism, emotivism, and for the lack of moral entirety [15].

Postmodern ethics does not recognise any common foundation for values, or normative laws [16]. Therefore everyone should construct their own ethical comprehensions. This has led to pluralism, which is represented in social media, like Facebook. Pluralism itself is not a good or a bad thing, but together with other characteristics in virtualised interactions the social consequences can be unexpected. However, interactions in social media are somewhat analogical to the attributes of the postmodern: fragmentariness, divergence, particularity, randomness, ambivalence, inconsistency, and non-hierarchical structures. In this article, we will discuss the possible problems or unwanted outcomes of the increasing use of IT's, in terms of social well-being.

the human being can be seen e.g. as a physiological, social and cultural creature. These are also the aspect in which certain basic needs, potentials, limitations and other human features are bounded, and which should be recognised in all stages of technological development. Human-centred design [17]-[18], value sensitive design [19]-[20], and even life-based design [21] views, which derive from a need for a holistic and multidimensional approach to human-technology interaction, have been applied to

software and service development, but the consequences of long-term use of services, like social media, have still not been explored. Connectivity and interaction appear to be the most dominant values in different design approaches, but what about the quality of that interaction?

Despite development-oriented aspects and noble ethical principles of the information society, well-being is not a self-evident outcome of constant technological progress. The level of discussion about the long-term use of technology, for example social media, and its consequences to human well-being, should be raised. Communication is a basic human need and a profound social process, as well as the foundation of social structures. The possible risks must be recognised and evaluated. The problem regarding this issue is, for example, that long-term consequences of the virtualisation of human relationships are not known. Nonetheless, according to the knowledge we already have from psychology and sociology concerning the development of identity and social behaviour of human beings, it is justified to predict negative impact on well-being.

The basis the modernism-postmodernism debate is technological change, particularly the effects on identity of the development of an information society. Nick Gillespie argues that the current profusion of communications media provides an environment for continual practice in self-invention [22]. Now the audience has a mind of its own, instead of simply absorbing the messages broadcast. In an information society, where information is a commodity itself, the most relevant interpretive context is the consumer's – not the producer's [22]. The notion is significant because the argument leans toward optimism concerning the potential of technology to help us build healthy relationships and constantly redefine who we are as human beings. Technology is not a threat to our uniqueness, but rather a means to further differentiate each individual, in order to expand the ways we alone invent new possibilities for living within a technology-driven society. New media becomes an advance for the individual's ongoing creative self-invention process.

In counterbalance, Edward Herman and Noam Chomsky stand for a less optimistic perspective. Such creativity is actually a myth constructed through propagandist media messages under the control of the socio-economic elite. This upper level is in symbiotic relationship with sources of information by economic necessity and mutuality of interest, and controls the ways in which individuals think about themselves in a society where individuality itself is called into question [23]. Chomsky and Herman relocate the forces that shape our lives outside ourselves by demonstrating a removal of the processes of self-identification and self-invention from within the individual. Here it is important to notice that the postmodern self, by qualification of its constitution through propaganda and ideology, can be seen as liberated. Social media are sparked by the need to capture a particular emotion or moment as experienced by an individual – and leave personal responsibility to the perceived laws of time, space and textuality outside, delineated by modernism. Social media can be seen as a hypertext narrative that allows boundless freedom to disrupt narratives. The process celebrates the fragmentation of identity as an innovatory, to be further explored.

Postmodernism enables a context to examine today's information society. It is still difficult to find a reason to think that this technological determination will become any easier. Technology will continue to illumine new ways to perceive ourselves and our position in larger groups. Technological change affects a sense of self not through

affirming any particular model of human existence, but through creating a sense of urgency in the quest to constantly locate and relocate our own models of existence in an information society.

Fundamental features in postmodern culture are individualism and technology driven mentality. Yet the responsibility of societal and cultural development must be shouldered, in order to prevent the uncontrollable development and unwanted outcomes of such development. After all, the postmodern (information) society like all the earlier cultural eras, is built by people.

3. Promoting social well-being

The cultural impact of current Internet usage and other popular IT applications is evident in our everyday life. The rapid change in social relationships has been particularly salient, raising concerns about social health. However, optimistic visions about the use of IT in various contexts (see above) dominate the media. Fortunately, there are some studies which dare to take an objective view on the rapid penetration of IT applications and their social impact.

Broadband appears to be the central technology in enabling the central products and services associated with current information society visions. Lucy Firth and David Mellor [24] analysed the effects of change from slower network technologies to broadband based Internet, making important conclusions about the related benefits and problems in terms of related expectations. Focusing on health, education, social relations, jobs and prosperity, Firth and Mellor did not find any clear benefits of investing in high bandwidth technology to be accessed by citizens. There are also some studies concerning the social impact of broadband household internet access [25]-[26], which do not find any social impact when upgrading to broadband. However, these studies only compared slower Internet access to broadband, not the internet-based lifestyle *per se*. In contrast, an extensive study among over 6000 Americans [27], turns the obvious to evident: The use of the Internet changes our social life dramatically, shifting the time used for face-to-face social contacts to online activities. When talking about the revolutionary opportunities of IT in the endeavour of 'connecting people', this kind of studies returns us to reality.

For sure, IT has enabled social interaction which would have not been possible without contemporary applications. Stories about grandparents who are able to Skype with their dear grandchildren on the opposite side of the world are a good advertisement for broadband based visions of the information society. However, grandparent-grandchild communication is probably a curiosity in the world of Internet enabled communication. A more comprehensive picture could be seen in a statistic, according to which Facebook has been mentioned in 20% of petitions for divorce in the UK [28].

4. Social media

Sociologist J.A. Barnes coined the expression “Social Network” in 1954 to explain the friend-of-a-friend-of-a-friend connections that split traditional groupings [29]. These networks offered people the opportunity to find jobs or apartments, for example. Use of a social network site for actual social networking might be impudent. Facebook has already changed the way millions of individuals get connected with each other. If we want to talk about networking, sites like Facebook are deceptive because they do not network in the way that social networks are specifically designed to do. One of the most distinctive features of Facebook is “News Feeds”, where users can spend their time keeping up with the details of their buddies’ lives. However, it can be called stalking or friend collecting since it does not really build up real connections. So far networking in Facebook and other similar services are done in an ad-hoc style. The big question is how to convert networking into a web service. Or what it even means to be connected.

Without going any further into possible Facebook use scenarios, there is one more important issue to focus on: the use of political power in the design of such services, and its impacts on social well-being. For a constantly increasing number of people Facebook has become an important service, if a person wants to communicate and keep up-to-date with his or her communities. The problem is power to make decisions. At present, young Mark Zuckerberg practically holds the authority in any decision making in Facebook, and the users are committed to follow the agreement that defines the legal relationship between the user and the company. In the free market the consumer can decide what kinds of services he or she wants to use, and what company he or she wants to deal with. In the Facebook case, such freedom is principally theoretical. If the majority of the surrounding community uses Facebook, refusal to use the service is not possible if one wants to be fully part of the community or avoid social exclusion. However, Zuckerberg decides, what is appropriate or prohibited. Facebook is a global social media, and traditionally the media has been one instance that holds political power. Facebook is just one example of more extensive phenomenon. It is hard to believe that forcing people to use communication systems that have been designed to follow certain economical principles is desirable from the viewpoint of communal well-being.

Broadband and Internet in general is, above all, an enabler. This argument is frequently used when justifying public investment in the construction of network technology. For sure, Internet as a technical construction cannot be blamed for everything people have used it for. Therefore we maintain that instead of arguing for and against Internet, we should talk about the culture it has enabled. Above all, if we are interested in the construction of our culture in the long run, we should be interested in the behaviour of young people. What kind of opportunities do we as grown-ups, in the role of parent, teacher or any other facilitator, for example, offer to our children? Who is responsible, for instance, for what our children do online? Recent statistics by Symantec [30] provide a realistic view of the use of the Internet by the young generation. In the statistics, there were three age categories: 13-18 yrs, 8-12 yrs and under 8 yrs. In Internet searches performed by all these age groups, the three most popular keywords were “Youtube”, “Facebook” and “Google”, only the order of these varied in the

different age groups. The next most popular keywords were “sex” and “porn”, again in all age groups, including under 8-year-olds.

The interesting analysis of the effects of Internet use by Firth and Mellor [24] argued that broadband is taking off among the elites of society. However, it appears that the change of our culture is happening so rapidly that the paper published in 2005 already requires updating. There are two issues which need to be reconsidered in 2010: First, the penetration of so-called social media has mostly taken place during the last few years. Second, the demographics of their use is quite different from the demographics of Internet users in 2005. Recent statistics from the US [31] show that the use of social media is most frequent in the second lowest income category of six. In terms of education, college level education has a strong relationship to abundant use of social media, which is only a fraction of that among people with graduate level education. These statistics imply that at least the use of social media is by no means an elitist activity. If the same trend holds for the use of Internet in general, we are in an interesting phase in the change of culture. When Internet was novel technology, it was adopted by people of high socio-economic status. Within a few years Internet access was possible for most households. Probably the change had an effect on the content of the Internet as well. All this has seeming made the elite gradually discard many popular Internet services, like social media. This is obviously speculation or hypothesis rather than a conclusion, but one thing is clear: The impact of the Internet and its social impact in particular needs to be investigated much more than has happened so far. The economic interests behind the promoting of all kinds of Internet based activities are so strong that a proper counterforce is needed for citizens to understand the true nature of the current cultural change. Such a counterforce does not exist at the moment. It seems to be extremely difficult to get publicity for any critical views about the current state of Internet usage. For instance, the excellent critical statement of Firth and Mellor [24] has been referred to, according to the Google Scholar search engine, only 36 times (checked 25/5/2010). The ground-breaking paper of Nie and Hillygus [27] has been referred to in 85 publications only (status 25/5/2010).

“While technology shapes the future, it is people who shape the technology, and decide to what uses it can and should be put” (Kofi Annan, UN Secretary-General 1997-2006) [10]. The words of Kofi Annan are probably mostly used to rethink how we should take into account the needs of all nations in the construction of technological environments. However, they could as well be applied to industrialised, western societies. As the penetration of new technologies changes our culture, we should be aware of these changes and reflect the anticipated changes in our vision of future society. Currently, the problem appears to be the lack of value-based vision. In several contexts we are given an impression that the development of technology is an organic process, over which no one has control. Technology as a servant of human beings is a dead concept if we cannot even question technology driven construction of our society.

5. Towards brave and balanced IT research

Blinkered attitudes towards the development of technology are a natural outcome of decision making that emphasises economic standpoints. Continuous economic growth is

the last thing to be questioned, and technology in general [32]-[33] and IT in particular [34]-[35] have been seen as a primary means to enable this growth. However, as noted by Fisher-Vanden and Ho [36], for example, better technologies do not necessarily imply better life circumstances.

The extreme belief in technology can be found in the thinking of technology determinists like Clarence Ayres [37]. For Ayres technology had the position of a religion, which is realised in his notion of the Gospel of Technology. Although extreme technology determinists are few in number today - and opposition to technology determinism has emerged - many of the new directions, such as the school of the Social Shaping of Technology [38], emphasise the strong link between social systems and technology, rather than the necessity of considering the weaknesses and threats of technological evolution.

With respect to information technology a simple experiment reveals the hype in attitudes towards IT. To acquire neutral information on the opportunities and advantages of IT on the one hand, and on the threats and disadvantages on the other, we carried out a Google Scholar inquiry by using the keywords *information, technology, opportunity/advantage/threat/disadvantage*. The result was very much what was assumed. The positive terms *opportunity/advantage* yielded articles that mostly dealt with how IT can be used for gaining a competitive or strategic advantage. Interestingly, the negative terms *threat/disadvantage* to a large part, also yielded similar articles, i.e., dealing with positive impacts of IT (overcoming some disadvantage by using IT). Only a few of the first fifty results emphasised the risks or shortcomings of IT, and even in those cases the positive aspects were also considered, i.e., *both* the threats *and* opportunities of IT or information systems.

We have briefly described how IT has become the unquestionable starting point of all societal development. Excluding some exceptions, e.g. [24] researchers seem to have either fanatically positive or pacifically sceptical attitudes towards the development of IT. Real criticism is missing. We argue that this is not because of missing valid arguments but rather because of current policies that are based purely on economic values. Institutions and even nations rely on technology in general and IT in particular, which is seen as the solution for any kind of problems. As a consequence, IT has gained a position that is difficult to shake.

It is hard to deny the fact that current societal development has been technology-driven and shaped by the evolution of technology. To put it more sarcastically, technology - IT particularly - approaches human features in the sense that it *evolves* rather than *is developed*. Accepting this means that the crucial aspects of cultural and societal changes are forgotten, i.e., the human and interpersonal processes that are still the basis of the future. Looking at the “evolution” of IT from the human point of view, all consequences are not necessarily success stories. In the longer run, which of them are and which are not, requires and is worth comprehensive and objective research.

6. Discussion and some concluding statements

There are multiple approaches and interests in the discussions about the development of information society. The first difficult issue is the definition of the concept itself. The current discussion appears to take it as given, just as if we already had a common understanding of it. However, the human centred ideals are not necessarily realised in technology driven ideas about the implementation of an information society. The concept of postmodern society undoubtedly matches the views and values of people, who manage their own life and rapidly changing social networks constantly with the help of electronic infrastructure and personal applications. A technically networked society definitely has a lot of potential, but the experiences so far are not too encouraging.

In western societies, we are constantly exposed to idealistic views about the endless development of technology and how it ultimately improves our life. As described in this paper, it is really hard to publicise any views which challenge the blind belief in information technology. The daydreams of a better, technology enabled life are being fed in small doses in the form of well marketed, nice looking and appealing products. Sadly, most of the dreams lead us in the wrong direction. As discussed, neither the endless pursuit of information technology based productivity and economic growth nor the striving for ever faster access to information and social networks has much to do with well-being. The speed at which data is transferred in the networks hardly correlates with the perceived quality of life. Data or information itself does not automatically lead to knowledge, not to mention wisdom. Current IT opportunities can be paralleled with a construction site with a lot of construction material lying around but no-one knows how to build a house from it. In the construction of an information society, we need a vision ('a house plan') and only after that should we decide what we need to implement the vision. In the vision, the means to implement should not be the essence, but the ideals of good life.

In the implementation of a healthier information society, digital technology may have an important role. However, rather than continuously demanding more and faster, we should focus on the quality. What if we had less of it all and, if it were slower, could it be even better?

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II

PERSPECTIVES ON DIGITAL CONTENT MARKETS: A LITERATURE REVIEW OF TRENDS IN TECHNOLOGIES, BUSINESS AND CONSUMER BEHAVIOUR

by

Veikko Halttunen, Markus Makkonen, Lauri Frank & Pasi Tyrväinen, 2010

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Perspectives on Digital Content Markets: A Literature Review of Trends in Technologies, Business and Consumer Behaviour

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Abstract

In this paper, we focus on digital content markets (DCMs), which have typically been seen as an offspring of technological and business innovations. However, recent trends indicate that these two perspectives are not enough when attempting to understand how DCMs actually work. Technology is obviously a prerequisite for business innovations, which in turn provide new possibilities for consumers. Nevertheless, consumer behaviour is not only a result of technological and business innovations, but by itself a crucial factor of DCMs. In this paper, we attempt to clarify the general view of DCMs by carrying out a literature study that is based on the above mentioned three perspectives: technology, business and consumer behaviour. As a result of our study, we present critical issues for both doing further research and improving the ways of trading and distributing digital content. Especially, we highlight the crucial role of societal transformations for the development of DCMs.

Keywords: digital content markets, technology, business, consumer behaviour

Introduction

The general view of digital content markets (DCMs) requires clarification. During the ongoing decade, digital content, such as documents, images, music and videos, has become an important source of new business (Stahl & Maass 2006). However, companies that base their business on digital content have also faced the ill side of the trend, i.e. the severe problem of illegal copying and usage of digital products, also known as digital piracy (Haber et al. 2003). Digital

piracy can be seen as a result of the easiness by which copying and sharing files on the Internet can be done (Frattolillo & Landolfi 2008). The emergence of peer-to-peer (P2P) networks at the beginning of the millennium has led to the rapid development of illegal file sharing, especially in the area of music, and later on also in the area of videos (Einhorn & Rosenblatt 2005).

Although the actual impacts of digital piracy on the content industries are

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controversial (e.g. Oberholzer-Gee & Strumpf 2007; Liebowitz 2008), it is obvious that piracy is an issue that requires much attention in the future. One way to fight against piracy are digital rights management (DRM) technologies, but so far their success in this has been quite limited (Jamkhedkar & Heileman 2004). Nevertheless, DRM can be seen as a necessary addition to the arsenal of managing the distribution and usage of digital content. However, besides technologies, also other solutions are needed. These may include, for example, business models that better accommodate consumers' expectations (Amberg & Schröder 2007). For this purpose, a better understanding of online consumers is required.

Consumers who utilise digital content over the Internet are typically young people. Their ways of thinking and acting can differ remarkably from those of earlier generations. There may be differences in ethical and moral values, social relationships and behaviour as well as in the ways of using different technologies. A more thorough understanding of online consumers is a prerequisite for digital content products and services that meet consumer expectations, and at the same time, form a basis for competitive and sustainable business. Social networking with its many applications (Facebook, MySpace, etc.)

has already dramatically changed the ways in which communication technologies are utilised. It is obvious that in the future, virtual communities will have a significant role in consumers' everyday life (Constantinides & Fountain 2008).

To analyse DCMs, we carried out a literature study that focused on several aspects of the market evolution. To systematise our data collection and analysis, we developed a simple model that describes three perspectives on DCMs and their interrelationships. The model is described in chapter 2. In chapter 3, we analyse each perspective of the model on the basis of our literature study. In chapter 4, we provide implications of the analysis on the model and on further research. In chapter 5, we briefly summarise our study.

Research model

There is no doubt that technology has been one of the driving forces for the development of modern societies. Over the past twenty–thirty years, information and communication technologies (ICT) have heavily influenced individual and social behaviour, the ways of doing business, and the structures of societies. Thus, technology (ICT) is a main factor in our model (Figure 1).

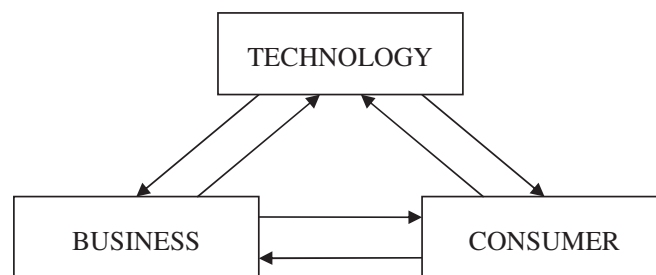


Fig 1. The original model

Utilisation of technologies can be seen as a process through which individuals and organisations aim to use technologies in a beneficial way. When considering DCMs, the utilisation of technologies is realised in both business solutions and consumer behaviour. On one hand, business solutions and strategies are built taking the technological opportunities into account, resulting in innovative, technology-dependent or technology-driven business models. However, on the other hand, business innovations can be seen as an impetus for new technological innovations. Respectively, consumers utilise new technologies in a way that may change their behaviour. This, in turn, may entail new requirements for technological improvements.

In the remainder of the paper, the three components of our model are referred to as *technology perspective*, *business perspective* and *consumer perspective*. Since the model was developed to purely help to structure and analyse the overviewed literature, it must not be seen as exhaustive. However, we find that the high level of abstraction of the model makes it suitable to be utilised also more generally than just in this particular study.

Analysis of digital content markets

Technological perspective

Digital products, also referred to as digital content in this paper, are a natural result of the developments in personal computing and communication. According to Gartner (2008), the number of PCs exceeded one billion in June 2008, and this number is expected to double by 2014. The popularity of PCs has not only been guaranteed by their small size and low price, but also by the fact that with a modern PC, it is easy and efficient to consume and produce all types of content, such as text, images, audio and videos. As a result, a great variety of digital content is currently available to their users. In

addition to PCs, there are nowadays various other devices available for listening to music or watching videos, such as portable media players (e.g. Apple iPod) and mobile phones with rich multimedia features (e.g. Nokia Nseries). Mobile devices have also quickly become an important means of accessing the Internet (ITU 2009).

From a communicational perspective, an important development step has been the emergence of efficient and inexpensive broadband access to the Internet. Although the early Internet technologies, such as IP (Internet Protocol), TCP (Transfer Control Protocol) and UDP (User Datagram Protocol), still form the technological core of the Internet, it was not until the emergence of WWW (World Wide Web) and its underlying technologies that the Internet became accessible to wider audience (Cantoni & Tardini 2006). Later on, various improvements concerning the presentation of digital content have followed each other. The most important ones of these have been the common representation standards for audio (e.g. MP3, AAC and WMA), video (e.g. DivX, Xvid and WMV) as well as documents (e.g. XML and PDF). Whereas digital content typically has been acquired by downloading it as files, the increasing volume of audio and video content has also began to shift the focus onto streaming technologies, which enable the content to be used without having to download it entirely (Alustwani et al. 2008).

During this decade, a new innovative way to search and share digital content has emerged: P2P networks. These are networks whose architecture differs from the earlier client-server architecture in a way that all the network nodes are equal, i.e. each node can act both as a client and as a server. Thus, P2P networks are a typical example of distributed computing (Hawa 2008). The Napster file sharing

service can be seen as an impetus for the numerous P2P networks that have emerged in this millennium (e.g. Taima 2002; Spitz & Hunter 2005). Architecturally, P2P networks are complex and difficult to manage due to their heterogeneity and scalability problems (Kwong & Tsang 2008). From the current P2P technologies, BitTorrent seems to have a prominent status (Hawa 2008).

Since digital content is nowadays conveniently accessible for a wide audience, the unauthorised copying and usage of content has proved to be a complicated problem. The technological solution to the problem has been the use of DRM, which may include the description, identification, trading, protection, monitoring and tracking of the rights over tangible or intangible assets in various electronic commerce systems (e.g. Ianella 2001; Tyrväinen 2005), using a variety of technical architectures and models (e.g. Liu et al. 2003; Ianella 2001). Over the years, several DRM products have been launched, but without considerable commercial success (Jamkhedkar & Heileman 2004). This has mainly been due to their user experience and interoperability problems, immaturity of technologies, etc. DRM systems have also been seen as highly complex and extensive since they should be secure, flexible and manageable, and also provide a support for a diversity of devices, users, platforms and media (Michiels et al. 2005). Despite the adversity and failures of DRM products, new DRM innovations occur all the time (e.g. Sun et al. 2009; Lee 2009; Samtani 2009).

Business perspective

The first B2C digital content markets emerged in the mid-1990s around books, newspapers, journals, magazines and some small pieces of software, which were easily and efficiently distributable even over slow Internet connections.

However, as the speed of Internet connections increased, so did the size of products, and gradually the markets extended to cover more complex content products, such as games, music and films.

This emergence of DCMs and the transition from physical distribution to digital distribution has opened up many opportunities for the actors operating in the content industries. The most significant opportunity derives from the cost savings in distribution, of which Prekumar (2003) provides a good example from the music industry. Other opportunities include increased spatial and temporal freedom, faster deliveries, better service and wider selections, which are especially important from the consumer perspective. From the content creator perspective, the most important opportunity lays in the more direct and personal interaction with the consumers of their creations.

Besides opportunities, the emergence of DCMs also poses some serious threats to the actors operating in the content industries (Clemons et al. 2002). The most serious of these is probably digital piracy, which severely undermines the possibilities to operate profitable business based on digital content products. Another potential threat arises from the redistribution of bargaining power among the industry actors, which is driven by the recent transformations in the content industry value networks and business models.

A *value network* is a collection of upstream suppliers, downstream channels to market, and ancillary providers that support a common business model within an industry (Christensen 1997). The transition from physical distribution to digital distribution has initiated some radical transformations in the content industry value networks (Clemons et al. 2002; Graham et al. 2004; Bockstedt et al. 2006;

Swatman et al. 2006). First, the value networks have gone through considerable disintermediation and reintermediation. Second, as the barriers to entry have become lower due to the new digital distribution channels, many specialist actors from other industries, such as Internet service providers and telephone companies, have started to enter the content industries. This has remarkably increased the volume and variety of actors available, and opened up opportunities for novel alliances and partnerships. Third, the new digital distribution channels have also severely undermined the dominant positions of the industry incumbents in the value networks and started to diffuse their bargaining power more equally among all the industry actors. Because all the distribution channels are no longer controlled by any single actor or group of actors, there are fewer opportunities for significant economies of scale or scope, which has opened up opportunities for the smaller actors, specialised in the niches of the "long tail" market (Anderson 2004), and decreased the incentives for vertical integration. All the actors have been forced to concentrate more and more on their own core competences and form strategic partnerships and alliances with other actors to support these activities, causing the value networks to become more complex, flexible and dynamic.

A *business model* is a representation of a company's underlying core logic and strategic choices for creating and capturing value within a value network (Shafer et al. 2005). Because a company's business model is always more or less customised for the value network in which the company operates, there is a strong interdependency between these two concepts. Therefore, not only the value networks, but also the business models of the companies operating in the content industries have gone through some significant transformations over the

recent years. Because of this, great heterogeneity can be seen in the business models currently found in DCMs. To illustrate this heterogeneity, we will next present an overview of the best-known business models found in the online music markets, concentrating mainly on their pricing and revenue logic. Although the overview mainly concentrates on the online music markets, similar models can also be found in many other online content markets.

In the *pay-per-transaction (or à la carte) model*, users pay a separate fee for every song or album they download or listen. If the fee is charged for every download, the model is often referred to as the pay-per-download model, and if the fee is charged for every listening, the model can be referred to as the pay-per-listen model. (Dubosson-Torbay et al. 2004) Pay-per-listen services are typically streaming based services to prevent users from storing the music for later use and listening to it free of charge. In pay-per-download services, the music can usually be freely stored, but there may be some other restrictions, e.g. limiting the period of time a song can be listened to or the number of times it can be burned to a CD. (Amberg & Schröder 2007) The best-known example of pay-per-download services is Apple's iTunes Store.

In the *subscription (or buffet) model*, users pay a periodic flat fee and receive the right to download or listen to music either limitedly or unlimitedly for a certain period of time. Because the usage costs are more or less unrelated to the amount of usage, subscription services are especially attractive for so called "heavy users". However, compared to pay-per-transaction services, their success is much more dependent on the width of their music selection and the amount of additional services and information offered because a subscription typically for at least 30 days is a much bigger purchase barrier than a one-time

transaction fee. (Amberg & Schröder 2007) One of the best-known examples subscription services is RealNetworks's Rhapsody.

Many of the recently launched online music services are *advertising supported* services, which run entirely or at least partly on advertising revenues. Because of this, they are basically free of charge, but many of them also include some premium features, which are liable to charge. At the time, the two best-known advertising supported services are Last.fm and Spotify, although these both also include features from the pay-per-transaction and subscription models.

The *redistribution model* resembles the pay-per-download model in the sense that users pay a separate fee for every song or album they download. However, instead of just receiving the right to store and listen to the music, users also receive the right to resell it to other users. If they succeed in this, they are typically rewarded with a commission of the sales. The redistribution models have been studied quite actively over the recent years (e.g. Grimm & Nützel 2002; Nützel & Grimm 2003; Tyrväinen et al. 2004), but there are only few actual services utilising them (e.g. PotatoSystem).

Consumer perspective

The transition from non-digital products to digital products has changed both the attitudes and the behaviour of consumers. For instance, consumers have become more resistant to traditional forms of advertising, whereas alternative strategies, such as viral marketing, have gained ground (Leskovec et al. 2007). In viral marketing, existing social networks are utilised in sharing information about the products. Virtual communities on the Internet provide potential channels for this kind of word-of-mouth marketing.

Huang (2005) has studied consumer behaviour in the context of music file

sharing. He noted that a new consumer subculture has emerged, which questions certain motivations and principles of traditional utilitarian behaviour. The production and consumption of digital content, a great proportion of which are hedonic and experience goods, are in many ways intertwined processes, which may require reconsidering the notion of a "pure" consumer.

Consumer ethics is a good example of the areas affected by the transition from traditional products to digital products. What is legal and what is illegal has become fuzzier to many consumers because illegal digital content is easy to find on the Internet, and many users both use and produce digital content. P2P networks and file sharing have provided consumers a convenient access to their favourite content, but at the same time, they have caused the severe problem of digital piracy (Cronan & Al-Rafee 2007). In general, there seems to be quite a low level of guilt toward digital piracy (Chiang & Assane 2007).

Soopramanien, Fildes and Robertson (2007) have found that consumers' willingness to shop online depends on the product in question. When consumers want to physically inspect the product before purchasing it, traditional purchasing channels are preferred. However, in the case of digital products, such as music and videos, also online purchasing channels are potential alternatives. In addition, Burkart (2008) suggests that in the case of music, consumers should be divided into two groups: ordinary music listeners and music fanatics. The latter group may still have good reasons for owning the physical products.

Since the Internet has become a potential alternative for consumers to acquire products and services, it would be interesting to know what are the actual motivators and barriers to online

shopping. In a study by Chiang and Assane (2007), the main motivators for file sharing were costs, time and the access to content that was hard to find otherwise. In another study by Ahuja, Gupta and Raman (2003), convenience, time saving and better prices were found to be the most important motivators while security and privacy concerns seemed to be the biggest barriers. The barriers should be taken seriously since perceived risks play an important part in consumers' decision-making and behaviour, and consumers also tend to perceive higher levels of risk in online shopping compared to traditional shopping (Kunze & Mai 2007).

Music is one of the most popular content types delivered over the Internet. A study by INDICARE (Dufft et al. 2005) polled the preferences of music consumers. It found that consumers prefer music files to be transferable between different devices as well as sharable with family and friends. In general, consumers seemed to dislike different kinds of restrictions in relation to music consumption. In regard to DRM, 55 % of the respondents thought that DRM helps in compensating the artists, whereas 62 % of the respondents thought that DRM only helps the music industry to increase their profits. Altogether, these findings can be interpreted in a way that consumers are more against DRM than for DRM, i.e. they see it serving the interests of the intermediaries instead of those of the artists and other content creators. Thus, it is not a surprise that some studies (e.g. Haber et al. 2003) suggest that DRM is not the sole solution to the severe problem of digital piracy.

Implications

This chapter is divided into two sections. In the first section, we consider our research model on the basis of the reviewed literature and rebuild the model. In the latter section, we provide a list of crucial issues for further studies.

Reconsideration of the model

In this section, we consider the linkages between the three components of our model and, as a result of the analysis, redraw our model.

Technology-Business. When considering DCMs from the technological perspective, P2P technologies seem to be the most challenging ones. They provide both outstanding opportunities and substantial threats. P2P networks are not just technological networks, but also social networks, which are part and parcel of peoples' everyday life. Whereas earlier online business models might have been technology-dependent or technology-driven, in new business models, consumers' ways of utilising the networks as well as their attitudes toward technologies should be more carefully taken into account. For example, when trying to deal with the piracy problems of P2P networks, DRM does not seem to be the right solution since most consumers are against any restrictive technologies. Thus, if technologies, such as DRM, are utilised, it must happen in a way that can be seen beneficial from consumers' point of view.

Online businesses will also face the convergence of information and communication technologies. Computer and mobile networks as well as television will most likely evolve to have a common base. This is a crucial factor when developing sustainable solutions for DCMs.

Technology-Consumer. For a consumer, the above mentioned P2P networks may appear as an unlimited and unrestricted resource. They will provide an easy and efficient way of proliferating digital content with few restrictions. As acquisition channels, they are often superior to other alternatives. It is well-known that two factors are especially important when IT users form their attitudes toward technologies. These

factors are the perceived ease of use, and perceived usefulness (Davis 1989). When both of these factors are in place, it is likely that the technology will be well received. Concerning the technologies reviewed in this paper, P2P technologies seem to be widely accepted by consumers, while DRM is strongly resisted.

Business–Customer. From the analysis of the two linkages above, we can conclude that consumers' attitudes and behaviour should form the basis when developing new business models. Although this finding is not surprising, it must be remarked that previous business models seem to have been based more on efficient utilisation of technologies rather than on thorough understanding of consumers' expectations. New user generations of ICT are not plain users – they are also active creators of the environment they use. Thus, in the future, it can be very difficult to make a clear distinction between creators and consumers of digital content. We believe that this phenomenon reflects wider changes in the societies. Thus, it deserves attention not only as part of business environment but also as part of the whole society.

Enhancing the model with 'Society'. Regarding DCMs, technologies, businesses and consumers form a complex whole that is in a continuous evolution. Changes in one component also affect the other two as described in the brief analysis above. In the context of building new information systems, technology and business aspects tend to have a dominant role. However, as Spitz and Hunter (2005) and Boczkowski (2004) point out, especially with the recent ICT innovations technological transformations should be considered as *social processes*. Without underestimating the importance of technological and business innovations, it

must be remarked that all innovations take place in their societal context. With respect to new media this is even more important.

Technologies, businesses and consumers are all included in, and parts of the surrounding society. Like Spitz and Hunter (2005) note in their analysis of Napster, technologies do not spring from void, but they must have a favourable cultural ground. The values and practices of the members of a society have a crucial role in the adoption of new innovations (Rogers 2003). For example, Wikipedia is a well-known, free-to-anyone application that is widely used by a large number of people. Hansen et al. (2009) have defined Wikipedia as an emancipatory system. One could argue that the success of Wikipedia just originates from the emancipatory tendencies in modern societies.

Society is not only a fruitful ground for new innovations. It is also a pivotal factor in preventing the unwanted consequences of new technological and business innovations. Different parties have different motives and aims. All of them should be considered at the level of the whole society. Regarding current DCMs, digital piracy seems to be the major problem. The problem reflects inconsistencies in the values and actions of the different actors. Since unilateral measures like restrictive legislation or technologies cannot alone resolve the problem, there is a need for a comprehensive societal planning of the future. An in-depth understanding of all the important factors of DCMs is necessary.

Highlighting the crucial role of societal development, we redraw our model as depicted in Figure 2.

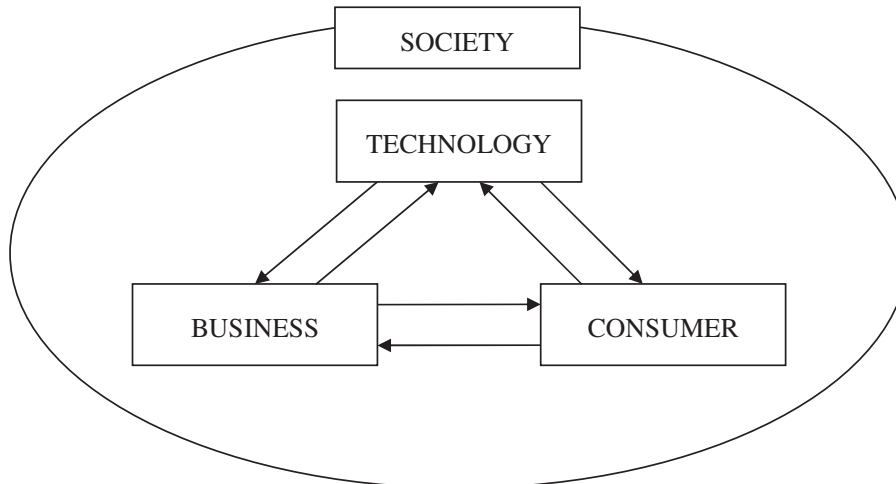


Fig 2. The redrawn model

Implications for further studies

As already discussed in this paper, online businesses based on digital content, such as music and videos, face several problems that are not relevant to traditional business – not even to online business based on traditional goods. The main problem of digital content is the easiness of consuming it illegally. In a short term, this can be seen as a problem of content providers, but in a longer term, the question is more general by nature: Who actually pays for the content, and who will care about creating and producing high quality content, if the creators and producers of the content are not fairly compensated?

Actually, the problem is not only about the illegal copying and usage of digital content, i.e. digital piracy, but it is also about the changes in consumer behaviour, and furthermore, about the overall changes in society. For older generations, the Internet is either a distant thing or a useful tool for getting information or

getting some everyday tasks done, whereas for younger generations it is a means to make friends, communicate and share experiences, and as part of this, also to share digital contents. We have already discussed how a simple moral question, what is right and what is wrong, may be responded differently by different generations. Thus, also the problem of digital piracy may be seen differently by people of different ages. When trying to predict the future, we must above all concentrate on the younger generations since their ways of thinking and acting are pivotal when building new sustainable solutions for both businesses and the societies.

In our literature survey, we found that most of the studies on DCMs have so far been positioned in the technology and business domains of our model, and therefore future studies should concentrate more on actual consumer behaviour and its interdependencies with

technological and business issues. These issues can be summarised as follows:

First, since the younger generations will be the “heavy users” of digital content in the future, what are their attitudes toward digital content as a product? What do they think about online services and distribution channels, how willing are they to pay for the products, what would they consider a fair compensation mechanism and how effective would different business models and marketing mixes prove to be? Furthermore, how do different consumer segments (e.g. ordinary music listeners vs. music fanatics) differ from each other in relation to their motivations and behaviour, and is there any variation in these issues between different content categories (e.g. music and videos)? Who are the opinion leaders when it comes to digital content?

Second, if consumers are not willing to pay for digital content, what are the reasons for this? Are the products not providing them with enough benefits and value, or is there something wrong in their pricing? Or are there perhaps other barriers, such as privacy concerns (e.g. misuse of private information) or security concerns (e.g. security of payment systems), that might influence their behaviour? What could be done to solve these issues? Moreover, if consumers are not willing to pay for digital content at all, how should their production be organised? Should we resort on market mechanisms, or on alternate solutions such as Internet or ISP levies already suggested in New Zealand (NZ Herald 2008) and Canada (CBC.ca 2009).

Third, since there are many different technologies, devices and distribution channels available (e.g. the Internet, television, mobile phones and other mobile devices), what pros and cons do consumers perceive in each technology, and in which contexts do consumers prefer each technology? Are there

differences between consumers in relation to these perceptions and preferences? What are the implications of technological convergence to all this?

Summary

We summarise our study as follows. First, the technological solutions that have enabled the new online business based on the distribution of digital content have also enabled the illegal copying and usage of that content in a way that is difficult or even impossible to deal with purely technological or legislative means, such as DRM or copyright laws. In future business models, new online consumer subcultures should more carefully be taken into account. These subcultures, which are heavily based on social networking and virtual communities, have a strong impact on the ways consumers both think and act. It is not a surprise that DRM, for example, has raised strong resistance among consumers. DRM, which basically aims at limiting the illegal copying and usage of copyright protected content, has little chances to be successful if consumers consider it just as another restriction that lowers the value of the content.

In brief, consumer expectations and their ways of thinking and acting as well as societal changes throughout the society should be understood more thoroughly. This understanding should form the basis for building successful and sustainable solutions for digital content distribution. Since the intentions to behave in a certain way in certain situations are an appropriate surrogate for the actual consumer behaviour, further studies could focus on building consumer behaviour models that, on one hand, utilise the previously proven theories and models, but on the other hand, take the specific features of online consumption and digital content into account. In addition, there is a need to study further the actual consumer behaviour itself. In this way, it is possible to gather

information that could be used to improve the applicability and accuracy of the before mentioned intention-based models.

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III

EXPLORING THE ACQUISITION AND CONSUMPTION BEHAVIOUR OF MODERN RECORDED MUSIC CONSUMERS: FINDINGS FROM A FINNISH INTERVIEW STUDY

by

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Exploring the Acquisition and Consumption Behaviour of Modern Recorded Music Consumers: Findings from a Finnish Interview Study

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Abstract: During recent years, our ways of acquiring and consuming recorded music have changed drastically. This paper provides an exploration of the acquisition and consumption behaviour of modern recorded music consumers by examining (1) how modern consumers acquire and consume recorded music, and (2) what kind of perceptions of relative advantages and disadvantages drive their usage of different acquisition channels. The paper approaches the topic from a holistic and interpretive perspective and is based on a semi-structured interview study of 14 young Finnish consumers of recorded music. The findings of the study show significant divergence in the acquisition and consumption behaviour between different consumers. They also suggest that the acquisition channel choices in the context of recorded music consumption are driven by very divergent perceptions of the relative advantages and disadvantages associated with the channels. These perceptions vary vastly from both one channel and one consumer to another. The implications of these findings for the business models of digital music stores and services are discussed in the concluding section of the paper.

Keywords: recorded music, acquisition behaviour, consumption behaviour, channel choices, interview study.

I. Introduction

During the past 10 to 15 years, our ways of acquiring and consuming recorded music have changed drastically. Whereas traditionally most music recordings were either purchased from brick-and-mortar record stores in different types of physical formats (e.g., CDs, LPs, and cassettes) or listened to for free on the radio, today the Internet has become an increasingly important acquisition channel for more and more people. This change process began already in the mid-1990s, when several online stores, such as Amazon, started selling music recordings on the Internet. This implicated significant improvements to the traditional ways of purchasing recorded music as the recordings could now be ordered online basically anytime and anywhere without visiting a brick-and-mortar record store. However, although the purchasing process was digitised, the delivery process still remained physical. In other words, the recordings were still delivered to consumers as physical products, typically through the traditional postal service. In this sense, the improvements were only incremental

in relation to mail-order selling and many mail-order music clubs established already in the mid-1900s. A more radical change took place in the late 1990s, when advancements in information and communication technology (ICT) enabled the recordings to be easily and efficiently delivered over the Internet in different types of digital formats (e.g., computer files and streaming content). This disruptive innovation (cf. [1]) has since resulted in two different lines of development. On one hand, we have witnessed the emergence of novel digital music stores and services on the Internet. On the other hand, the easy and efficient digital delivery of music recordings has also resulted in an explosive growth of illegal content sharing among consumers.

Today, this illegal content sharing (i.e., digital piracy) is typically seen as a major threat to the entire recorded music industry. Many even see it as the main reason for the dramatic decrease in global recorded music sales that has continued since the turn of the millennium [2]. These arguments have also gained support from several academic studies (e.g., [3]–[11]), although some have found no empirical evidence to back them (e.g., [12]–[14]). Irrespective of what the effects of illegal content sharing on recorded music sales actually are, this type of activity still seems to be extremely prevalent in our society, especially among younger people. For example, it has been estimated that illegal file sharing totalled more than 40 billion music files in 2008, meaning that globally around 95 % of all music files were downloaded illegally [15].

In contrast, legal digital retailing has taken off much more slowly although it has shown steady growth in recent years. In 2010, sales of digital formats already accounted for 29 % of global recorded music sales, constituting a market of \$4.6 billion [16]. However, the increase in sales of digital formats has still been far too slow to offset the decrease in sales of physical formats, and there also seem to be some significant differences in the adoption and diffusion rates of digital music stores and services between different geographical areas [2]. Also the real success stories of digital music stores and services have so far remained relatively rare [17]. The reasons behind these problems are probably partly related to the prevalence of digital piracy, but many also see them relating to

the technologies and business models used in the stores and services themselves, which far too seldom seem to match the fundamental consumer needs, wants, and expectations, thus resulting in low usage rates. For example, a recent study has found this to be the case with the business models of digital music distribution in the German market [17].

To address this mismatch, a considerable amount of prior research has been conducted on consumer behaviour in the context of digital music distribution. As noted in [18], three main research streams seem to have emerged. The first stream has concentrated on consumer behaviour in the context of legal music retailing and investigated issues such as the usage of digital music stores and services as well as the willingness to pay for the content sold in them. Some examples of the studies belonging to this stream include [17]–[25]. In contrast, the second stream has concentrated on consumer behaviour in the context of illegal music sharing and investigated issues such as the involvement with illegal music sharing as well as the usage of peer-to-peer (P2P) file sharing networks. Some examples of the studies belonging to this stream include [26]–[40]. The focus of the third stream has been more broadly on the comparisons and consumer choices between legal and illegal as well as digital and physical acquisition channels. This stream has been, by far, the least voluble of the three, and examples of the few available studies include [41]–[43]. As a potential fourth stream, one could also mention the studies such as [3]–[14] and [44]–[49], which have concentrated on examining the economic effects of illegal music sharing on legal music retailing as well as the structural changes in the recorded music industry. However, compared to the other streams, the focus of this stream has been more on macro-level and less on micro-level consumer behaviour.

When considering this review of prior research, two significant shortcomings seem evident. First, as exemplified by the popularity of the first two research streams, most prior studies have adopted a rather reductionist approach to the topic, concentrating on either the legal or the illegal aspects of digital music distribution. This is a major shortcoming because it may seriously oversimplify the channel choices that modern recorded music consumers are compelled to make in real life, thus leading to faulty findings and conclusions. In contrast, few prior studies have approached the topic more holistically and considered the full assortment of acquisition channels available to modern recorded music consumers. Second, prior studies have also been dominated by quantitative research and the positivist paradigm of consumer research (cf. [50]), which has typically aimed at generating law-like generalisations about the examined phenomena. Although these studies have provided many valuable findings, especially in terms of their explanatory and predictive power, they have not necessarily been optimal in increasing our understanding of the topic. For example, we may have gained the knowledge that concepts like *perceived usefulness* and *perceived ease of use* increase our intentions to purchase music online [18], [19], but the meaning of these concepts in the context of digital music distribution has remained rather poorly understood. To gain a richer understanding, we see that more qualitative research adhering to the interpretive paradigm of consumer research (cf. [50]) is desperately needed.

In this paper, we aim at addressing both of these two shortcomings by adopting a more holistic and interpretive approach to the topic. In other words, our objective is to consider the full assortment of acquisition channels available to modern recorded music consumers and to concentrate on the behavioural patterns and preferences of using them as well as on the fundamental motivational factors that drive their usage. Of these fundamental motivational factors, we will focus specifically on the perceptions of the relative advantages and disadvantages associated with the channels and their usage, which have commonly been found as important factors in explaining and predicting human behaviour. For example, Rogers [51] suggests that the perceptions of the relative advantages (or disadvantages) of an innovation are one of the most important attributes affecting its adoption and diffusion. The more advantageous (or disadvantageous) an innovation is perceived in relation to the idea or object it supersedes, the faster (or slower) it is assumed to spread in a social system. Respectively, Fishbein and Ajzen [52]–[56] posit in their theory of reasoned action (TRA) and theory of planned behaviour (TPB) that our beliefs on the advantages and disadvantages of performing a behaviour (i.e., our beliefs on the behavioural outcomes) determine our attitudes towards the behaviour, which, in turn, affect our behavioural intentions and actual behaviour. The same idea is also applied in the various extensions of TRA and TPB, such as the technology acceptance model (TAM) by Davis [57], [58] and the unified theory of acceptance and use of technology (UTAUT) by Venkatesh et al. [59], although in these models and theories, the beliefs on the advantages and disadvantages are typically referred to using different terminology, such as *perceived usefulness* or *performance expectations*.

Thus, our explicit research questions can be formulated as follows: (1) how do modern consumers acquire and consume recorded music, and (2) what kind of perceptions of relative advantages and disadvantages drive their usage of different acquisition channels? The examination of these two research questions is based on a semi-structured interview study of 14 young Finnish consumers of recorded music conducted in September 2009.

The paper is composed of six main sections. After this introductory section, we will propose a categorisation for the acquisition channels of recorded music in Section II. Section III describes the methodology of the study, and the findings of the study are reported in Section IV. Section V discusses the most important findings and draws conclusions from them, especially concerning the business models of digital music stores and services. Finally, the limitations of the study and potential paths of future research are considered in Section VI.

II. Acquisition Channels of Recorded Music

Before moving on to the methodology and findings of the interview study, we will first propose a framework for categorising the acquisition channels of recorded music. This framework was used as a conceptual basis for designing the interview instrument as well as analysing the interview data. The framework obviously presents only one possible way for conducting such categorisation, but we consider it to be the

most unambiguous and understandable from the perspective of an average recorded music consumer. A similar framework has been previously proposed in [41] as a part of a more extensive model for music acquisition behaviour.

In the framework, the acquisition channels of recorded music are classified into four distinct categories by using two dichotomous dimensions: tangibility and chargeability (Figure 1). *Tangibility* refers to whether music content is delivered to consumers on tangible physical carriers (e.g., CDs, LPs, or cassettes) or as intangible digital deliverables (e.g., computer files or streaming content). Respectively, *chargeability* refers to whether consumers have to pay a monetary charge for the content or whether the content is free of charge to them. As it was already mentioned above, these two dimensions were chosen because we consider them to be the most unambiguous and understandable from the perspective of an average recorded music consumer when compared with other possible dimensions, such as the legality of the content. For example, there is typically very little doubt for consumers whether or not they have to pay for the content that is acquired through some specific channel or whether the content is delivered to them on physical carriers or as digital deliverables. In contrast, there is typically much more doubt related to the legality of the content, especially if the channel is not controlled by an administrative authority that explicitly enforces this issue.

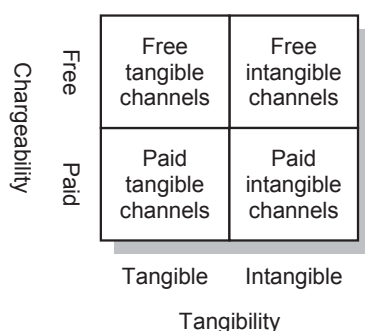


Figure 1. Framework for categorising the acquisition channels of recorded music

The resulting four categories are paid tangible channels, paid intangible channels, free intangible channels, and free tangible channels. Typical examples of *paid tangible channels* are the traditional brick-and-mortar and online record stores that sell and deliver music recordings as different types of physical carriers, such as CDs, LPs, or cassettes. Respectively, *paid intangible channels* are exemplified by the novel digital music stores and services that sell and deliver music recordings as different types of digital deliverables over the Internet. These stores and services can base their operations on many different technologies and business models. Today, most operate as music download stores, music subscription services, or their hybrids, but also other operation models exist [60].

Music download stores are online stores that sell music as downloadable files on a pay-per-download (or à la carte) basis. In other words, they charge a separate fee for each downloaded file. The files typically conform to some common audio file

format, such as AAC, MP3, or WMA, and have traditionally been protected by some digital rights management (DRM) system. In recent years, however, there has been a strong shift from DRM-protected music towards DRM-free music (e.g., [61]). A good example of music download stores is the iTunes Store, which was launched by Apple in April 2003 and has since grown into one of the largest music retailers in the world [62], [63]. In 2010, Apple announced that the iTunes Store had sold more than 10 billion songs and had a music catalogue of more than 12 million songs [64].

Music subscription services are online services that also sell music as downloadable files, or alternatively as streaming content, but operate on a subscription (or buffet) basis. In other words, they only charge a flat subscription fee that typically entitles use of the service without further charges for a fixed amount of time. A good example of music subscription services is Spotify, a Swedish service launched in October 2008, which, in 2010, had more than 10 million subscribers across Europe and a music catalogue of more than 10 million songs [65]–[67]. Spotify actually incorporates several of our categories into the same service because its “freemium” business model includes two different types of subscriptions: free advertisement-supported subscriptions and paid premium subscriptions for €4.99 or €9.99 per month [68]. However, the latter subscriptions constituted less than 10 % of Spotify’s subscription base in 2010 [66]. In addition, Spotify offers the possibility to purchase songs and albums via its partnership with 7digital [69].

The category of *free intangible channels* is the most divergent of the four, and it can be further divided into two distinct subcategories. First, there are the traditional radio stations that broadcast their programmes either nationally or internationally. Second, there are the various free online sources that deliver music content digitally over the Internet. Traditionally, many of these latter sources, such as P2P file sharing networks, have been associated with illegal content sharing. Today, however, many of them operate without committing any copyright infringements. Online radio stations are one example of this, and the free advertisement-supported subscriptions of Spotify and other music subscription services can be used as another.

The category of *free tangible channels* is, by far, the least common of the four, and it is not discussed further in this paper. Examples of the sources belonging to this category are promotional products handed out as a part of some advertising and marketing campaigns as well as illegal disc and cassette copying among consumers.

III. Methodology

To answer the two research questions presented in Section I, we conducted an interview study that explored the acquisition and consumption behaviour of 14 young Finnish consumers of recorded music. The interviews were semi-structured, so instead of having a long list of questions that would be asked from the interviewees in a standardised manner, we only had a short list of themes with a few open-ended questions that we discussed with them. The usage of a semi-structured method instead of a structured method derived from our previously

discussed desire to explore the topic using a holistic and interpretive approach. To do this, we needed an interview instrument that could be adapted according to each individual interviewee so that in-depth data about his or her behavioural patterns, preferences, and drivers could be gathered. At the same time, we avoided employing an entirely unstructured method to maintain comparability between the argumentation given by different interviewees.

The discussed themes were derived from the framework illustrated in Figure 1, and they covered the consumption of content products as well as the acquisition of content products through free and paid intangible channels as well as paid tangible channels. As important background information, we also discussed with the interviewees their usage of computers and the Internet, especially in terms of online shopping. Other themes that were discussed during the interviews covered the role of communality and recommendations in content acquisition as well as the sharing of content products and digital piracy. However, these themes are not discussed in detail in this paper. A more detailed discussion on the sharing of content products and digital piracy is available in [70].

The interviewees were recruited by sending an invitation e-mail to two student associations of our university, which together represented the undergraduate students majoring in sociology, social politics, social work, mathematics, physics, and mathematical information science. The e-mail disclosed the topic of the interview study and promised a free cinema ticket as compensation for participation. We received about 30 applications and, due to our limited research resources, eventually decided to recruit seven male and seven female interviewees. The recruitment strategy was to maximise the representativeness of the sample in terms of gender and age. Apart from these two demographic variables, the interviewees were picked randomly from the pool of applicants.

Table 1. Descriptive statistics of the sample

Interviewee	Gender	Age	Income	Status
Interviewee 1	Woman	19	€600	Student
Interviewee 2	Woman	22	€600	Student
Interviewee 3	Woman	23	€500	Student
Interviewee 4	Woman	23	€500	Student
Interviewee 5	Woman	23	€700	Student
Interviewee 6	Woman	25	€700	Student
Interviewee 7	Woman	28	€1 500	Working
Interviewee 8	Man	20	€400	Student
Interviewee 9	Man	21	€500	Student
Interviewee 10	Man	23	€500	Student
Interviewee 11	Man	24	€500	Student
Interviewee 12	Man	24	€500	Student
Interviewee 13	Man	26	€700	Student
Interviewee 14	Man	31	€2 000	Working

Table 1 presents descriptive statistics of the sample. Because the interviewees were recruited through the two student associations, 12 of them were still full-time undergraduate students and only two of them were working full-time. Their ages varied from 19 to 31 years (mean 23.7 years), and their

monthly net income varied from €400 to €2 000 (mean €729). Overall, all the interviewees were relatively experienced users of computers and the Internet. They all owned a computer and used it several hours a day for tasks like communicating, studying, reading news, listening to music, watching films, and playing games. They all also had at least some experience in online shopping, and most made purchases online at least a couple of times per year. The purchased products were mainly physical content products, such as books, CDs, and DVDs.

Before the actual interviews, the interview instrument was pre-tested with two postgraduate students and, based on the received feedback, a few minor modifications were made. The actual interviews were arranged at the university campus in September 2009, and they lasted from 49 to 99 minutes (mean 71 minutes). All the interviews were recorded, and both principle authors were present during them and participated in their analysis to promote reliability and validity. The analysis was conducted in two phases and followed the general guidelines given in [71] and [72]. In the first phase, the relevant parts of the recorded interviews were transcribed and coded to associate the interview segments with the themes. In the second phase, the interview segments associated with the themes were analysed and interpreted in more detail to answer the two research questions. This was done iteratively and by following both deductive and inductive approaches. In other words, several rounds of analysis and interpretation were required to find the categories that described the relative advantages and disadvantages of the acquisition channels at an appropriate abstraction level, and this search was guided by both the framework illustrated in Figure 1 and the data. The framework defined the categories of the acquisition channels with which the relative advantages and disadvantages were associated, whereas the categories for the relative advantages and disadvantages themselves were derived from the data. Although the analysis and interpretation process primarily concentrated on the diversity of the argumentation given by different interviewees, we also recorded the frequencies of these arguments to add some quantification to our otherwise qualitative data. The findings of this process are reported in the following section.

IV. Findings

The findings of the interview study are briefly reported in the following three subsections. Subsection A concentrates on the consumption of recorded music, whereas Subsections B and C concentrate on the acquisition of recorded music through free and paid intangible channels as well as paid tangible channels.

A. Consumption of Recorded Music

Overall, all the interviewees were relatively active consumers of recorded music. They typically listened to music at least a couple of hours per day by using car and home stereo sets, mobile music players, mobile phones, and computers. The most popular listening devices seemed to be computers, followed by mobile music players and car stereo sets. Only two interviewees actively used a mobile phone for listening to music, and most interviewees had copied their entire music collection from CDs to computers and therefore no longer used (or even owned) a home stereo set. According to the

interviewees, the most significant relative advantage of computers, compared to car and home stereo sets, was the convenience in which music could be listened to. For example, there was no longer need to swap discs and cassettes, and it was easy to create one's own personalised playlists and compilations. The most significant relative disadvantage was that computers were typically more difficult to use and slower to start up than car and home stereo sets. Also their audio quality was seen as inferior to hi-fi stereo sets.

In addition to consuming recorded music, most interviewees visited live music concerts and festivals at least a couple of times per year. Many also considered themselves eager music enthusiast, played one or more musical instruments, and were acquainted with amateur or semi-professional musicians.

B. Acquisition through Free Intangible Channels vs. Paid Intangible Channels

Intangible channels were actively used by almost all the interviewees for acquiring recorded music. Only one of the interviewees mentioned being a relatively inactive user of both traditional radio stations and novel online channels, whereas all the others used them on a daily or weekly basis. Most of the used channels were free channels. Paid channels had been used by only two interviewees, who both had made purchases in a music download store (iTunes Store and Nokia Music Store). None of the interviewees currently had a paid subscription to a music subscription service. Free channels had been used by all the interviewees, and the most popular ones were traditional radio stations, Spotify, and P2P file sharing networks. Other popular free channels were online radio stations and social network services, such as MySpace. Many interviewees also mentioned listening to music on YouTube.

Traditional radio stations were actively listened to by about half of the interviewees, especially as background music when at home or work, or when in a car. Spotify was actively used by seven interviewees. All of them were currently using the free subscription, but five of them were willing to consider upgrading to the paid subscription for €10 per month if the free subscription suddenly became unavailable. Six interviewees admitted that they were active users of P2P file sharing networks (BitTorrent, Direct Connect, and Soulseek) and that they mainly used them for illegal music content acquisition. Half of them were using P2P file sharing networks as their primary acquisition channel, whereas the other half were complementing their usage of other tangible and intangible channels. However, an additional seven interviewees admitted that they had been using P2P file sharing networks or other free online channels for illegal music content acquisition in the past but were no longer actively using them. When we asked about the reasons for this, five interviewees mentioned the availability of legal free online channels, such as Spotify, as the main reason. Other reasons mentioned were related to changes in ethical and moral considerations as well as in technological resources (e.g., slower Internet connectivity).

To explore the reasons why so many interviewees preferred free to paid when using intangible channels, we next asked the interviewees about their perceptions of the advantages and disadvantages of paid intangible channels in relation to free intangible channels. Not surprisingly, the most significant

relative disadvantage of paid intangible channels seemed to be the necessity to pay for the acquired music content. This was perceived as a disadvantage for two different kinds of reasons. On one hand, some interviewees were unwilling to pay for the content because of obvious monetary reasons. They either did not have much money to spend on entertainment content like music, perceived the current digital deliverables as being overpriced compared to the value they provided, or simply saw no reason in paying for something that could also be acquired for free. The negative effects of monetary costs and price on the usage of digital music stores and services have also been highlighted in prior studies, such as [18] and [19]. On the other hand, some interviewees were unwilling to pay for the content because of the reasons related to payment processes and payment methods. They either perceived the current payment processes implemented in digital music stores and services as too complex or not secure and scalable enough, or were not offered a payment method that they could use (e.g., many interviewees did not yet own a credit card).

Two other significant relative disadvantages of paid intangible channels concerned usability and music selection. These issues have been found important to many consumers also in prior studies (e.g., [17], [20]), although some have found ease of use having no direct effects on the usage of digital music stores and services (e.g., [18], [19]). Overall, many interviewees perceived the current digital music stores and services providing poor usability and an inadequate music selection, particularly when compared with the most popular free online channels, such as Spotify and P2P file sharing networks. The only significant exception to this seemed to be the iTunes Store, which several interviewees praised for its ease of use and ample music selection. The issues concerning usability were mainly related to complex payment processes and to the fact that most of the digital music stores and services the interviewees had encountered were file-based and relied on web browser interfaces instead of separate client software. This tends to make the stores and services easy to trial but difficult to use because the users have to manually perform many file management operations, such as uncompressing compressed files as well as copying and moving them from one folder to another. Separate client software typically relieves the users from these kinds of operations by performing them automatically, but at the expense of reduced trialability. The issues concerning music selection were mainly related to its inadequacy in regard to the absolute number of songs and albums available as well as in regard to the availability of the most recent hits and rarities.

Another relative disadvantage of paid intangible channels concerned content sampling. Also this issue has been found important to many consumers in prior studies (e.g., [17], [20]). Many interviewees thought that the current pre-listening possibilities implemented in digital music stores and services were insufficient and sidestepped this shortcoming by using free online channels, which offered them better possibilities to sample unfamiliar music. If new favourites were found, they were typically acquired also through paid tangible channels later on. This finding would seem to give support to the potentially positive effects of content sampling on recorded music sales suggested in [73] and [74].

Only two interviewees mentioned DRM as a major relative disadvantage of paid intangible channels. This was a slightly surprising finding because most of the content sold in digital music stores and services has traditionally been protected by some DRM system, and consumers have typically been taking negative stands towards the restrictions that DRM may impose on the fair use and fair trade of the content [17]. Of course, the finding can, to some extent, be explained by the recent strong shift from DRM-protected music towards DRM-free music (e.g., [61]) as well as by the fact that most interviewees had quite limited experience and knowledge of paid intangible channels. For example, nine interviewees could not recall ever encountering DRM-protected music, and some were not even aware of its existence. Because of their limited experience and knowledge, few interviewees also had a strong stand for or against DRM. When specifically asked about these stands, about half of the interviewees expressed positive or neutral attitudes towards them, whereas the attitudes expressed by the other half were much more negative. Some even referred to DRM systems as an outright waste of resources that will only increase illegal content sharing instead of decreasing it. In addition to strict restrictions on copying and moving music content between different devices and burning it onto CDs, the interviewees also took quite a negative stand towards softer monitoring measures, such as digital watermarking. However, many still preferred them to strict restrictions.

The most significant relative advantage of paid intangible channels was assurance about the fact that they conformed to the current copyright legislation. Thus, they were seen as less risky to use in terms of legal sanctions as well as ethically and morally more acceptable than many free intangible channels, particularly P2P file sharing networks. In the case of P2P file sharing networks, some interviewees were also concerned about malware and viruses, but these concerns were not shared by all the interviewees. Others were more concerned about the overall quality of the acquired content, but this applied more to video content than to music content. In the case of some free intangible channels, excessive advertising was also seen as a disadvantage by some interviewees, but this view was once again not shared by all the interviewees. For example, whereas two interviewees were irritated by the advertisements included in the free advertisement-supported subscriptions of Spotify, all the others were more than willing to tolerate them as long as the subscriptions remained free of charge. Many even thought that the amount of the advertisements was exceptionally low compared to several other free intangible channels, such as commercial radio stations.

Finally, we asked the interviewees about their ideas and insights on how paid intangible channels should be developed in the future. Many considered that the most important thing would be to make the channels as easy to use and offering as good a music selection as channels like the iTunes Store, Spotify, and P2P file sharing networks. One suggested way for achieving this could be to combine the numerous small digital music stores and services found today into one or a few larger entities, which would offer consumers a great selection of music as well as a better selection of payment methods and pricing policies. Some even suggested special pricing schemes for youngsters, students, and other consumer segments with

limited income. One interviewee thought that the stores and services should advertise themselves more, both on the Internet and on traditional media. Others considered that the number of intermediaries between consumers and artists should be dramatically cut down so that the artists would be more directly remunerated for their work. Also the stores and services run by the artists themselves were seen as a good idea.

C. Acquisition through Paid Tangible Channels vs. Paid Intangible Channels

Surprisingly many interviewees were still using paid tangible channels for acquiring recorded music. Eight interviewees were using these channels actively, although for only one of them, they were used as the primary acquisition channel. For the other six interviewees, they were used along with free and paid intangible channels. The frequency of using paid tangible channels varied vastly among the interviewees. For example, whereas most interviewees were purchasing a couple of CDs per year, one interviewee was purchasing the same amount of CDs per month. The most popular purchasing places were traditional brick-and-mortar and online record stores, such as Amazon, CDON.com, and Play.com. The purchased CDs were mainly those of familiar or favourite artists, and many interviewees also mentioned having purchased the same music that they had already acquired earlier through free online channels, such as Spotify and P2P file sharing networks.

To explore the reasons why paid tangible channels were still used so actively, we once again asked the interviewees about their perceptions of the advantages and disadvantages of paid intangible channels, but this time in relation to paid tangible channels. Many of the relative advantages of paid intangible channels were similar to those found in prior studies on online shopping (cf. [75], [76]). However, also some advantages deriving more directly from the immateriality of digital deliverables were mentioned. Many of these were similar to those previously found in [21]. The most significant relative advantage was the convenience in which music recordings could be purchased and the immediacy in which they could be delivered to consumers. In other words, it was no more necessary to visit a brick-and-mortar record store, but the recordings could be ordered basically anytime and anywhere, and were typically delivered in a matter of seconds. Also the music selection of digital music stores and services was seen as superior compared to that of an average brick-and-mortar record store, and there was no more danger of out-of-stock situations. Many interviewees also considered the lower prices of digital deliverables an advantage, although others thought that the prices should be even lower when taking into account the savings in their reproduction and delivery costs (some estimates of these savings are presented in [46]). According to them, the prices of downloadable files should be about €0.50 per song and from €5 to €10 per album, whereas the prices of subscription services should be from €10 to €20 per month. Similar willingness to pay for single songs has been found in prior studies, such [17] and [23].

Another relative advantage of paid intangible channels was the possibility to purchase single songs in addition to full albums, which made it possible to acquire music content more selectively. However, this advantage was not appreciated by

all the interviewees, and some still preferred purchasing full albums instead of single songs because they perceived albums as works of art which should not be split into pieces. Many interviewees also appreciated the immateriality of digital deliverables, which makes their carriage and storage easier and can be considered friendlier for the environment.

Paradoxically, the immateriality of digital deliverables and the absence of physical carriers also seemed to be the most significant relative disadvantage of paid intangible channels. For example, only one interviewee was more or less willing to totally cast aside physical carriers, whereas all the others still wanted to keep them around for one reason or another. For some, these reasons were mainly habitual, but also many other reasons were mentioned. For example, some interviewees preferred CDs because they contained music content in an uncompressed format. This not only offered them the best available audio quality (found important to many consumers also in [20]) but allowed them to copy the content from CDs to other media by using the compression rates and formats of their own choosing. Others preferred physical carriers for more emotional and materialistic reasons, such as the lower emotional value of digital deliverables (cf. [77]) and the sense that they were somehow not getting their money's worth when purchasing purely immaterial products. Yet for others, the reasons were more related to the symbolic and status value of possessions and their linkages to sense of self (cf. [78], [79]). For them, the visible ownership of a physical carrier or a collection of physical carriers was important because it expressed something of their owners. In other words, "[seeing somebody's music collection] tells you many things about that person", as phrased by one interviewee. There were also those who preferred physical carriers and their packaging for more aesthetic and artistic reasons. For them, disc and cover artwork were not only beautiful to look at but "an integral part of a work of art", as phrased by another interviewee.

Surprisingly many interviewees were also concerned about the perishability of digital deliverables. For example, what would happen if they encountered technical troubles while downloading the files or if their hard drive broke down? Could the files be re-downloaded and how easy or hard would this be? Others were more concerned about the perishability of entire stores and services. For example, what would happen if they needed to re-download the files from a store that no longer existed? Or if a service shut down after they had already paid the subscription fee? These concerns actually seemed to be the most significant risks that the interviewees associated with digital music stores and services. In contrast, security and privacy risks as well as more traditional trust issues, which have been found important to many consumers in prior studies (e.g., [18], [20]), seemed to worry few interviewees.

Some interviewees also preferred physical carriers because of better compatibility with their current music consumption practices as well as fewer interdependencies with computers and Internet connectivity. The latter issue was emphasised especially in the case of streaming services, which is why most interviewees favoured file-based services if having to choose between these two. Many interviewees were also interested in hybrid services, which would mainly be streaming-based but would allow some music content to be cached locally.

V. Discussion and Conclusions

In this paper, we provided an exploration of the acquisition and consumption behaviour of modern recorded music consumers by examining (1) how modern consumers acquire and consume recorded music, and (2) what kind of perceptions of relative advantages and disadvantages drive their usage of different acquisition channels. The exploration approached the topic from a holistic and interpretive perspective and was based on a semi-structured interview study of 14 young Finnish consumers of recorded music. The findings of the study showed some significant divergence in the ways the interviewees acquired and consumed recorded music. They also provided interesting particulars on the usage patterns and preferences of different acquisition channels. For example, although novel online channels were already actively used by almost all the interviewees, most of the used channels were free channels. In contrast, the usage of paid channels remained relatively rare. Paid tangible channels, in turn, still remained surprisingly popular among the interviewees. In other words, it seemed that most interviewees still resorted to CDs and other physical carriers when they were actually willing to pay for the acquired music content.

This finding has some important implications for the business models of digital music stores and services. Most importantly, if the objective is to maximise the usage of digital music stores and services in particular, the business models should concentrate on competing for potential users not only against free intangible channels but also against paid tangible channels. Of course, this may not necessarily be the objective. For example, for many record companies, it may be sufficient that consumers acquire music content through paid channels, irrespective of whether they are tangible or intangible. However, if we are ourselves running a digital music store or service, our objectives are likely to be different. In this case, the business models should aim at three different targets. First, they should attempt to convert the users of free intangible channels into the users of paid channels, but without reverting them into the users of tangible channels. Second, they should attempt to convert the users of paid tangible channels into the users of intangible channels, but without converting them into the users of free channels. Third, they should also aim at retaining these users. These three targets can be best achieved by business models which accentuate the advantages and address the disadvantages of paid intangible channels in relation to both free intangible channels and paid tangible channels, not only one of these categories.

Some of these disadvantages are quite straightforward (although not necessarily simple) to address. For example, if the disadvantages concern the poor usability as well as the limited music selection and sampling possibilities of digital music stores and services in relation to free online channels, these issues should obviously be given more attention in their business models. However, there are also disadvantages that cannot be addressed so straightforwardly. Two examples of these are the necessity to pay for the acquired music content as well as the absence of physical carriers on which the acquired music content is stored. These disadvantages are especially problematic because they cannot be entirely eliminated if one

wants the channels to remain paid and intangible. However, they can still be significantly alleviated by addressing the reasons why the necessity to pay and the absence physical carriers are perceived as relative disadvantages of paid intangible channels (cf. Subsections B and C of Section IV).

For example, when considering the reasons why the necessity to pay is perceived as a disadvantage, it is important to realise that these reasons may relate not only to monetary aspects but also to problems concerning payment processes and payment methods. Therefore, the competition strategies against free intangible channels should concentrate not only on pricing policies and price reductions but also on making the payment processes of digital music stores and services as easy, secure, and scalable as possible as well as making sure that all consumers who are actually willing to pay for the acquired music content are offered a payment method that they can use. Here, it is important to note that price reductions also do not necessarily have to translate into significant reductions in the revenues of the stores and services, but their effects can often be offset by resorting to alternative revenue sources, such as advertising and merchandising.

Respectively, when considering the reasons why the absence of physical carriers is perceived as a disadvantage, it is important to take into account all the different aspects that were mentioned in Subsection C. For example, if the reasons are related to audio quality, a suitable strategy might be to offer consumers the possibility to acquire digital deliverables also in an uncompressed format, or at least offer them more choices in compression rates and formats. If, in turn, the reasons are related to the perishability of digital deliverables, a suitable strategy might be to offer consumers less restrictive re-download policies. And if the reasons are more related to materialistic, emotional, aesthetic, and artistic aspects as well as to symbolic and status value, a suitable strategy might be to make the ownership of digital deliverables more visible and to ensure that their value proposition matches or preferably exceeds that of physical carriers. This could be achieved, for example, by bundling the content sold in digital music stores and services with digital replicas of the accessories that have traditionally been bundled with physical carriers, such as lyrics and liner notes as well as cover and disc artwork. Of course, these accessories do not necessarily have to be mere replicas of their physical counterparts, but they can be enhanced with interactive and value-added features as it is done in formats like Apple's iTunes LP [80]. Instead of this strategy, an entirely opposite strategy could be to respect the attachment that many consumers still seem to show towards physical carriers and not to compel them to substitute physical carriers for digital deliverables. In other words, music content would still be delivered to consumers on physical carriers, and digital deliverables would only be used to complement this offering in issues like content sampling.

Another interesting finding of the study was that the acquisition channel choices of the interviewees seemed to be driven by very divergent perceptions of the relative advantages and disadvantages associated with the channels. Some of these advantages and disadvantages were more utilitarian in nature, whereas others derived from hedonic or symbolic evaluations. The perceptions also varied vastly from one interviewee to

another, as did the reasons why specific aspects of the channels were perceived as either advantages or disadvantages (cf. the reasons why the necessity to pay was perceived as a disadvantage of paid intangible channels). There were also cases in which a specific aspect was seen as an advantage by one interviewee but as a disadvantage by another interviewee. In some cases, a specific aspect was even seen as a source of both advantages and disadvantages by the very same interviewee (cf. the advantages and disadvantages related to the absence of physical carriers).

Also this finding has some important implications for the business models of digital music stores and services. Most importantly, it seems that the acquisition channel choices in the context of recorded music consumption are far from being as simple and straightforward processes as they have often been portrayed in prior research. On the contrary, they appear to be extremely complex processes in which there exists considerable divergence from both one channel and one consumer to another. This complexity and divergence should be taken into better account in the business models of digital music stores and services. In other words, if the stores and services want to target very broad consumer segments with very heterogeneous behavioural patterns, preferences, and drivers, they have to be very flexible. This flexibility, which has previously been highlighted in [21], should cover all the essential elements of their business models, ranging from minor operational details to major strategic decisions as well as from technical to business domains. Of course, some stores and services may opt to target narrower consumer segments with more homogeneous behavioural patterns, preferences, and drivers, in which case flexibility may not be as important in their business models.

In conclusion, it seems that the recent increase in the assortment of acquisition channels has drastically changed our ways of acquiring and consuming recorded music. Overall, our acquisition and consumption behaviour has become more and more divergent and this divergence is also reflected in the fundamental motivational factors that drive our behaviour. This paper provided illustrations of this divergence in the case of 14 young Finnish consumers of recorded music. However, a much better understanding of the acquisition and consumption behaviour as well as its drivers is desperately needed when crafting future business models and success stories for digital music retailing. After all, how could we have hope in fulfilling the fundamental consumer needs, wants, and expectations without first understanding what they actually are?

VI. Limitations and Future Research

We consider our study having three main limitations. The first one stems from the small size and homogeneity of the sample. Because we only interviewed 14 young Finnish consumers of recorded music, most of whom were undergraduate students in their early 20s, the generalisability of our findings and conclusions obviously remains rather limited. It is further limited by the fact that most interviewees were quite highly involved with music, which may also partly explain their high involvement with physical carriers [43]. However, as it is typically the case with the interpretive paradigm of consumer

research (cf. [50]), this kind of generalisability was not our main objective. Moreover, we do not consider it a critical limitation, especially in terms of our findings and conclusions concerning the complexity and divergence of the acquisition channel choices. If in our small and homogenous sample we could find a multitude of factors affecting these choices, it can be reasonably assumed that even more of these factors would have been found if a larger and more heterogeneous sample had been used instead.

Second, most interviewees had quite limited experience and knowledge of paid intangible channels, which is why their conceptions of them seemed to be based more on subjective perceptions and beliefs than on objective facts. However, also this limitation cannot be considered very critical because, as emphasised already by the early Chicago School of Sociology, human behaviour is often based more on perceptions than on facts [51]. This same idea is also applied in the TRA and TPB by Fishbein and Ajzen [52]–[56], which posit beliefs as the main antecedents of our attitudes and, consequently, our behavioural intentions and actual behaviour. Therefore, it is the perceptions and beliefs of the relative advantages and disadvantages associated with the channels, not the facts on them, which are likely to matter the most when making the acquisition channel choices.

Third, in addition to the perceptions of relative advantages and disadvantages, there are also other factors that may affect the acquisition channel choices. These include the perceptions of compatibility, complexity, trialability, and observability suggested by Rogers [51] as well as subjective norm and perceived behavioural control included in the TRA and TPB by Fishbein and Ajzen [52]–[56]. The effects of these factors were not explicitly examined in this study but should be given more consideration in future research.

We consider that one potential path of future research, one that is perhaps the most natural, could be to conduct similar interview studies using larger and more heterogeneous samples to see what kind of additional perceptions of the relative advantages and disadvantages associated with the acquisition channels could be discovered. Another potential path of future research could be to resort to the positivist paradigm of consumer research (cf. [50]) and to statistically study the relative significance of these perceptions in terms of their effects on the usage of the channels.

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IV

INDIFFERENT BEHAVIOUR OF YOUNG DIGITAL CONTENT CONSUMERS - AN INTERVIEW STUDY

by

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Indifferent Behaviour of Young Digital Content Consumers –An Interview Study

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Abstract: Digital piracy has been a proliferating problem during the last ten years. New technological innovations in the areas of telecommunication and social media have provided a myriad of opportunities to use digital content illegally. Unauthorized use of music and videos that can be downloaded or directly streamed from the Internet has changed the traditional forms of piracy like duplicating software or burning music CDs. The Internet provides almost endless resources of illegal digital contents that can be acquired easily, rapidly and with a low risk to be caught. Explanations and solutions for the piracy problems have especially been sought from two directions: (1) technology (e.g. P2P, DRM) and (2) the ethics of consumer behaviour. In this paper, we provide an interview study that explores the ethical thinking and actual behaviour of digital content consumers. The study consisted of fourteen interviews. All interviewees were young adults (19-31 years), seven of them were male and seven female. The study reveals incoherence in the interviewees' ethical thinking and indifference in their actual behaviour. Given that ethical behaviour is assumed to be correlated with ethical attitudes and thinking, we argue that there is a chance to improve consumers' ethical behaviour by increasing their ethical consciousness. This potential should also be capitalized since fighting digital piracy requires multiple actions of which improved ethical consciousness is one.

Keywords: consumer behaviour, digital content, ethics, piracy.

I. Introduction

Digital piracy is a complex problem and its causes and consequences form a broad field of study [1]. Although the actual impacts of digital piracy on the content industries are controversial, e.g. [2] vs. [3], [4], and may vary from industry to industry [5], it is obvious that piracy is an issue that requires much attention in the future. With respect to music industry, for example, piracy has been regarded as the greatest threat [6].

Digital piracy has been widely seen as a result of the easiness by which copying and sharing files, especially on the Internet, can be done, e.g. [7]. Peer-to-peer (P2P) networks which emerged in the end of the last millennium made illegal file sharing very effective [8]. Another major piracy problem can be expected if individuals start to use P2P networks for sharing printed products like books in an electronic form [1].

Piracy has been widely studied in the contexts of software, e.g. [9], [10], and music, e.g. [11]-[14]. Digital piracy at a more general level has been studied by Hill [1], for example.

The findings on factors affecting piracy are not always parallel. Although pirating is generally assumed to belong to younger people's activities, e.g. [15], some studies, e.g. [14], show that ethical awareness tends to decrease by aging. This finding combined with another proposition that moral intention leads to moral actions [16], seems conflicting. If young people were ethically more aware then they should apparently pirate less than older people. However, they tend to pirate more. Lysonski and Durvasula [11] explain this with the fact that there is a gap between ethical thinking and behavior (compare with [14], [16]).

In general, a fertile ground for piracy can be found when people either do not feel guilty when pirating or find pirating – even though when considered illegal - ethically acceptable. When the illegal behaviour is not ethically doomed and at the same time pirating is technologically easy, it is hard to find means against piracy. Besides technological and ethical explanations, economic arguments for piracy can be easily found. Concerning digital products, for example, low prices mean a lot to consumers [12], [17]. This favours the use of illegal contents that tend to be free of charge.

While fighting digital piracy seems to be difficult, some constructive suggestions can be found among research literature. These include, for example, business models that better accommodate consumers' expectations [6], [18]. Battachharjee et al. [19] note that a piracy reduction strategy should be different from revenue-maximizing strategy which indicates that content providers should not solely concentrate on increasing revenues. Shoham et al. [16] argue that piracy should be marketed as unethical. This is an important point since to many consumers 'illegal' does not mean same as 'unethical'. Because music piracy, for example, may lead to serious ethical consequences, the government and marketers should also promote group consensus within the society on the issues of music piracy behaviour [6]. In addition to these consumer-oriented approaches, some researchers have called for public policy and enforcement of intellectual property protection [5], for example.

Digital piracy research can be categorized into the schools of ethics, information systems, economics and legal issues [10]. Since the primary target of our study is to comprehensively discover the ethical thinking and behaviour of the consumers, our analysis combines all these four aspects. Hence, we attempt to explain consumer ethics in a field where information systems form the technological ground, economics explains a major part of consumers' preferences, and where juridical issues tend to be very complicated and open to interpretations from the consumers' point of view.

The rest of the article is organized as follows. In the next chapter, we present the objectives and methods of our study in detail. In chapter 3 we provide the major findings of the empirical study. In chapter 4 we discuss the results of the study and compare them with earlier research. Finally, conclusions are provided in chapter 5.

II. Objectives and Methodology

Although quite a lot is known about consumers' behaviour and ethical thinking in the context of using digital contents in an illegal way, research findings seem to be partially conflicting as presented above. One explanation to this could be the fact that certain key concepts, like 'illegal', 'unauthorized', 'immoral', and 'unethical' not only mean different things but they are also used unsystematically. Another explanation, a very natural one, is that a consumer's thinking and behaviour are not always conscious, nor are they coherent. For example, when the opportunity to pirate is appealing enough, the consumer can explain the illegal choice with ethical arguments although basically it would be against the consumer's ethics. This kind "technique", which helps people to insulate themselves from self-blame, is called neutralization [20]. We suppose that the more unconscious or incoherent the ethics, the more room there is for neutralization and, therefore, the easier it is to slip to illegal behaviour.

When analysing piracy issues it is necessary to estimate what the corresponding legal acquisition channels are and how they work from the consumers' point of view. Apparently, few studies of digital piracy take into account the rapid development of social media and the consequent changes in consumer behaviour, for example.

We suppose that only few people are dedicated pirates. Rather, a majority of people are indifferent to the sources where they can obtain the interesting digital content. In our opinion, using illegal acquisition channels can result from this indifference.

In this study our objective was to have a comprehensive picture of consumers' ethical thinking and behaviour, and the relationship between these two. Using this picture, we aimed to gain a deep understanding of the complex issue of using digital content illegally.

The research was carried out as an interview study. The interviews were performed as open discussions based on a number of themes (i.e. *Usage of computers and the Internet; Usage of the Internet for acquiring products; Usage, acquisition and sharing of digital contents; Communality and social media; Recommending digital contents and rewarding for it; Piracy; Free comments*). The themes were typically

discussed in the same order, although minor deviations from this order were also accepted when it was more fluent from the interviewee's point of view. The themes covered intentionally aspects of both illegal and legal content. In addition, general aspects to online shopping were also covered. The aim was to capture the diversity of consumer behaviour and thinking. Besides this study, part of the themes is dealt with in more detail in another study [21].

The invitations to participate in the study were sent to two student organizations. The intended number of seven females and seven males was attained very quickly, and there was also an opportunity to select the interviewees to cover the targeted age range evenly (the interviewees were 19-31 years old). During the interview, the interviewee was informed first about the themes and procedure of the interview. The discussions mostly followed the structure of the beforehand prepared set of questions, though the interviews were encouraged to present their ideas in their own ways and in such an order they felt comfortable. A typical interview took about one and a quarter hour.

The interviews were recorded and they were also transcribed for the relevant parts. In the analysis the answers were classified into four large categories: (1) what were seen as reasons for digital piracy and indifferent use of copyrighted digital material, (2) what kind behaviour was considered illegal/unethical by the interviewees, (3) what were the interviewees' attitudes towards piracy, and (4) what could be the means to fight digital piracy. After this, the individual answers of each category were analyzed first. Then the answers to each category were grouped into two subgroups: females and males. Next, a summary of each category was made, and finally, the cross-analysis of each interviewee's answers to all questions was conducted. The results of the analysis are presented in the next chapter.

III. Major Findings

In this chapter we provide the findings regarding both actual use of and attitudes towards using different sources of digital content. When necessary to refer to an individual interviewee's views, comments or statements, it is done by using the following codes: F is the symbol for female interviewees and M for male interviewees. Since seven females and seven males were included in the study the codes are F1...F7 and M1...M7, respectively.

A. Prevalence and causes of indifferent use of copyright protected digital contents

In this consideration, peer-to-peer (P2P) networks have a special role¹. Although they are not illegal as such, they are a main source of illegal digital content, e.g. see [22]. Consumers who use P2P networks for acquiring digital material are often careless of the possible legal restrictions of such material. In other words, they are not concerned whether or not their actions are legal. Many of them might consider their behaviour from either a legal or an ethical viewpoint but this seems to have no real effect on their behaviour.

In our study all interviewees except one had used P2P

¹ Copying CDs, DVDs or other types of digital media were also considered but they had a minor status in this study

networks for acquiring digital content (music being the primary type of content). Although the current use of P2P networks was not inquired in detail, it was found that 9 persons still used P2P networks for acquiring digital content, to at least some extent. However, only 6 (2 female and 4 male) of 14 used them actively to get their digital material.

The most common type of digital content used by the interviewees was music. Actually, all interviewees consumed digital music to at least some extent. Music was ever more often acquired by using Spotify². As one can see in the frequency table (Figure 1), the use of Spotify seemed to diminish the use of P2P networks³. The qualitative analysis revealed that several persons who had started to use Spotify had since abandoned the usage of P2P networks.

Other digital contents consumed by the interviewees were videos, at the second place, and games, at the third place. For a few interviewees, videos or games were the primary digital contents that were acquired from the Internet.

Pirated sources	Yes	5	1
	No	2	6
		No	Yes
		Spotify	

Figure 1: Usage of Spotify and pirated sources.

When asked about reasons for using P2P networks, the following three issues were prevailing among the answers. First, getting the material for free was most frequently mentioned as the primary reason. The next two reasons were the easiness of acquisition and use, and the wide selection of music available. In general, the male users of P2P networks gave more arguments for their behaviour than their female counterparts. All active male users mentioned that the primary reason for using P2P networks was that the material was free, but they also mentioned the easiness of access to the digital content and the wide scope of material available on the Internet.

Concerning “it costs nothing” as a main stimulus to use P2P networks, M5, for example, put it: “Man is weak when the price is low”, meaning that, at least in his case, he could overcome the feelings of guilt when the material he wanted was free of charge. However, he also thought that the illegal or

indifferent use would diminish if it were more difficult and the risks to get caught higher.

Although only one male interviewee mentioned that the primary reason for the spread of the P2P networks could be the fact that the commercial counterparts are so awkward, several other interviewees could obviously have endorsed this opinion if it had been asked. This can be concluded from the answers given later on during the interviews (“Means to fight digital piracy”).

B. What is believed or considered to be legally or ethically right or wrong

In general, it seemed to be quite unclear to most interviewees what is legally right or wrong. Usually, people knew something about copyright laws, but the knowledge was often inaccurate and confused by (1) the fact that there are different national versions of copyright laws and (2) purposeful ethical interpretations. Most interviewees understood that using P2P networks to acquire copyright protected material is legally wrong. Although the interviewees had different ideas about the illegality of using vs. distributing such material, it was quite clear to most of them that when downloading material by using a P2P network one always acts as a distributor, too. Thus, the majority of the interviewees were actually aware of the illegality of such use of P2P networks.

On the ethical side, there were, however, different stances. Although most interviewees did not want to distribute the downloaded material further, they did not see sharing it with friends, for example, as any major wrongdoing either. Professional-like delivery and distribution of copyright protected material was, instead, widely doomed. The most common ethical argument for “small scale piracy” was that the music industry was so grasping. So, it can be stated that “Robin Hoodism” received sympathy to at least some extent, whereas piracy as an economic crime was denied. The further the discussion went, the more obvious it became that legal alternatives would be preferred to illegal ones, if both of them worked equally well and user friendly (compare with the Spotify example presented in Figure 1). Money, of course, has a prominent role at least when younger consumers are in question.

When comparing female interviewees’ opinions to their male counterparts, it can be noticed that women were more explicitly against piracy than men who might have said that they “would not become sleepless” (M5) or “would not feel guilty” (M6) because of using digital material illegally, nor did they find digital piracy a very bad thing (M7). Some male interviewees also bound the immorality of piracy to the aspects of economy: M2, for example, found piracy quite acceptable if someone (the interviewee actually referred to media mogul Rupert Murdoch as an example) had too a dominant role on the market and the pricing of products was therefore incorrect. M3, instead, approached the issue from a different perspective when he said that pirating high value products (like large programs) is more condemnable compared to the piracy of products with lower development costs.

Of the female interviewees five (F2–F6) was clearly against piracy although they did find some positive impacts of piracy, too (like increasing the visibility of unknown artists). The

² Spotify is a service that provides free and legal access to extensive library of music. Besides Spotify Free there are also chargeable Spotify products available.

³ Note the small sample due to which statistical significance cannot be calculated

remaining two (F1 and F7) had vacillating attitudes towards piracy. It seemed that F1 had not formed her stance yet, whereas F7 was feeling more comfortable being on the pirate side, although she simultaneously recognized the wrongness of large scale piracy. Despite condemning piracy quite explicitly several female interviewees hurried to say that they, nevertheless, did not want to moralise. It is an interesting question, why this footnote was uttered. One reason might be the fact that piracy is so wide-spread that moralising it does not help anything. The interviewees might also have the feeling that moralising would not be possible without self-criticism at the same time. This, in turn, would not have been psychologically easy.

C. Means to fight digital piracy

In general, the interviewees considered piracy as a harmless, easy, and extremely cheap way to get digital content. The risk to get caught is low, no specific skills are needed, and acquisition is possible without logging in, a credit card etc. Security risks were not considered high either, although viruses and other malware occupied some.

From what is said above, it could be inferred that if pirating would be more difficult, its popularity could decrease. However, only a few interviewees believed that forcing alone could solve the problem of piracy. Monitoring and controlling illegal use of digital contents were mentioned by some interviewees as a way to fight digital piracy but they also regarded DRM (Digital Rights Management) and similar systems as a supplementary means only. Furthermore, DRM systems were widely resisted by many other interviewees. They were quite openly considered rather as a cause to piracy than a tool to inhibit it. Forcing was seen as a necessary means against “big fishes” who could not be affected by “soft means” like education, which was suggested by many interviewees to be a potential means in fighting digital piracy. Many interviewees also believed that by improving the properties of legal alternatives to acquire digital material, the use of illegal sources would decrease. According to them the prices of commercial products and services should be lower and the services should be simpler and easier to use.

When asked whether a levy or a tax-like common charge for using the Internet would help to solve the problem of digital piracy (i.e. more legal content financed in this way would be available to everyone), the opinions basically fell into two categories: (1) some of the interviewees did not believe in, or could not tolerate, such a solution at all, while (2) the rest found it an interesting alternative that, however, should be very accurately allocated (i.e. everyone should not have to pay for everything). Altogether, the idea of a solution based on a levy did gain only little support.

D. Coherence of interviewees' thinking and behaviour

It was interesting to notice how much inconsistencies the interviewees' thinking and behaviour included. A primary cause for this might be that the legal issues were confused with the ethical ones. For example, behaviour that was known illegal was accepted and adopted, because it was seen ethically justified. In the sector of digital music this kind of “Robin Hoodism” is, however, based on questionable arguments since it often means “robbing from someone and giving to self” due to which the prices for paying consumers can rise resulting in

inequity among consumers. The interviewees actually had no clear idea who was robbed, although some of them strongly criticized “the grasping music industry”. Rather few had thought the situation from the viewpoints of average artists or of the fellow consumers who pay for the content. Furthermore, when the impacts of piracy on artists' living were considered, the interviewees found more benefits than drawbacks.

It can be concluded that a typical, young consumer of digital content often acts like a pirate but wants see her-/himself more like Robin Hood. This gives a good reason to assume that a typical consumer would like, deep inside, to behave ethically right. Therefore, (s)he tends to pursue ethical justification for illegal behavior. The attempt to calm down bad conscience from behaving illegally (i.e. neutralization discussed earlier in this paper) could be seen as a sign of incomplete ethical consciousness. A majority of the interviewees, especially the male ones, denied feeling guilty about the illegal use of digital content. Nevertheless, both their argumentation and their quick change from using P2P networks to using the Spotify service show that legal issues had not been neglected by the interviewees.

It can be asked what happens when the large masses of young generations get used to illegal sources of digital contents. How easy is it to change their behaviour to the legal side, if everything has been cheap, quick and convenient on the illegal side? Nonetheless, in the interviewees' mind legal products have their strengths, too. A majority of the interviewees presented such strengths. For example, thirteen interviewees found CDs having so many positive features that they did not like to totally dispense with them⁴.

The interviewees' overall attitudes towards a levy or common charge for using digital contents were surprising. It was supposed that such a solution would gain some support as a fair-to-everyone system. However, it was widely seen as very unfair. Also in case in which the levy alternative was presented by the interviewees as very similar to the monthly charged version of Spotify and limited to the actual users of digital content, it was quite strongly resisted. Thus, it seems that at least young consumers resist all kinds of strict systems and they demand freedom of choice. It can be assumed that if this study had been extended to cover older generations, the results would have been different.

IV. Discussion

Although our empirical data is based on a limited number of interviews providing, thus, too little material for generalizations, interesting findings can be highlighted.

First, indifferent attitudes towards using illegal digital content seem to be very common among young consumers. This is not a surprise. Some previous studies have suggested the same thing, e.g. [11]. Explanations can be many. At a very basic level, the indifference could be linked to the psychological method called neutralization (see [20] and [23]) that gives an individual an opportunity to feel less guilty in a situation where people normally would have such feelings. Of the neutralization techniques (Denial of responsibility; Denial of injury; Denial of victim; Contemnation of the contemners; Appeal to higher loyalties), denial of injury (“no harm

⁴ Here it is necessary to be remarked that the main reason for having CDs was the consumers' desire of physical products.

caused”) was obviously the most utilized explanation among the interviewees of our study. However, all the other neutralization techniques seem to be similarly relevant. Therefore, we propose that there is a good reason to study this explanation model more carefully in the context of using digital content illegally.

When ethically or legally wrong action is done, there is normally a strong enough stimulus for this behavior. Our findings support the view that the price of digital content is a main factor affecting the extent of piracy among young consumers (compare with [19]). However, price alone cannot explain the phenomenon of the wide-spread infringement of copyright. Easiness to obtain the wanted material without actual risks to be caught (also noted by Hill [1], and Al-Rafee and Cronan [17]), and wide range of contents available on the Internet were the two other main arguments for using digital content illegally. These findings are also in line with earlier research that has argued for lowering the prices and extending the selection of legal digital content [12].

In respect to price, our study supports the view that at least very low prices (e.g. small monthly charge for unlimited use) could allure pirating consumers to the legal side. The change from using P2P networks to using Spotify to acquire digital music may indicate this trend. It is, however, uncertain how eager consumers would be to pay for using Spotify. At the moment all Spotify users in our sample were using the advertisement supported version of Spotify. Although relatively few of the interviewees explicitly resisted the chargeable version of the service, it is not automatic that the chargeable version would have similar success to what the free one has had. Two questions need to be considered in the future. First, are consumers that are used to get products for free ready to pay for the same products even if the price is low? Second, what is the pricing system that would be preferred by consumers?

Chiou et al. [6] call for improving the quality of legal digital content. In our sample, quality did not emerge as a key factor for the consumers. The quality of digital music and videos seems to be generally good enough, and in cases where the quality really matters, the consumers still tend to choose the physical counterpart of the product. Nevertheless, improving the quality of the digital products would be highly beneficial when the primary factors (price, ease of acquisition and use, and extensive selection etc.) are sound first.

Although most interviewees had feelings that digital piracy is legally and often ethically wrong, a major part of them had pirated. As we have presented above, one explanation could be found from the theory of neutralization. However, it seems that the indifferent behavior of young consumers can also result from the fact that ethics truly is fuzzy to many young adults. They have some ideas of what is wrong and what is right, but they, excluding some exceptions, are quite reluctant to bother themselves with legal and ethical issues when using digital content over the Internet. Furthermore, some of them also tend to have a weird interpretation of “Robin Hoodism”, according to which it is right to rob from the wealthy music industry and give to oneself (this can be explained by the neutralization technique “Contemnation of the contemners”, for example). So, illegal behaviour is tried to be justified by ethical

arguments that are, nevertheless, quite egoistic (see [16]).

If education of ethical thinking is considered as a means to fight digital piracy, it is necessary to ask how this education should be performed. It is also necessary to ask whether younger generations that have often been accused of “easy life” are more selfish in their ethics, meaning that their ethics is different from older generations. Furthermore, it would be interesting to find out whether or not the pirating consumers consider that they are not only robbing from the music industry but also from the paying consumers. This “free-rider problem” is relevant to all products that can be considered as public goods (see [24]).

Although ethics pursue the truth of what is right and wrong, the implementation of it is always biased by the actual context of time and place. This “man is always deficient” limitation should not lead to a giving up mentality. Instead, despite its complexity ethics should be a great resource in building societies for the coming generations. Ethics cannot be taught and adopted in one night. Therefore, it should be a long term strategy that is imbedded in all parts of the societal development.

V. Conclusions

In this paper we have presented an interview study through which we aimed to gain information on digital content consumers’ ethical thinking and behaviour. In total, fourteen young consumers (7 female and 7 male) were interviewed. The themes covered both legal and illegal aspects of consuming digital contents.

The primary target of this study was to provide a deeper understanding of consumers’ ethical thinking and its possible consequences on actual behaviour. We believe that our study has brought out issues that can be used, for example, as a starting point for building hypotheses for further studies. In the future, it would be necessary to gather more information on how different pricing mechanisms, improved ease of acquisition and use, and a wide selection of digital material, for example, affect the consumers’ attitudes and, furthermore, actual behaviour in respect to legal commercial acquisition channels. It is also necessary to find sound theoretical models that could explain the indifferent behavior of consumers. The neutralization theory is one candidate for this purpose.

The main limitation of our study is related to the size of the sample. Fourteen interviews do not provide very much material for generalizations. However, as we noted above, our study was conducted to bring out relevant issues for further studies rather than testing some hypotheses.

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**THE EFFECTS OF SOCIOECONOMIC CHARACTERISTICS AND
CONSUMER INVOLVEMENT ON THE ADOPTION OF MUSIC
DOWNLOAD STORES AND PAID MUSIC SUBSCRIPTION
SERVICES**

by

Markus Makkonen, Veikko Halttunen, Lauri Frank, 2010

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THE EFFECTS OF SOCIOECONOMIC CHARACTERISTICS AND CONSUMER INVOLVEMENT ON THE ADOPTION OF MUSIC DOWNLOAD STORES AND PAID MUSIC SUBSCRIPTION SERVICES

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ABSTRACT

This paper investigates the effects of three socioeconomic characteristics (gender, age and income) and one personality variable (consumer involvement in music) on the adoption of music download stores and paid music subscription services in Finland. The investigation is based on the analysis of an online survey sample of 1 447 Finnish consumers through contingency tables, the Pearson's χ^2 tests of independence and the Cramér's V coefficients. The results of the analysis suggest that statistically significant dependencies exist between almost all of the investigated variables and the adoption of download stores and subscription services and that these dependencies also differ from each other between the stores and services. For example, the diffusion of subscription services seems have occurred rather homogeneously across age and income groups, whereas the diffusion of download stores has been driven by more mature consumers with higher income. These findings and the explanatory factors behind them should be taken into consideration when crafting future business models for digital music retailing.

KEYWORDS

Music download stores, paid music subscription services, adoption, socioeconomic characteristics, consumer involvement

1. INTRODUCTION

During the past decade, there has been a drastic shift from physical to digital in the recorded music business. The sales of CDs and other physical formats have fallen sharply since the turn of the millennium, and today more and more recorded music is being purchased and sold digitally over the Internet. In 2009, already a quarter of the recorded music industry's global revenues came from digital channels – constituting a \$4.2 billion market (IFPI, 2010). However, this increase in the digital sales has not been able to offset the sharp drop in the sales of physical formats (IFPI, 2010). One main reason for this seems to be digital music piracy, although its total effects on the sales of recorded music remain a controversial issue (e.g., Oberholzer-Gee & Strumpf, 2007 vs. Liebowitz, 2008). Another major reason seems to be that the business models used in digital music distribution far too seldom match the fundamental needs, wants and expectations of individual consumers, thus resulting in low rates of adoption and usage. For example, Amberg and Schröder (2007) found this to be the case with the business models of digital music distribution in the German market.

To improve the situation, there seems to be a desperate need for more studies on consumer behaviour in the context of digital music distribution. Some initial studies on the topic are already available (e.g., Amberg & Schröder, 2007; Chu & Lu, 2007; Kunze & Mai, 2007; Kwong & Park, 2008; Bounagui & Nel, 2009). However, most of the studies thus far have concentrated on consumer behaviour only in the context of digital music piracy and illegal peer-to-peer (P2P), whereas studies concentrating on consumer behaviour also in the context of legal digital music retailing have been much rarer (Makkonen et al., 2010). The aim of the present paper is to address this imbalance by investigating the adoption of music download stores and paid music subscription services in Finland. Its primary focus is on the effects of three socioeconomic characteristics

(gender, age and income) and one personality variable (consumer involvement in music) on their adoption as well as on the differences and similarities in these effects between the stores and services.

The study follows a hypothetico-deductive research model. First, hypotheses on potential effects are derived from prior research in Section 2. After this, these hypotheses are tested using the methodology described in Section 3. Section 4 reports the main results of these tests, and the results are discussed further in Section 5, which also outlines some important topics for future research. Finally, the main limitations of the study are briefly described in Section 6.

2. THEORETICAL BACKGROUND

The theoretical background of the study is based on the *diffusion of innovations* (DOI) theory formalised by Rogers (2003), which investigates how new ideas, products and services spread in a social system. According to the theory, the members of a social system do not all adopt an innovation at the same time. Instead, the adoption occurs in a step-by-step process over time. In other words, an innovation is first adopted by the most innovative members of a social system, then by the slightly less innovative ones, and so forth.

But what actually determines how early or late an individual adopts an innovation, and are those who adopt an innovation earlier or later than others characterised by some specific traits or qualities? These are some of the key questions of DOI in particular and of the marketing of new products and services in general. To explore them, adopters are typically classified into one or more *adopter categories* based on their relative time of adoption. For example, Rogers (2003) describes five different adopter categories: innovators, early adopters, early majority, late majority and laggards. When these adopter categories are explored in more detail, some common traits and qualities typically emerge.

These traits and qualities are classified by Rogers (2003) into three categories: (1) *socioeconomic characteristics*, (2) *personality variables*, and (3) *communication behaviour*. This paper concentrates on the first two categories by investigating the effects of three socioeconomic characteristics (gender, age and income) and one personality variable (consumer involvement in music) on the adoption of music download stores and paid music subscription services. In this paper, *music download stores* are defined as online stores selling music as downloadable files on a pay-per-download basis (e.g., iTunes Store). In contrast, *paid music subscription services* are defined as online services also selling music as downloadable files or streaming content, but basing their business primarily on flat rate periodic fees rather than on pay-per-download or pay-per-usage pricing (e.g., Rhapsody and Spotify).

The potential effects of gender, age, income and involvement on the adoption of download stores and subscription services are discussed in more detail in the following three subsections.

2.1 Gender and Age

The effects of gender and age on the adoption of innovations remain a controversial issue (Rogers, 2003). This is especially true if adoption is examined on a general or global level, but also when it is investigated in the context of some specific domains. For example, in the context of online shopping, several studies have suggested that men are more avid shoppers than women and that online shopping is also positively associated with age. However, several other studies have found no support for such effects. (Chang et al., 2005; Zhou et al., 2007) According to Chang et al. (2005), these conflicting findings can perhaps be best explained by the fact that gender and age do not directly affect adoption, but only exert indirect effects. This view is also supported by the studies of Morris and Venkatesh (2000), Venkatesh and Morris (2000) as well as Venkatesh et al. (2000), who found gender and age to be important moderators of the interrelationships between the adoption of information technology and its numerous determinants, such as attitude, subjective norm, perceived behavioural control, perceived usefulness and perceived ease of use.

While there is no prior research that has specifically studied the effects of gender and age on the adoption of download stores and subscription services, several studies have found gender and age to be important determinants of digital music piracy and illegal P2P file sharing, suggesting that these activities are most prevalent among young men (e.g., Bhattacharjee et al., 2003; Chiang & Assane, 2008; Coyle et al., 2009). This, in turn, can be hypothesised to influence also the adoption of download stores and subscription services through both substitutory and complementary effects. Thus, the following hypotheses are proposed:

H1 _{store}	There is dependency between gender and the adoption of download stores.
H1 _{service}	There is dependency between gender and the adoption of subscription services.
H2 _{store}	There is dependency between age and the adoption of download stores.
H2 _{service}	There is dependency between age and the adoption of subscription services.

2.2 Income

Unlike in the case of gender and age, there seems to be a common consensus on the positive effects of income on the adoption of innovations (Rogers, 2003). Typically, earlier adopters are assumed to have higher levels of income and wealth compared to later adopters. There are two main arguments behind this assumption (Rogers, 2003). First, higher levels of income and wealth may be a prerequisite for adopting some innovations. For example, some innovations may be extremely costly to adopt in their early life stages and may require high initial investments of capital. Besides money, their adoption may also require access to some other resources, such as specific information sources or communications channels, which are only available to individuals with higher levels of income and wealth. Second, the adoption of innovations also nearly always entails at least some level of risk and uncertainty, and individuals with higher levels of income and wealth are often more able to cope with these than are other potential adopters.

Like in the case of gender and age, there is no prior research that has specifically studied the effects of income on the adoption of download stores and subscription services. However, higher income has been found to result in an increase in the adoption of online shopping (Chang et al., 2005; Zhou et al., 2007) and a decrease in digital music piracy and illegal P2P file sharing (e.g., Bhattacharjee et al., 2003; Coyle et al., 2009). Thus, the following hypotheses are proposed:

H3 _{store}	There is dependency between income and the adoption of download stores.
H3 _{service}	There is dependency between income and the adoption of subscription services.

2.3 Involvement

Involvement is a construct with many different conceptualisations and definitions. It is commonly defined as “a person’s perceived relevance of the object based on inherent needs, values and interests” (Zaichkowsky, 1985). It is also common to distinguish between two different types of involvement: enduring involvement and situational involvement (Houston & Rothschild, 1987). *Enduring involvement* is the degree of interest a person feels towards an object on an ongoing basis, whereas *situational involvement* is the degree of interest that relates to some specific situation (Sheth & Mittal, 2004). Of these two types, the present paper focuses primarily on enduring involvement.

Whether involvement is enduring or situational, it has been found to influence consumer behaviour in several different ways. For example, involved consumers often tend to be more active in searching and processing information about products and services and thus they also tend to become more knowledgeable about them (Sheth & Mittal, 2004). Because of this greater knowledge, involved consumers also often act as opinion leaders and lead users for new products and services and typically adopt them earlier than do consumers who are less involved (Rogers, 2003). In addition, involved consumers have been found to be more susceptible to new and innovative modes of shopping (Venkatraman, 1989). Thus, the following hypotheses are proposed:

H4 _{store}	There is dependency between involvement and the adoption of download stores.
H4 _{service}	There is dependency between involvement and the adoption of subscription services.

3. METHODOLOGY

To test the hypothesis proposed in Section 2, a self-administered online survey was conducted among Finnish consumers. A self-administered online survey was selected as the data gathering method because of its cost-effectiveness in gathering the large amount of quantitative data that was required by the study. The survey questionnaire was composed using the LimeSurvey 1.87+ software, and before the actual survey, it was pre-tested using several postgraduate students and industry experts. The actual survey was launched in June 2010, and it was online for three weeks. During this time, the survey link was promoted by sending multiple

invitation e-mails through the internal communication channels of our own university as well as through an electronic mailing list provided by a Finnish retail chain, which contained 5 000 e-mail addresses of their randomly sampled regular customers. In addition, the survey link was posted to two websites promoting online competitions and surveys, as well as to two music related discussion forums. To raise the response rate, all of the respondents who completed the survey were also offered an opportunity to take part in a prize drawing, in which 41 gift cards with a total worth of 1 500 € were raffled among them.

Altogether, the survey questionnaire consisted of 108–112 items (depending on responses). However, only eight of these items were used for the purpose of this paper. These items (translated from Finnish to English) are presented in the Appendix. Gender, age and income were each measured by one item. The measurement scale of gender was nominal (male or female) while age was originally measured using an interval scale but was later categorised into five age groups (under 25 years, 25–34 years, 35–44 years, 45–54 years and 55 years or over). Income, which referred to annual gross income per person, was measured using an ordinal scale. The scale originally consisted of ten income groups, but their number was later reduced to five (under 10 000 €, 10 000–19 999 €, 20 000–29 999 €, 30 000–39 999 € and 40 000 € or over).

Consumer involvement was measured using a scale consisting of three statements, each of which were rated by the respondents using a five-point Likert scale ranging from strong disagreement to strong agreement. The statements were adapted from an article by Mittal (1995) and were based on the perceived importance dimension of the Consumer Involvement Profiles (CIP) by Laurent and Kapferer (1985). The decision to use only this dimension and to omit the other four dimensions (perceived pleasure value, perceived sign value, perceived risk importance and perceived risk probability) of CIP was based on the argumentation given by Mittal (1989), who considers only the perceived importance dimension as involvement proper and the other four dimensions as its antecedents. Therefore, it is sufficient to measure only this dimension when we are interested in involvement itself and not in its antecedents. Cronbach's alpha for the scale was 0.950, suggesting good reliability. To simplify the analysis, the scale was later reduced to one ordinal variable consisting of five categories: very low, low, moderate, high and very high involvement.

The adoption of download stores was measured by asking the respondents whether or not they had ever purchased music from a download store. Those who had purchased were classified as adopters, whereas those who had not purchased were classified as non-adopters. Of course, the respondents also had an opportunity to not answer the question, in which case their status remained unknown. In contrast, the adoption of subscription services was measured by providing the respondents a list of seven services (plus the option "Others") and asking them to tick off the services to which had subscribed. If they had subscribed to any of the services, they were classified as adopters. Otherwise, they were classified as non-adopters.

The survey data was analysed using the PASW Statistics 18 software. Because most of the variables were measured using either nominal or ordinal scales and we wanted to explore not only linear, but also nonlinear dependencies between them, the analysis was based on contingency tables, the Pearson's χ^2 tests of independence and the Cramér's V coefficients. The χ^2 tests were first used to test whether the dependencies suggested by the contingency tables were statistically significant. If this was the case, the contingency tables and Cramér's V coefficients were used to further investigate the type and strength of the dependencies.

4. RESULTS

Altogether, 1 447 complete and valid responses were received. The mean response time for the survey was about 17 minutes, suggesting that the questionnaire was rather long for a self-administered online survey. This was also indicated by the relatively high drop-off rate, which was 25.9 %. However, we do not consider the response time or the drop-off rate too high in terms of suggesting severe respondent fatigue.

Descriptive statistics of the survey sample are presented in Table 1. Of the 1 447 respondents, 42.3 % were men and 57.7 % were women. Their mean age was 36.4 years (SD = 12.7 years), and 19.4 % belonged to the age group of under 25 years, 33.1 % to the age group of 25–34 years, 19.2 % to the age group of 35–44 years, 17.8 % to the age group of 45–54 years, and 10.5 % to the age group of 55 years or over. In terms of income, 23.6 % belonged to the income group of under 10 000 €, 16.4 % to the income group of 10 000–19 999 €, 20.4 % to the income group of 20 000–29 999 €, 14.0 % to the income group of 30 000–39 999 €, and 12.6 % to the income group of 40 000 € or over. In addition, 13.0 % of the respondents did not disclose their income information. Overall, the gender, age and income distributions of the sample matched quite well

the gender and age distributions of the Finnish Internet population in 2007 as well as the income distribution of all Finnish income recipients in 2008 (Statistics Finland, 2010). Women, the age group of 25–34 years and the income groups of under 9 999 € and 30 000–39 999 € were slightly overrepresented, whereas men, the age group of 55 years or over and the income group of 10 000–19 999 € were underrepresented. However, there were no indications of severe non-response bias in terms of these three variables.

Table 1. Descriptive statistics of the sample

Variable		Number	Percentage
Gender	Male	612	42.3 %
	Female	835	57.7 %
Age	–24 years	281	19.4 %
	25–34 years	479	33.1 %
	35–44 years	278	19.2 %
	45–54 years	257	17.8 %
	55+ years	152	10.5 %
Annual gross income per person	–9 999 €	342	23.6 %
	10 000–19 999 €	237	16.4 %
	20 000–29 999 €	295	20.4 %
	30 000–39 999 €	202	14.0 %
	40 000–€	183	12.6 %
	Missing	188	13.0 %
Music involvement	Very low	43	3.0 %
	Low	145	10.0 %
	Moderate	299	20.7 %
	High	459	31.7 %
	Very high	481	33.2 %
	Missing	20	1.4 %
Has purchased music from a download store?	Yes	351	24.3 %
	No	1039	71.8 %
	Missing	57	3.9 %
Has used a paid music subscription service?	Yes	154	10.6 %
	No	1293	89.4 %

Most of the respondents expressed high levels of involvement in music. Overall, 64.9 % expressed either very high or high involvement, 20.7 % expressed moderate involvement and only 13.0 % expressed either low or very low involvement. However, the adoption rates of download stores and subscription still remained relatively low. Only 24.3 % had purchased music from a download store, whereas 71.8 % had not. The adoption rate of subscription services remained even lower. Only 10.6 % had used a paid music subscription service, whereas 89.4 % had not. The dependencies between the explanatory and adoption variables are analysed further in the following four subsections. Note that due to missing data in some of the variables, the number of responses included in each analysis varies slightly according to the analysed dependency.

4.1 Gender and Adoption

Tables 2. and 3 show the adoption rates of download stores and subscription services for men and women as well as the results of the χ^2 tests. The χ^2 tests supported the hypothesised dependencies between gender and adoption in the case of both download stores ($\chi^2(1) = 5.078$, $p = 0.024$, $V = 0.060$) and subscription services ($\chi^2(1) = 18.411$, $p < 0.001$, $V = 0.113$). Therefore, both $H1_{store}$ and $H1_{service}$ were accepted. However, although the dependencies were found to be statistically significant, the Cramér's V coefficients suggested that they were relatively weak. In both cases, men seemed to be more apt adopters than women. Overall, 28.3 % of men had purchased music from download stores and 14.7 % had used a paid music subscription service. The corresponding figures for women were 23.0 % and 7.7 %.

Tables 2. and 3. Adoption of download stores ($\chi^2(1) = 5.078, p = 0.024, V = 0.060$) and subscription services ($\chi^2(1) = 18.411, p < 0.001, V = 0.113$) between men and women

		Male	Female	All
Has adopted download stores?	Yes	28.3 %	23.0 %	25.3 %
	No	71.7 %	77.0 %	74.7 %
N		586	804	1 390

		Male	Female	All
Has adopted subscription services?	Yes	14.7 %	7.7 %	10.6 %
	No	85.3 %	92.3 %	89.4 %
N		612	835	1 447

Tables 3. and 4. Adoption of download stores ($\chi^2(4) = 66.522, p < 0.001, V = 0.219$) and subscription services ($\chi^2(4) = 6.146, p = 0.188, V = 0.065$) across age groups

		-24	25-34	35-44	45-54	55-	All
Has adopted download stores?	Yes	21.0 %	34.3 %	31.0 %	19.8 %	4.0 %	25.3 %
	No	79.0 %	65.7 %	69.0 %	80.2 %	96.0 %	74.7 %
N		262	452	274	253	149	1 390

		-24	25-34	35-44	45-54	55-	All
Has adopted subscription services?	Yes	9.3 %	12.5 %	11.5 %	10.5 %	5.9 %	10.6 %
	No	90.7 %	87.5 %	88.5 %	89.5 %	94.1 %	89.4 %
N		281	479	278	257	152	1 447

Tables 5. and 6. Adoption of download stores ($\chi^2(4) = 22.424, p < 0.001, V = 0.136$) and subscription services ($\chi^2(4) = 10.603, p = 0.031, V = 0.092$) across income groups

		-9 999 €	10 000-19 999 €	20 000-29 999 €	30 000-39 999 €	40 000-€	All
Has adopted download stores?	Yes	19.4 %	22.0 %	26.5 %	28.9 %	37.4 %	25.8 %
	No	80.6 %	78.0 %	73.5 %	71.1 %	62.6 %	74.2 %
N		325	227	287	197	179	1 215

		-9 999 €	10 000-19 999 €	20 000-29 999 €	30 000-39 999 €	40 000-€	All
Has adopted subscription services?	Yes	7.0 %	12.7 %	11.2 %	11.4 %	15.8 %	11.0 %
	No	93.0 %	87.3 %	88.8 %	88.6 %	84.2 %	89.0 %
N		342	237	295	202	183	1 259

Tables 7. and 8. Adoption of download stores ($\chi^2(4) = 16.363, p = 0.003, V = 0.109$) and subscription services ($\chi^2(4) = 11.697, p = 0.020, V = 0.091$) across involvement levels

		Very low	Low	Moderate	High	Very high	All
Has adopted download stores?	Yes	14.3 %	22.3 %	21.0 %	23.9 %	31.6 %	25.4 %
	No	85.7 %	77.7 %	79.0 %	76.1 %	68.4 %	74.6 %
N		42	139	290	440	465	1 376

		Very low	Low	Moderate	High	Very high	All
Has adopted subscription services?	Yes	11.6 %	9.7 %	7.0 %	9.6 %	14.3 %	10.7 %
	No	88.4 %	90.3 %	93.0 %	90.4 %	85.7 %	89.3 %
N		43	145	299	459	481	1 427

Table 9. Summary of the χ^2 tests, Cramér's V coefficients and tested hypotheses (A = accepted, R = rejected)

Dependency	N	χ^2	df	Asymp. Sig.	Cramér's V	H	A / R
Gender x download store adoption	1 390	5.078	1	0.024	0.060	H1 _{store}	A
Gender x subscription service adoption	1 447	18.411	1	< 0.001	0.113	H1 _{service}	A
Age x download store adoption	1 390	66.522	4	< 0.001	0.219	H2 _{store}	A
Age x subscription service adoption	1 447	6.146	4	0.188	0.065	H2 _{service}	R
Income x download store adoption	1 215	22.424	4	< 0.001	0.136	H3 _{store}	A
Income x subscription service adoption	1 259	10.603	4	0.031	0.092	H3 _{service}	A
Involvement x download store adoption	1 376	16.363	4	0.003	0.109	H5 _{store}	A
Involvement x subscription service adoption	1 427	11.697	4	0.020	0.091	H5 _{service}	A

4.2 Age and Adoption

Tables 3 and 4 show the adoption rates of download stores and subscription services across different age groups and the results of the χ^2 tests. The χ^2 tests supported the hypothesised dependencies between age and adoption in the case of download stores ($\chi^2(4) = 66.522$, $p < 0.001$, $V = 0.219$), but not in the case of subscription services ($\chi^2(4) = 6.146$, $p = 0.188$, $V = 0.065$). Therefore, only $H2_{store}$ was accepted, whereas $H2_{service}$ was rejected. However, also in the case of download stores, the Cramér's V coefficient suggested that the dependency was relatively weak, although it seemed to be considerably stronger than in the case of gender. The adoption rate also did not seem to increase or decrease linearly with age. Instead, it first increased from 21.0 % to 34.3 % when moving from the age group of under 25 years to the age group of 25–34 years, but then began to decrease at an accelerating pace.

4.3 Income and Adoption

Tables 5 and 6 show the adoption rates of download stores and subscription services across different income groups and the results of the χ^2 tests. The χ^2 tests supported the hypothesised dependencies between income and adoption in the case of both download stores ($\chi^2(4) = 22.424$, $p < 0.001$, $V = 0.136$) and subscription services ($\chi^2(4) = 10.603$, $p = 0.031$, $V = 0.092$). Therefore, both $H3_{store}$ and $H3_{service}$ were accepted, although the Cramér's V coefficients once again suggested that the dependencies were relatively weak. In the case of download stores, the adoption rate seemed to increase more or less linearly with income. In the case of subscription services, the dependency seemed to be more nonlinear. The adoption rate increased from 7.0 % to 12.7 % and from 11.4 % to 15.8 % at the two extremes of the income distribution, but there were no significant changes between the three middle income groups.

4.4 Involvement and Adoption

Tables 7 and 8 show the adoption rates of download stores and subscription services for different levels of involvement and the results of the χ^2 tests. The χ^2 tests supported the hypothesised dependencies between involvement and adoption in the case of both download stores ($\chi^2(4) = 16.363$, $p = 0.003$, $V = 0.109$) and subscription services ($\chi^2(4) = 11.697$, $p = 0.020$, $V = 0.091$). Therefore, both $H5_{store}$ and $H5_{service}$ were accepted. The strength of the dependencies was about the same as in the case of income. In the case of both download stores and subscription services, the adoption rate also did not seem to increase or decrease linearly with involvement. In the case of download stores, there were significant changes only at the extremely low or high levels involvement, but not between the three moderate levels of involvement. In the case of subscription services, the adoption rate first decreased from 11.6 % to 7.0 % when moving from very low to moderate level of involvement and then again increased from 7.0 % to 14.3 % when moving from moderate to very high level of involvement.

5. DISCUSSION AND FUTURE RESEARCH

Table 9 summarises the results of the χ^2 tests, their connections to the tested hypothesis and the Cramér's V coefficients. As can be seen, all of the hypotheses except for $H2_{service}$ were accepted, meaning that statistically significant dependencies were found between the explanatory and adoption variables in all cases except for age and the adoption of subscription services. However, according to the Cramér's V coefficients, the observed dependencies were all relatively weak. The strongest one ($V = 0.219$) was observed between age and the adoption of download stores, and the weakest one ($V = 0.060$) between gender and the adoption of download stores. Despite their relative weakness, a closer investigation of the dependencies using the contingency tables still revealed some interesting findings.

In terms of gender, the most interesting finding was that although men seemed to be more apt adopters of both download stores and subscription services than women, the gender differences were much more evident in the case of subscription services than in the case of download stores. However, when moving from gender to age and income, the situation was reversed. In the case of download stores, a dependency was found

between age and adoption as well as income and adoption. These dependencies were also very much like those predicted by the prior research, although it was somewhat surprising that consumers aged between 25–44 years, not the youngest age group, were the most apt adopters of download stores. In the case of subscription services, however, no dependency was found between age and adoption. In addition, the dependency between income and adoption was observable only at the two extremes of the income distribution. In other words, it seems that the diffusion of subscription services has so far occurred rather homogeneously across age and income groups, whereas the diffusion of download stores has been driven by more mature consumers with higher income.

Based on the conducted study, it is impossible to provide any conclusive or definite explanations for these findings. One explanation could relate to the different life stages of the two innovations because at least in Finland, subscription services are a slightly newer concept compared to download stores. This could perhaps partly explain the more heterogeneous diffusion of subscription services between genders, but not their more homogeneous diffusion across income groups. In fact, assuming that earlier adopters are typically characterised by higher levels of income and wealth as discussed in Section 2.2, just the opposite should be true. Another explanation could relate to the interactions of gender and age with other determinants of adoption, such as perceived usefulness and perceived ease of use, which were discussed in Section 2.1. However, also these interactions seem to provide only partial explanations at best. For example, they do not fully explain why the dependency between gender and adoption could be observed in the case of both download stores and subscription services while the dependency between age and adoption was observable only in the case of download stores. Nor do they provide a sufficient explanation for the nonlinear type of the latter dependency. Yet another explanation could relate to the substitutory effects between other music acquisition channels. For example, if we assume that young men with lower income are the most active users of illegal peer-to-peer (P2P) file sharing and similar illegal music acquisition channels as suggested in Section 2.1 and that these channels are more perfect substitutes for download stores than for subscription services, we can use this argumentation to explain both the laggard adoption of download stores among younger consumers with lower income and the less evident gender differences in their adoption. However, also the confirmation of this explanation calls for further examination.

In terms of involvement, the findings are more or less in line with the prior research. In the case of both download stores and subscription services, those who were most involved in music also seemed to be the most apt adopters. However, the adoption rates did not increase as linearly with the level of involvement as could have been assumed. In the case of download stores, changes in the adoption rate were observed only in the case of extremely low or high involvement, but not in the case of moderate involvement. This would seem to suggest that a scale consisting of only three categories would be sufficient in measuring this construct. In the case of subscription services, the situation was even more exceptional. Those with moderate involvement seemed to be the most laggard adopters, and the adoption rate increased when the level of involvement either decreased or increased. It is difficult to find any consistent explanation for this observation. Of course, one explanation could relate to the fact that subscription services are particularly appealing to two different music consumer segments: the “heavy users”, who see subscription services as a cost-effective means to meet their huge consumption needs and therefore use them to complement their usage of other music acquisition channels, as well as the “light users”, whose consumption needs are much more occasional, causing them to be less interested in actually owning the music they are using.

All in all, the findings suggest that the investigated socioeconomic characteristics and consumer involvement in music have had significant effects on the adoption of both download stores and subscription services in Finland. However, there seem to be some interesting differences in these effects between the stores and services. The explanations behind these differences and the effects themselves should be better understood when crafting future business models for digital music retailing because a good understanding of how and why the diffusion processes have occurred in the past allows the actors operating in the recorded music industry to better prepare themselves also for forthcoming challenges. Therefore, their further examination should be one of the main focuses of future research on this topical area. In addition, the findings confirm that there exists great growth potential in digital music retailing. In the case of download stores, the greatest growth potential seems to reside in consumers aged under 25 years and 45 years or over, as well as in consumers with limited income. In the case of subscription services, there seems to reside great growth potential in all consumer segments, but especially in female consumers, in consumers aged 55 years or over as well as in consumers with limited income. Therefore, future research should also focus on the expedients for reaching these consumer segments. Some exemplary expedients could include more easy to

use stores and services with special pricing schemes and other similar means that take into better account the fundamental needs, wants and expectations of individual consumers, as mentioned by Amberg and Schröder (2007). After all, it seems that in the modern music marketplace characterised by an abundance of content and alternative channels for acquiring it, the customer is perhaps more a king than ever before.

6. LIMITATIONS

We consider this paper to have three main limitations. First, because a self-administered online survey was employed as a data gathering method, the results cannot be directly generalised to the whole Finnish population, but only to the Finnish Internet population. Second, because the dependencies between the explanatory and adoption variables were investigated only one dependency at a time, it is also impossible to say anything about the more complex interactions between the variables. Their examination would require the use of more advanced analysis methods, such as log-linear modelling. Third, like many other diffusion studies, the study also conceptualised adoption as a rather simplified construct by classifying the adopters and non-adopters into only two categories instead of also considering, for example, their relative degree or time of adoption. This simplification obviously results in a somewhat reduced picture of the phenomenon under investigation. In addition, the overall adoption threshold used to differentiate between adopters and non-adopters can be considered relatively low because no continued usage of the two innovations was required. If a higher threshold had been used, the observed adoption rates probably would have been even lower.

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APPENDIX

1. Gender: Male Female
2. Age: _____
3. Annual gross income per person:
- Under 5000 € 5 000 – 9 999 € 10 000 – 14 999 € 15 000 – 19 999 €
- 20 000 – 24 999 € 25 000 – 29 999 € 30 000 – 39 999 € 40 000 – 49 999 €
- 50 000 – 59 999 € Over 59 999 € No response
4. What do you think of the following statements (1 = strongly disagree ... 5 = strongly agree)?
- | | 1 | 2 | 3 | 4 | 5 |
|-----------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Music is very important to me | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I have a strong interest in music | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Music matters a lot to me | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
5. Have you ever purchased music from a download store?
 Yes No No response
6. Have you ever subscribed to any of the following paid music subscription services?
- | | Current
subscriber | Former
subscriber |
|---------------------------------------|--------------------------|--------------------------|
| DNA Musalaaajakaista | <input type="checkbox"/> | <input type="checkbox"/> |
| Last.fm (paid version) | <input type="checkbox"/> | <input type="checkbox"/> |
| Nokia Comes With Music | <input type="checkbox"/> | <input type="checkbox"/> |
| Nokia Music Store streaming service | <input type="checkbox"/> | <input type="checkbox"/> |
| Radio Rock subscription service | <input type="checkbox"/> | <input type="checkbox"/> |
| Sonera Music Player | <input type="checkbox"/> | <input type="checkbox"/> |
| Spotify (paid version) | <input type="checkbox"/> | <input type="checkbox"/> |
| Other paid music subscription service | <input type="checkbox"/> | <input type="checkbox"/> |

VI

APPLYING THE THEORY OF PLANNED BEHAVIOUR TO EXPLAIN THE USAGE INTENTIONS OF MUSIC DOWNLOAD STORES: GENDER AND AGE DIFFERENCES

by

Markus Makkonen, Veikko Halttunen, Lauri Frank & Pasi Tyrväinen, 2010

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APPLYING THE THEORY OF PLANNED BEHAVIOUR TO EXPLAIN THE USAGE INTENTIONS OF MUSIC DOWNLOAD STORES: GENDER AND AGE DIFFERENCES

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ABSTRACT

This paper examines the applicability of the theory of planned behaviour (TPB) in explaining the usage intentions of music download stores as well as the gender and age differences in the core constructs of TPB and their interrelationships. The examination is based on the analysis of an online survey sample of 1 418 Finnish consumers through structural equation modelling (SEM) and multiple group analysis. The results of the analysis suggest that TPB can successfully be applied to explain about half of the total variance in the usage intentions, and that attitude towards using the stores is by far the most important explanatory factor, followed by subjective norm towards their usage. In contrast, the effect of perceived behavioural control over their usage was found to be only marginal. There are also some significant differences in the core constructs of TPB and their interrelationships between men and women as well as across age groups. Based on these findings, implications for the business models of digital music retailing are provided.

KEYWORDS

Music download stores, the theory of planned behaviour, usage intentions, gender and age differences

1. INTRODUCTION

During the past decade, the Internet has slowly but steadily emerged as one of the main channels for purchasing and selling recorded music. In 2009, already a quarter of the recorded music industry's global revenues came from digital channels – constituting a \$4.2 billion market (IFPI, 2010). However, despite its popularity, digital music retailing still seems to remain a rather uncharted area in terms of consumer behaviour (Makkonen et al, 2010). For example, apart from a few notable exceptions (e.g., Chu & Lu, 2007; Kunze & Mai, 2007; Kwong & Park, 2008; Bounagui & Nel, 2009), very few academic studies have attempted to explain and predict consumer behaviour in the context of digital music retailing by applying the theories and models traditionally used in consumer research. This can be considered a critical concern for the future of digital music retailing because an understanding of the fundamental needs, wants and expectations of individual consumers is obviously one of the core requirements for the systematic design and development of tomorrow's business models and success stories in this topical area (Amberg & Schröder, 2007).

To address this problem, the present paper examines the applicability of one of the best-known theories for explaining and predicting consumer behaviour – the theory of planned behaviour (TPB) – in explaining the usage intentions of music download stores. In this paper, *music download stores* are defined as online stores selling music as downloadable files on a pay-per-download basis (e.g., iTunes Store). In addition, the paper provides an examination of the gender and age differences in the core constructs of TPB and their interrelationships. Both of the examinations are based on the analysis of an online survey sample of 1 418 Finnish consumers through structural equation modelling (SEM) and multiple group analysis.

The paper begins by providing a brief introduction to TPB in Section 2 and proceeds with a description of the employed data gathering, measurement and data analysis methods in Section 3. Section 4 reports the main results of the study, and these results are discussed further in Section 5, which also outlines some important topics for future research. Finally, the main limitations of the study are briefly described in Section 6.

2. THE THEORY OF PLANNED BEHAVIOUR

The *theory of planned behaviour* (TPB – Ajzen, 1985, 1991) is an extension of the well-known *theory of reasoned action* (TRA – Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980) and one of the most widely used theories for explaining and predicting human behaviour. During the past 30 years, TPB has been successfully applied to examine human behaviour in numerous areas (Ajzen, 2010). One of the most popular application areas has been consumer behaviour. However, only a few studies (e.g., Kwong & Park, 2008) have applied TPB to examine consumer behaviour in the context of digital music retailing, although a number of applications can be found in the context of digital music piracy and illegal peer-to-peer (P2P) file sharing (e.g., Al-Rafee & Cronan, 2006; Cronan & Al-Rafee, 2008).

The core constructs of TPB and their hypothesised interrelationships are illustrated in Figure 1 (Ajzen, 1991). The two most central constructs of TPB are *behaviour* and *intention*, the latter of which captures the motivational factors that influence the performance of a behaviour. In other words, intention indicates how hard individuals are willing to try and how much effort they are willing to exert in order to perform a behaviour. The core hypothesis of TPB is that the stronger the intention to perform the behaviour, the more probable is its performance. Another core hypothesis of TPB is that intention, in turn, is determined by three antecedent factors: attitude towards the behaviour, subjective norm towards it and perceived behavioural control over it. *Attitude* captures individuals' positive and negative evaluations of performing the behaviour, whereas *subjective norm* captures individuals' perceptions of the social pressure to perform or to not perform it. Respectively, *perceived behavioural control* refers to individuals' sense of self-efficacy or ability to perform the behaviour. The more positive the attitude and subjective norm towards the behaviour and the more perceived behavioural control there is over it, the stronger is the intention to perform the behaviour and, consequently, the more probable is also its performance. Of course, the relative importance of the three antecedent factors varies from individual to individual and also depends on the situation under investigation. For some individuals and situations, attitudinal evaluations may be more important than normative and control ones, whereas for others, normative or control evaluations may dominate.

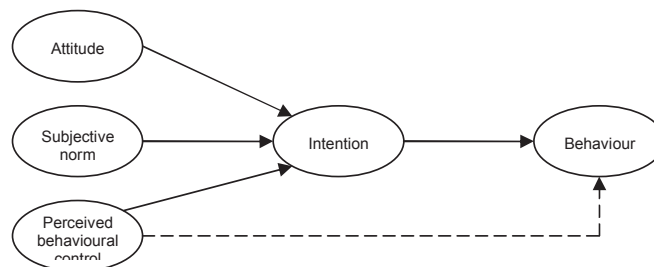


Figure 1. The theory of planned behaviour (Ajzen, 1991)

In addition to influencing behaviour indirectly through intention, perceived behavioural control is hypothesised to influence behaviour directly by acting as a proxy for *actual control* (Ajzen, 1991). However, in the present paper, this relationship and the relationship between intention and behaviour are not examined further because the primary focus is on the usage intentions of music download stores as well as on explaining them with attitudinal, normative and control evaluations.

3. METHODOLOGY

3.1 Data Gathering

To examine the applicability of TPB in explaining the usage intentions of music download stores as well as the gender and age differences in the core constructs of TPB and their interrelationships, a self-administered online survey was conducted among Finnish consumers. A self-administered online survey was selected as

the data gathering method because of its cost-effectiveness in gathering the large amount of quantitative data that was required for the study. The survey questionnaire was composed using the LimeSurvey 1.87+ software, and before the actual survey, it was pre-tested using several postgraduate students and industry experts. Based on their comments, some minor improvements were made. The actual survey was launched in June 2010, and it was online for three weeks. During this time, the survey link was promoted by sending multiple invitation e-mails through the internal communication channels of our own university as well as through an electronic mailing list provided by a Finnish retail chain, which contained 5 000 e-mail addresses of their randomly sampled regular customers. In addition, the survey link was posted to two websites promoting online competitions and surveys, as well as to two music related discussion forums. To raise the response rate, all of the respondents who completed the survey were also offered an opportunity to take part in a prize drawing, in which 41 gift cards with a total worth of 1 500 € were raffled among them.

During the three weeks, 1 418 complete and valid responses were received (e.g., 29 responses had to be excluded from further analysis due to missing data in all of the items that were used to measure the TPB constructs). The mean response time for the survey was about 17 minutes, suggesting that the questionnaire was rather long for a self-administered online survey. This was also indicated by the relatively high drop-off rate, which was 25.9 %. However, we do not consider the response time or the drop-off rate too high in terms of suggesting severe respondent fatigue.

The descriptive statistics of the survey sample are presented in Table 1. As can be seen, the sample can be characterised as very heterogeneous in terms of the gender, age, income and socioeconomic group of the respondents. It also contained relatively many respondents who had previously purchased music from a download store. The mean age of the respondents was 36.4 years (SD = 12.6 years), and the overall gender, age and income distributions of the sample corresponded quite well the gender and age distributions of the Finnish Internet population in 2007 as well as the income distribution of all Finnish income recipients in 2008 (Statistics Finland, 2010). Women and the youngest age group were slightly overrepresented, whereas men and the two oldest age groups were underrepresented. However, there were no indications of severe non-response bias in terms of the three variables.

Table 1. Descriptive statistics of the sample

Variable		Number	Percentage
Gender	Male	596	42.0 %
	Female	822	58.0 %
Age	–30 years	522	36.8 %
	30–44 years	497	35.0 %
	45– years	399	28.1 %
Annual gross income per person	–15 000 €	480	33.9 %
	15 000–29 999 €	381	26.9 %
	30 000– €	380	26.8 %
	Missing	177	12.5 %
Socioeconomic group	Student	338	23.8 %
	Employed	782	55.1 %
	Unemployed	123	8.7 %
	Pensioner	81	5.7 %
	Other	83	5.9 %
Has purchased music from a download store?	Yes	350	24.7 %
	No	1018	71.8 %
	Missing	50	3.5 %

3.2 Measurement

Altogether, the survey questionnaire consisted of 108–112 items (depending on responses). However, only 13 of these items were used for the purpose of this paper. Two of the items measured the gender and age of the respondents, and the remaining 11 items measured the intention, attitude, subjective norm and perceived behavioural control constructs of TPB described in Section 2. The design of the measurement items followed the suggestions given by Ajzen (2006). For example, before the actual survey, two preliminary surveys were conducted in April and May 2010, and based on the responses from 66 and 56 university students and staff

members, the most suitable items from the preliminary sets were selected to the final set. The items in the final set (translated from Finnish to English) and their sample means are listed in Table 2.

Attitude was measured by three items, in which the respondents were asked to rate their attitudes towards purchasing music from a download store using a five-point semantic differential scale consisting of bipolar adjective pairs. As suggested by Ajzen (2006), the items were designed to capture both the experiential (ATT2) and the instrumental (ATT3) dimensions of attitudinal evaluations as well as overall attitude (ATT1). Subjective norm and perceived behavioural control were each measured by three items, in which the respondents rated statements concerning purchasing music from a download store using a five-point Likert scale ranging from strong disagreement to strong agreement. As suggested by Ajzen (2006), the normative items were designed to capture both the descriptive (SN1 and SN2) and the injunctive (SN3) dimensions of normative evaluations, whereas the control items were designed to capture both the capability (PBC1 and PBC2) and the control (PBC2 and PBC3) dimensions of control evaluations. Intention was measured similar to subjective norm and perceived behavioural control, but by two items only.

Table 2. Measurement items of the constructs

Item	Description	Mean
INT1	I plan to purchase music from a download store in the next three months.	1.813
INT2	I intend to purchase music from a download store in the next three months.	1.808
ATT1	The idea of me purchasing music from a download store in the next three months sounds good – bad.	2.692
ATT2	The idea of me purchasing music from a download store in the next three months sounds unpleasant – pleasant.	2.737
ATT3	The idea of me purchasing music from a download store in the next three months sounds foolish – wise.	2.647
SN1	Many people close to me purchase music from download stores.	2.548
SN2	Purchasing music from download stores is common among people close to me.	2.326
SN3	Many people close to me think that purchasing music from download stores is a good idea.	2.710
PBC1	If I wanted to, I could purchase music from a download store in the next three months.	3.891
PBC2	I possess the necessary knowledge, skills and other resources to purchase music from a download store in the next three months.	3.919
PBC3	Excluding my own unwillingness, there is nothing that would prevent me from purchasing music from a download store in the next three months.	4.036

3.3 Data Analysis

The analysis of the gathered data was based on structural equation modelling (SEM) and multiple group analysis conducted using the Mplus Version 6 software (Muthén & Muthén, 2010). First, the applicability of TPB in explaining the usage intentions of music download stores was examined by estimating the TPB model for the whole sample and studying its fit to the data, parameter estimates and explanatory power. Model fit was evaluated using the χ^2 test of model fit and four alternative fit indices: the comparative fit index (CFI), the Tucker-Lewis index (TLI), the root mean square error of approximation (RMSEA) and the standardised root mean square residual (SRMR). The reason for using multiple fit indices stemmed from the recommendations given by several scholars, who urge that model fit should not be evaluated solely on the basis of the χ^2 test or any other single fit index – rather, a combination of several fit indices should be used (Byrne et al., 1989). For example, the χ^2 test has been found to be sensitive to sample size and model complexity, and thus it tends to underestimate model fit in the case of large samples or complex models (Bentler & Bonett, 1980). On the other hand, the weakness of the four alternative fit indices is that there are no unambiguous lower or upper limits for determining sufficient or good model fit. However, it has commonly been suggested (e.g., Hooper et al., 2008) that in the case of CFI and TLI, values greater than or equal to 0.90 indicate sufficient model fit and values greater than or equal to 0.95 indicate good model fit. In the case of RMSEA, values less than or equal to 0.08 indicate sufficient model fit and values less than or equal to 0.05 indicate good model fit. The value of SRMR should typically be less than or equal to 0.05.

Next, the gender and age differences in the core constructs of TPB and their interrelationships were examined by estimating the TPB model separately for each group and comparing the construct means and regression coefficients across the groups. However, before these comparisons could be meaningfully conducted, measurement invariance had to be established across the groups. At the minimum, the comparison of the regression coefficients requires configural and metric invariance, whereas the comparison of the construct means requires configural, metric and scalar invariance (Steenkamp & Baumgartner, 1998). The testing of these three types of measurement invariance was done using the testing procedure formalised by Steenkamp and Baumgartner (1998), in which increasingly strict constraints on parameter equality are added

across the groups and the fit of the resulting nested models is compared. In the case of configural invariance, the constraints concern only the simple structure (pattern of non-null regressions) of the constructs, which must be equal across the groups. Metric invariance builds on configural invariance by constraining also the factor loadings to be equal across the groups, whereas scalar invariance builds on metric invariance by constraining also the item intercepts to be equal across the groups. If the addition of these constraints results in no significant deterioration in the model fit, the specific hypothesis on full measurement invariance is accepted. In the opposite case, it is rejected. If this is the case, the hypothesis on partial measurement invariance may be tested by relaxing the added constraints one by one based on the modification indices of the model until the deterioration in the model fit becomes insignificant. In this study, the significance of the deterioration in the model fit was evaluated based on the changes in the χ^2 values and the χ^2 test of difference using Satorra-Bentler (2001) scaling (Satorra-Bentler scaling had to be used because the models were estimated using the MLR estimator). However, because the χ^2 test of difference suffers from the same sensitivity to sample size and model complexity as the χ^2 test of model fit, also the changes in the four alternative fit indices were considered as suggested by Steenkamp and Baumgartner (1998).

4. RESULTS

4.1 Reliability and Validity

Before examining the TPB model as well as the gender and age differences in its core constructs and their interrelationships more closely, the reliability as well as the convergent and discriminant validity of the constructs and their measurement items were first evaluated. Reliability was evaluated using the Cronbach's alphas and composite reliabilities of the constructs, which are listed on the left side of Table 3. As can be seen, the Cronbach's alpha and composite reliability of each construct was well above the commonly suggested lower limit of 0.7 (e.g., Gefen et al., 2000), thus indicating good reliability.

Table 3. Cronbach's alphas, composite reliabilities, AVEs, square roots of AVEs and correlations of the constructs

Construct	Cronbach's alpha	Composite reliability	AVE	Intention	Attitude	Subjective norm	Perceived behavioural control
Intention	0.948	0.947	0.899	0.948			
Attitude	0.921	0.922	0.798	0.655	0.893		
Subjective norm	0.938	0.938	0.834	0.459	0.369	0.913	
Perceived behavioural control	0.893	0.895	0.740	0.286	0.301	0.098	0.860

Convergent validity was evaluated using the criterion suggested by Fornell and Larcker (1981), which states that the average variance extracted (AVE) of each construct should be greater than 0.5. The AVEs of the constructs are listed on the left side of Table 3. As can be seen, all of the constructs fulfilled the criterion, thus indicating good convergent validity. Discriminant validity was evaluated using another criterion suggested by Fornell and Larcker (1981), which states that for each construct, the square root of its AVE should be greater than its correlation with the other constructs. The right side of Table 3 lists the correlations between the constructs, with the square roots of the AVEs on the diagonal. As can be seen, all of the constructs fulfilled this criterion as well, thus indicating also good discriminant validity.

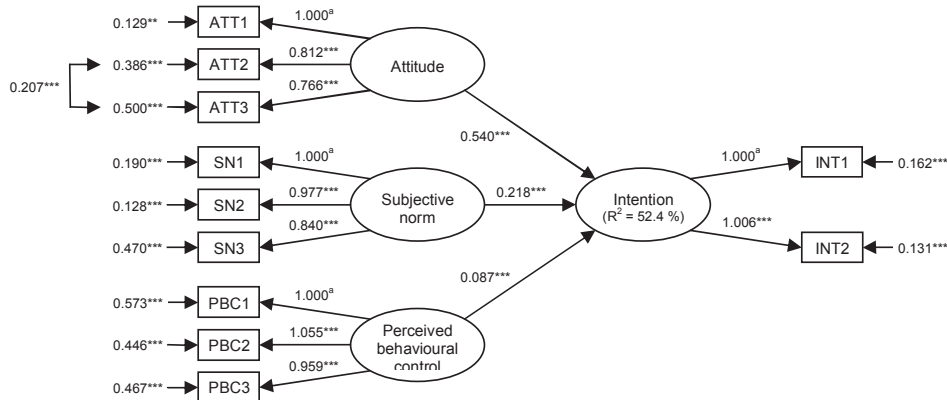
In addition, convergent and discriminant validity was evaluated by conducting an exploratory factor analysis (EFA) for the constructs and their measurement items using the PASW Statistics 18 software. The results of the EFA are listed in Table 4. As can be seen, each of the measurement items loaded highly on one construct only, and this construct was the one that the item was designed to measure. This provides further support for the good convergent and discriminant validity of the constructs and their measurement items.

Table 4. EFA of the measurement items using Promax rotation ($\kappa = 4$)

Item	Intention	Attitude	Subjective norm	Perceived behavioural control
INT1	0.904	0.054	0.008	-0.001
INT2	0.934	0.032	0.003	0.005
ATT1	0.164	0.762	0.031	0.016
ATT2	-0.081	0.994	0.008	0.024
ATT3	0.005	0.910	-0.020	-0.044
SN1	-0.007	-0.033	0.968	-0.006
SN2	0.035	-0.035	0.963	-0.038
SN3	-0.028	0.092	0.811	0.051
PBC1	0.009	0.046	-0.008	0.819
PBC2	0.024	-0.006	-0.038	0.902
PBC3	-0.029	-0.045	0.046	0.894

4.2 Model Estimation

The estimation of the TPB model was done using the MLR (robust maximum likelihood) estimator due to the non-normal distributions of nearly all of the measurement items. The initial TPB model (in which intention was measured by two items and the other three constructs by three items each and no correlation was allowed between the measurement errors) fitted to the data fairly well. The χ^2 test rejected the model ($\chi^2(38) = 199.011$, $p < 0.001$), but as discussed in Section 3.3, this was probably caused more by the sample size and model complexity than by actual problems in the model fit. The four alternative fit indices suggested good or at least sufficient fit to the data (CFI = 0.977, TLI = 0.967, RMSEA = 0.055, SRMR = 0.033). However, two exceptionally high modification indices of the model indicated that the model fit could still be significantly improved by either allowing intention to be measured also by the item ATT1 (MI = 73.712) or allowing the measurement errors of the items ATT2 and ATT3 to correlate (MI = 70.384). Because the latter modification can be easily justified also by theoretical arguments (e.g., the two items measured the same construct in a very similar manner and were positioned side by side in the survey questionnaire), a decision was made to implement it.

Figure 2. Estimated TPB model ($^{\circ}$ = fixed to 1, * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$)

The fit indices of the final model suggested an even better fit to the data. The χ^2 test still rejected the model ($\chi^2(37) = 131.317$, $p < 0.001$), but the other fit indices indicated an excellent fit (CFI = 0.987, TLI = 0.980, RMSEA = 0.042, SRMR = 0.030). In addition, none of the modification indices of the model anymore stood out as being exceptionally high. The parameter estimates of the final model are presented in Figure 2. As can be seen, the regressions of intention on attitude, subjective norm and perceived behavioural control were all statistically very significant ($p < 0.001$) and positive as had been hypothesised by TPB. The regression of intention on perceived behavioural control was very weak ($\beta = 0.087$), whereas the regressions of intention on subjective norm ($\beta = 0.218$) and attitude ($\beta = 0.540$) were relatively strong. Together attitude,

subjective norm and perceived behavioural control explained about half (52.4 %) of the total variance in intentions.

4.3 Gender Differences

The examination of the differences in the construct means and regression coefficients between men and women followed the phased testing procedure described in Section 3.3, and its results (in terms of changes in model fit) are summarised in Table 5. The procedure began by estimating the TPB model illustrated in Figure 2 separately for men and women without any additional constraints between the groups. The resulting full configural invariance model fitted to the data very well. Only the χ^2 test rejected the model ($\chi^2(74) = 180.401$, $p < 0.001$), whereas the other fit indices suggested a good fit (CFI = 0.985, TLI = 0.978, RMSEA = 0.045, SRMR = 0.033). Thus, the hypothesis on configural invariance between the groups was accepted. Next, metric invariance was tested by constraining the factor loadings to be equal between the groups and comparing the fit of the resulting full metric invariance model to the fit of the full configural invariance model. The χ^2 test suggested no significant deterioration in the model fit ($\Delta\chi^2(7) = 7.518$, $p > 0.05$), and this was supported by the other fit indices as well. Thus, also the hypothesis on full metric invariance between the groups was accepted.

Next, scalar invariance was tested by constraining also the item intercepts to be equal between the groups and comparing the fit of the resulting full scalar invariance model to the fit of the full metric invariance model. This time the χ^2 test suggested significant deterioration in the model fit ($\Delta\chi^2(7) = 48.247$, $p < 0.001$), and this was supported by the other fit indices as well, although the deterioration seemed to be not as severe as had been indicated by the χ^2 test. By far the highest modification index (MI = 42.805) was associated with the intercept of the item PBC2, suggesting its non-invariance between the groups. Thus, the hypothesis on full scalar invariance was rejected and the testing proceeded with partial scalar invariance. This was tested by relaxing the constraint concerning the intercept of the item PBC2 and re-comparing the fit of the resulting partial scalar invariance model to the fit of the full metric invariance model. The χ^2 test no longer suggested significant deterioration in the model fit ($\Delta\chi^2(6) = 4.714$, $p > 0.05$), and this was supported by the other fit indices as well. Thus, the hypothesis on partial scalar invariance (in which the intercept of the item PBC2 is non-invariant between the groups), was accepted.

Finally, the invariance of the regression coefficients was tested by constraining also them to be equal between the groups and comparing the fit of the resulting model to the fit of the partial scalar invariance model. The χ^2 test suggested no significant deterioration in the model fit ($\Delta\chi^2(3) = 3.887$, $p > 0.05$), and this was supported by the other fit indices as well. Thus, the hypothesis on the full invariance of the regression coefficients between the groups was accepted.

Table 5. Tests of measurement invariance between men and women

Model	CFI	TLI	RMSEA	SRMR	χ^2	df	Scaling correction factor	$\Delta\chi^2$	Δ df	p
Full configural invariance	0.985	0.978	0.045	0.033	180.401	74	1.100	-	-	-
Full metric invariance	0.985	0.980	0.043	0.034	187.975	81	1.092	7.518	7	0.377
Full scalar invariance	0.979	0.974	0.049	0.038	235.202	88	1.083	48.247	7	< 0.001
Partial scalar invariance	0.985	0.981	0.041	0.035	192.644	87	1.085	4.714	6	0.581
Full regression invariance	0.985	0.981	0.041	0.036	197.445	90	1.090	3.887	3	0.274

Although no full scalar invariance could be established between the groups, the construct means can still be meaningfully compared because each construct was measured by at least two items that had invariant factor loadings and item intercepts between the groups (Steenkamp & Baumgartner, 1998). A summary of this comparison is presented in Table 6, which also lists the values of the regression coefficients, the coefficients of determination and the non-invariant intercepts of the item PBC2 estimated for the final full regression invariance model. Note that the construct means of men had to be fixed to zero due to requirements related to model identification, meaning that men acted as a reference group for women. As can be seen, men and women did not differ significantly in terms of attitude, but women had a significantly stronger subjective norm and weaker perceived behavioural compared to men. Additionally, the actual intention of women to use music download stores was slightly weaker compared to men. Overall, the TPB model explained 53.6 % of the total variance in intentions among men and 51.6 % among women.

Table 6. Construct means (α), regression coefficients (β), non-invariant intercepts (ν) and coefficients of determination (R^2) for men and women ($^a =$ fixed to 0, $*$ = $p < 0.05$, $** = p < 0.01$, $*** = p < 0.001$)

Group	α_{INT}	α_{ATT}	α_{SN}	α_{PBC}	β_{INT_ATT}	β_{INT_SN}	β_{INT_PBC}	ν_{PBC2}	R^2
Men	0.000 ^a	0.000 ^a	0.000 ^a	0.000 ^a	0.544***	0.224***	0.070**	4.379***	53.6 %
Women	-0.107*	0.096	0.330***	-0.477***				4.064***	51.6 %

4.4 Age Differences

As in the case of gender, the examination of the differences in the construct means and regression coefficients across age groups followed the phased testing procedure described in Section 3.3, and its results (in terms of changes in model fit) are summarised in Table 7. The procedure began by estimating the TPB model illustrated in Figure 2 separately for the age groups of under 30 years, 30–44 years and 45 years or over without any additional constraints across the groups. The resulting full configural invariance model fitted to the data very well. Only the χ^2 test rejected the model ($\chi^2(111) = 211.925$, $p < 0.001$), whereas the other fit indices suggested a good fit (CFI = 0.986, TLI = 0.979, RMSEA = 0.044, SRMR = 0.033). Thus, the hypothesis on configural invariance across the groups was accepted. Next, metric invariance was tested by constraining the factor loadings to be equal across the groups and comparing the fit of the resulting full metric invariance model to the fit of the full configural invariance model. The χ^2 test suggested no significant deterioration in the model fit ($\Delta\chi^2(14) = 7.941$, $p > 0.05$), and this was supported by the other fit indices as well. Thus, also the hypothesis on full metric invariance across the groups was accepted.

Next, scalar invariance was tested by constraining also the item intercepts to be equal across the groups and comparing the fit of the resulting full scalar invariance model to the fit of the full metric invariance model. This time the χ^2 test suggested significant deterioration in the model fit ($\Delta\chi^2(14) = 37.987$, $p < 0.001$), and this was supported by the other fit indices as well, although the deterioration once again seemed to be not as severe as had been indicated by the χ^2 test. The highest modification index (MI = 12.612) was associated with the intercept of the item SN3 in the age group of under 30 years, suggesting its non-invariance between this group and the other groups. Thus, the hypothesis on full scalar invariance was rejected and the testing proceeded with partial scalar invariance. This was tested by relaxing the constraints concerning the intercept of the item SN3 in the age group of under 30 years and re-comparing the fit of the resulting partial scalar invariance model to the fit of the full metric invariance model. The χ^2 test still suggested significant deterioration in the model fit ($\Delta\chi^2(13) = 25.558$, $p < 0.05$), but because the $\Delta\chi^2$ value was already very close to the acceptance limit ($\Delta\chi^2_{0.05}(13) = 22.362$) and the suggestion was also no longer supported by the other fit indices, the decision was made to accept the hypothesis on partial scalar invariance (in which the intercept of the item SN3 is non-invariant between the age groups of under 30 years and the other age groups). This decision also received support from the modification indices of the model, none of which anymore stood out as being exceptionally high. The highest ones (MI = 6.203) were associated with the intercepts of the items SN1 and SN2 in the age group of under 30 years.

Finally, the invariance of the regression coefficients was tested by constraining them to be equal across the groups and comparing the fit of the resulting model to the fit of the partial scalar invariance model. The χ^2 test suggested significant deterioration in the model fit ($\Delta\chi^2(6) = 19.629$, $p < 0.01$), and this suggestion was supported by the other fit indices as well, especially SRMR. Thus, the hypothesis on the full invariance of the regression coefficients was rejected and the testing proceeded with the partial invariance of the regression coefficients. The highest modification index (MI = 19.730) was associated with the regression of intention on subjective norm in the age group of 45 years or over, suggesting its non-invariance between this group and the other groups. Thus, the constraints concerning it were relaxed and the fit of the resulting model was re-compared to the fit of the partial scalar invariance model. The χ^2 test no longer suggested significant deterioration in the model fit ($\Delta\chi^2(5) = 4.343$, $p > 0.05$), and this was supported by the other fit indices as well. Thus, the hypothesis on the partial invariance of the regression coefficients (in which the regression of intention on subjective norm is non-invariant between the age group of 45 years or over and the other age groups) was accepted.

Table 7. Tests of measurement invariance across age groups

Model	CFI	TLI	RMSEA	SRMR	χ^2	df	Scaling correction factor	$\Delta\chi^2$	Δdf	p
Full configural invariance	0.986	0.979	0.044	0.033	211.925	111	1.086	-	-	-
Full metric invariance	0.987	0.983	0.040	0.034	220.194	125	1.081	7.941	14	0.892
Full scalar invariance	0.984	0.981	0.043	0.038	257.864	139	1.072	37.987	14	< 0.001
Partial scalar invariance	0.985	0.982	0.041	0.036	245.109	138	1.071	25.558	13	0.019
Full regression invariance	0.983	0.980	0.043	0.049	269.900	144	1.079	19.629	6	0.003
Partial regression invariance	0.985	0.983	0.040	0.039	250.381	143	1.076	4.343	5	0.501

Although no full scalar invariance could be established across the groups, also in this case the construct means can still be meaningfully compared because each construct was measured by at least two items that had invariant factor loadings and item intercepts across the groups (Steenkamp & Baumgartner, 1998). A summary of this comparison is presented in Table 8, which also lists the values of the regression coefficients, the coefficients of determination and the non-invariant intercepts of the item SN3 estimated for the final partial regression invariance model. Note that the construct means of the age group of under 30 years had to be fixed to zero due to requirements related to model identification, meaning that this age group acted as a reference group for the other age groups. As can be seen, attitude was significantly more positive in the age group of 30–44 years compared to the other age groups, whereas subjective norm was significantly weaker in the age group of under 30 years and perceived behavioural control was significantly weaker in the age group of 45 years or over. All of the other differences in the construct means were statistically insignificant, as was the regression of intention on subjective norm in the age group of 45 years or over. Additionally, the actual intention to use music download stores did not differ significantly across the age groups. Overall, the TPB model explained 54.0 % of the total variance in intentions in the age group of under 30 years, 51.9 % in the age group of 30–44 years and 50.0 % in the age group of 45 years or over.

Table 8. Construct means (α), regression coefficients (β), non-invariant intercepts (ν) and coefficients of determination (R^2) for different age groups (^a = fixed to 0, * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$)

Group	α_{INT}	α_{ATT}	α_{SN}	α_{PBC}	$\beta_{INT,ATT}$	$\beta_{INT,SN}$	$\beta_{INT,PBC}$	ν_{SN3}	R^2
-29 years	0.000 ^a	0.000 ^a	0.000 ^a	0.000 ^a				2.471***	54.0 %
30–44 years	-0.015	0.248**	0.635***	-0.075	0.522***	0.291***	0.084***	2.276***	51.9 %
45– years	0.017	-0.107	0.682***	-0.847***		0.066			50.0 %

5. DISCUSSION AND FUTURE RESEARCH

This paper examined the applicability of the theory of planned behaviour (TPB) in explaining the usage intentions of music download stores as well as the gender and age differences in the core constructs of TPB and their interrelationships. Its results indicate that TPB can indeed be successfully applied to explain the usage intentions of music download stores. As hypothesised by TPB, the usage intentions regressed positively on both attitude and subjective norm towards using the stores as well as on perceived behavioural control over their usage. Attitude was by far the most important explanatory factor for the usage intentions, followed by subjective norm. In contrast, the effect of perceived behavioural control on the usage intentions was found to be only marginal. Together attitude, subjective norm and perceived behavioural control explained about half of the total variance in the usage intentions. Although this explanatory power can be considered satisfactory when compared to several other TPB studies (Ajzen, 1991), it still raises a question regarding the existence of other factors that might explain the remaining half. For example, could some other existing theory or model provide an even better explanatory power or should entirely new models and theories be crafted specifically for the purpose of digital music retailing? These questions obviously cannot be answered in the context of the present paper but provide an interesting topic for future research.

The results also revealed some significant gender and age differences in the core constructs of TPB and their interrelationships. For example, when comparing men and women, women seemed to have a stronger subjective norm towards using music download stores but weaker perceived behavioural control over their usage. Additionally, their actual usage intentions were slightly weaker. In contrast, when comparing different age groups, the age group of 30–44 years seemed to have a slightly more positive attitude towards using

music download stores, whereas perceived behavioural control over their usage was significantly weaker in the age group of 45 years or over. Both of these age groups also seemed to have a stronger subjective norm compared to the age group of under 30 years, although in the age group of 45 years or over, subjective norm was not found to have any influence on the usage intentions. However, no differences in the actual usage intentions were found across the age groups. Of these findings, especially the relatively negative attitude and weak subjective norm in the age group of under 30 years can be considered surprising, and it can perhaps be best explained by the popularity of alternative music acquisition channels, such as digital music piracy and illegal P2P file sharing, among this consumer segment (Bhattacharjee et al., 2003). Another interesting finding was the insignificant influence of subjective norm on the usage intentions in the age group of 45 years or over, which contradicts the prior findings by Venkatesh et al. (2003), suggesting that subjective norm should be more salient among elderly individuals, especially elderly women. An interesting additional finding was also the fact that the explanatory power of TPB did not seem to significantly differ across the groups, although it was slightly stronger for men than women and also seemed to weaken with age.

All in all, the results provide some interesting implications for the business models of music download stores. First and foremost, it seems that the business models should concentrate on improving the attitudinal evaluations towards using the stores because attitude was found to be by far the most important explanatory factor for the usage intentions. Attitudinal improvement seems to be especially important in the age groups of under 30 years and 45 years or over, in which attitudes were found to be slightly more negative compared to the age group of 30–44 years. Second, the business models should also concentrate on improving the normative evaluations towards using the stores because also subjective norm was found to be an important explanatory factor for the usage intentions, although only in the two youngest age groups. Normative improvement seems to be especially important among men and in the age group of under 30 years. Third, although perceived behavioural control over using the stores was found to have only a marginal effect on the usage intentions, its importance should not be overlooked either. This is because in addition to indirect effects on behaviour through intention, perceived behavioural control may potentially exert significant direct effects on behaviour as discussed in Section 2. Therefore, improvements in the control evaluations over using the stores are also important. In this respect, women and the age group of 45 years or over seem to be the most critical consumer segments.

Unfortunately, changes in attitudinal, normative and control evaluations are typically not easy to accomplish. This is especially true in the case of attitudinal evaluations, although various theories for attitudinal change (e.g., learning theories, attribution theories, cognitive consistency theories, high- and low-involvement information processing) have been proposed in prior literature (Sheth & Mittal, 2004). Typically, the systematic manipulation of the evaluations requires the elicitation of the belief composites underlying the aggregate constructs so that cognitive, affective and conative appeals for changing them can be designed and implemented (Ajzen, 1991; Sheth & Mittal, 2004). For example, what kind of beliefs do people possess (1) on the outcomes of using music download stores, (2) on the social pressures to either use or not use them and (3) on the factors that either facilitate or impede their usage? Therefore, the elicitation of these belief composites should be one of the main focuses of future research on digital music retailing.

6. LIMITATIONS

We consider this paper to have three main limitations. First, because a self-administered online survey was employed as a data gathering method, the results cannot be directly generalised to the whole Finnish population, but only to the Finnish Internet population. Second, the paper focused only on the main effects of gender and age on the core constructs of TPB and their interrelationships, and did not investigate the potential interactions of the two variables. Third, as discussed above, the paper also did not perform any further examination of the belief composites underlying the aggregate constructs, which obviously poses some limitations on the practical applicability of the results.

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VII

WHY HAVEN'T PEOPLE ADOPTED MUSIC DOWNLOAD STORES?

by

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WHY HAVEN'T PEOPLE ADOPTED MUSIC DOWNLOAD STORES?

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ABSTRACT

The consumption of digital music has increased rapidly during the past decade. Despite the optimistic visions that have appeared since the beginning of the 2000s, only a small proportion of the business opportunities have actualised and been successful. Instead, the music industry has faced several problems, especially the prevalence of digital piracy. However, digital piracy is not the only problem. Several studies have also shown that music download stores have not succeeded to meet the consumers' fundamental needs, wants and expectations. In this paper, we provide an analysis of the reasons for not using music download stores. There were two objectives for the study. First, we aimed to find out the primary and secondary reasons for the non-usage of music download stores. Second, we were interested in whether there are some dependencies between the reasons for the non-usage and the two demographic factors that are often included in technology adoption studies, namely gender and age. The research is based on an online survey conducted in June 2010. A total of 1 447 complete and valid responses were included in the preliminary analysis, in which the respondents were first classified as either adopters or non-adopters of music download stores. Next, 1 034 non-adopters' responses were included in the further analysis of the reasons for the non-usage. The results show that the adoption of music download stores may be low because (1) people still want a physical product, (2) they do not buy music in general, or (3) they are used to acquire their music elsewhere. Partially these and other reasons of a lesser importance are intertwined, which suggests that further studies are necessary. The study also revealed a number of dependencies between the demographic factors and the selected reasons. These findings were in line with earlier studies.

KEYWORDS

Digital music, music download stores, non-usage

1. INTRODUCTION

The consumption of digital music has increased rapidly during the past decade, and the trend seems to remain similar in the near future. Despite the optimistic visions that have appeared since the beginning of the 2000s, only a small proportion of the business opportunities have actualised and been successful. Instead, the music industry has faced several problems, especially the prevalence of digital piracy (e.g., Halttunen et al., 2010a, 2010b; Hill, 2007) whose effects on the sales of recorded music, however, still remain a controversial issue (e.g., Oberholzer-Gee & Strumpf, 2007 vs. Liebowitz, 2008). Besides the problem of digital piracy, another major problem deals with the properties of music download stores. Several studies argue that music download stores have not succeeded to meet the consumers' fundamental needs, wants and expectations (e.g., Amberg & Schröder, 2007). Altogether, the increase in the digital sales has also not been able to offset the sharp drop in the sales of physical formats (IFPI, 2010).

In the beginning of the 2000s, the biggest barriers to online shopping in general seemed to be security and privacy concerns (Ahuja et al., 2003). A few years later, Kunze and Mai (2007) noticed that the adoption of online music services was mainly affected by quality problems in the music files, problems in the ease of use as well as security problems. They also noticed some differences between the attitudes of different user profiles (heavy-downloaders, light-downloaders and non-downloaders). Especially, they argued that both heavy and light downloaders differ from non-downloaders in certain respects. Above all, the fact that both heavy and light downloaders are used to pay for music while non-downloaders are not, should have an important implication for music marketing in the future. For example, young consumers, who most typically

utilise free channels for acquiring music, can easily slip to the illegal side for the rest of their life if they are not affected by new and innovative marketing strategies (see also Bhattacharjee et al., 2003).

A study by Soopramanien et al. (2007) provides quite a similar finding on the importance of well-established behaviour. They found that the perceived risks of purchasing online do not decrease the intention to buy online when customers have experience in online shopping. Furthermore, Stahl and Maass (2008) note that earlier experience in both paid non-digital and paid digital content will accelerate the adoption of new paid digital content.

As discussed above, the low usage level of music download stores can result from both poor quality of the stores and the attractiveness of alternative acquisition channels. Interestingly, Waldfogel (2010) has noted that illegal music file sharing and sales displacement has not changed during the era of the most successful music download store, iTunes Store. He found (in 2009/2010) that for each 3–6 stolen songs one fewer song is purchased, which indicates a 15–30 % drop in the music sales. The numbers are very similar to earlier studies (e.g., Liebowitz, 2004; Liebowitz, 2005). This may indicate that the piracy problem of the early 2000s cannot be explained entirely by the absence of legal acquisition channels of digital music, since the problem has remained the same also after the emergence of music download stores.

To sum up, there is a need for finding valid explanations why so few people have adopted music download stores. Consumers' attitudes towards the stores are not very well known. Especially, it is time to ask the consumers themselves why they have never adopted the stores. According to earlier studies, there are two demographic factors – gender and age – that have a very significant role in the adoption of new technologies (e.g., Venkatesh & Morris, 2000; Morris & Venkatesh, 2000). We find that including these factors in the investigation can reveal important information on the attitudes of different consumer segments.

The rest of the paper is organised as follows: In the next section, we describe the research questions and the methodology of our study. In Section 3, the main findings are presented. Finally, Chapter 4 provides the conclusions and limitations of the study as well as some ideas for further studies.

2. RESEARCH QUESTIONS AND METHODOLOGY

Since little is known about the actual reasons why so many people have not yet adopted music download stores, we carried out a survey in which this issue was dealt with. Our research questions were as follows:

Question 1: Which are considered by consumers as the primary reasons for the non-usage of music download stores?

Question 2: Are there some additional reasons (referred as secondary reasons in the rest of the paper) for the non-usage of music download stores?

Question 3: Do the answers of consumers of different age groups or gender differ from each other?

To answer the research questions, a self-administered online survey was conducted among Finnish consumers. The survey questionnaire was composed using the LimeSurvey 1.87+ software, and before the actual survey, its structure and usability were pre-tested using several postgraduate students and industry experts. The actual survey was launched in June 2010, and it was online for three weeks. During this time, the survey link was promoted by sending multiple invitation e-mails through the internal communication channels of our own university as well as through an electronic mailing list provided by a Finnish retail chain, which contained 5 000 e-mail addresses of their randomly sampled regular customers. In addition, the survey link was posted to two websites promoting online competitions and surveys, as well as to two music related discussion forums. To raise the response rate, all the respondents who completed the survey were also offered an opportunity to take part in a prize drawing, in which 41 gift cards with a total worth of 1 500 € were raffled among them.

Altogether, the survey questionnaire consisted of 108–112 items (depending on responses). However, only four of these items were used for the purpose of this paper. Gender and age were each measured by one item. The measurement scale for gender was nominal (male or female) while age was originally measured using an interval scale but was later categorised into five age groups (under 25 years, 25–34 years, 35–44 years, 45–54 years and 55 years or over).

The adoption of download stores was measured by asking the respondents whether or not they had ever purchased music from a music download store. Those who had purchased were classified as adopters, whereas those who had not purchased were classified as non-adopters. Of course, the respondents also had an

opportunity to not answer the question, in which case their status remained unclassified. For the non-adopters, there was also an additional item which investigated the primary and secondary reasons for the non-usage of music download stores. The item consisted of sixteen pre-defined reasons and an open field for reasons outside the pre-defined list. The list was based on the findings of our previous interview study (Halttunen et al., 2010b; Makkonen et al., 2010a). The respondents were asked to select one reason as the primary reason and an unrestricted number of reasons as secondary reasons.

The dependencies between gender and age as well as the primary and secondary reasons were analysed using contingency tables, the Pearson's χ^2 -tests of independence and the Cramér's V coefficients. As a tool for the analysis we used the PASW Statistics 18 software.

3. FINDINGS

3.1 Adoption of Music Download Stores

We received a total of 1 447 complete and valid responses. The mean response time for the survey was about 17 minutes, suggesting that the questionnaire was rather long for a self-administered online survey. This was also indicated by the relatively high drop-off rate, which was 25.9 %. However, we do not consider the response time or the drop-off rate too high in terms of suggesting severe respondent fatigue.

Of the 1 447 respondents, 42.3 % were men and 57.7 % were women. The mean age of the respondents was 36.4 years (SD = 12.7 years), and 19.4 % of them belonged to the age group of under 25 years, 33.1 % to the age group of 25–34 years, 19.2 % to the age group of 35–44 years, 17.8 % to the age group of 45–54 years, and 10.5 % to the age group of 55 years or over. Overall, the gender and age distributions of the sample matched quite well the gender and age distributions of the Finnish Internet population in 2007 (Statistics Finland, 2010). Women and the age group of 25–34 years were slightly overrepresented, whereas men and the age group of 55 years or over were underrepresented. However, there were no indications of severe non-response bias in terms of these two demographic factors.

The dependencies between the adoption of music download stores and the two demographic factors are presented in Tables 1 and 2. At this phase, 57 responses were dropped out of the analysis (new N = 1390) since these respondents had selected the 'no response' option to the adoption question. As it can be seen from the tables below, in terms of gender, men seem to be more active adopters of music download stores than women ($p = 0.024$). In terms of age, young people seem to be more active adopters than older people ($p < 0.001$). However, an interesting exception can be found in the youngest age group, in which the adoption rate was considerably lower than the next two age groups. A more in-depth analysis on these and some additional dependencies between the adoption of music download stores and several socioeconomic characteristics and personality variables can be found in Makkonen et al. (2010b).

Table 1. Adoption of music download stores ($\chi^2(1) = 5.078$, $p = 0.024$) between men and women

		Male	Female	Total
Has adopted music download stores?	Yes	28.3 %	23.0 %	25.3 %
	No	71.7 %	77.0 %	74.7 %
N		586	804	1 390

Table 2. Adoption of music download stores ($\chi^2(4) = 66.522$, $p < 0.001$) across age groups

		-24	25-34	35-44	45-54	55-	Total
Has adopted music download stores?	Yes	21.0 %	34.3 %	31.0 %	19.8 %	4.0 %	25.3 %
	No	79.0 %	65.7 %	69.0 %	80.2 %	96.0 %	74.7 %
N		262	452	274	253	149	1 390

3.2 Reasons for the Non-Usage of Music Download Stores

The responses of the non-adopters were analysed next. As stated above, they formed about three-fourths of all the responses. A small number of the non-adopters' responses could not be included in this phase due to

their inconsistency (new N = 1034). For example, some respondents had selected several primary reasons, which was not acceptable for the analysis.

In terms of the primary reasons for the non-usage of music download stores, the top-3 list is quite clear (Table 3). By far the most important primary reasons seem to be that consumers still want a physical product (25 %), they do not buy music in general (22 %) or they are used to acquire their music elsewhere (20 %). These three reasons are followed by 'I do not shop online' (9 %). The other reasons are in a minor role (4 % or less for each reason).

Table 3. Primary reasons for the non-usage of music download stores (N = 1034)

Primary reason	%
I want a physical product	25
I do not buy music	22
I am used to acquire music elsewhere	20
I do not shop online	9
I do not possess the necessary skills or knowledge	4
Music sold in music download stores includes too many restrictions for its usage and copying	4
Music sold in music download stores costs too much	3
It is too difficult or laborious to use music download stores	2
I do not possess the necessary hardware, software or connections	2
Selection of music in music download stores is not good enough or does not meet my needs	2
I do not possess the necessary means of payment	1
I am not sure about the legality of music download stores or the music they are selling	1
I may not be able to re-download the music bought from a music download store if necessary	1
Music download stores are bad for artists or other people working in the music industry	1
Using music download stores includes too many risks for security and privacy	1
Quality of the music sold in music download stores is not good enough	1
Other reasons	2

Table 4. Secondary reasons for the non-usage of music download stores (N = 1034)

Secondary reason	%
I am used to acquire music elsewhere	26
I want a physical product	18
I may not be able to re-download the music bought from a music download store if necessary	17
It is too difficult or laborious to use music download stores	16
I do not possess the necessary skills or knowledge	14
Music sold in music download stores includes too many restrictions for its usage and copying	14
Music sold in music download stores costs too much	14
I am not sure about the legality of music download stores or the music they are selling	12
Selection of music in music download stores is not good enough or does not meet my needs	12
I do not shop online	11
Using music download stores includes too many risks for security and privacy	9
I do not possess the necessary hardware, software or connections	9
I do not possess the necessary means of payment	9
I do not buy music	7
Quality of the music sold in music download stores is not good enough	7
Music download stores are bad for artists or other people working in the music industry	6
Other reasons	4
Number of selected secondary reasons:	
Minimum = 0, Maximum = 16, Mean = 1.96, SD = 2.21	

The list of the secondary reasons was somewhat different from the list of the primary reasons (Table 4). However, the two items on the top were also included in the top-3 items of the primary reasons ('I am used to acquire music elsewhere' 20 % and 'I want a physical product' 18 %). Since the respondents were able to select several items as secondary reasons, this list was a bit more scattered than the list of the primary reasons. Some items that were not frequently selected as primary reasons got attention as secondary reasons. The best example of these items was 'I may not be able to re-download the music bought from a music download store if necessary', which was selected as the primary reason by only 1 % of the respondents while as a secondary reason it was selected by 17 % of the respondents.

The category 'Other reasons' in both primary reasons (selected by 2 % of the respondents) and secondary reasons (selected by 4 % of the respondents) consisted of a variety of different statements. Most of these

statements dealt with issues similar to the top items of the pre-defined reasons. A few statements about the bad quality or unavailability of music in music download stores and arguments against the music industry in general were also included.

We also analysed the frequency of the secondary reasons in connection with the top-3 primary reasons. The results are presented in Table 5. It can be seen that the first and third most important primary reasons (R1 and R3) seem to accompany each other as primary and secondary reasons. Especially, those who have selected R3 as the primary reason have most often selected R1 as a secondary reason. Instead, those who have selected R2 as the primary reason have selected R1 as a secondary reason quite seldom (15.3 %, 9th). When R2 is selected as the primary reason, R3 is selected as secondary reason by 23 % of the respondents (3rd). R2 as the primary reason is most frequently linked with the secondary reason that is 10th on the secondary reasons list and 4th on the primary reasons list ('I do not shop online'). It is also interesting that those who have selected R1 as a primary reason ('I want a physical product') have selected, on average, much more secondary reasons than those who have selected R2 or R3 as primary reasons.

Table 5. Frequency of secondary reasons when a top-3 primary reason is selected (N = 1034), R1 = 'I want a physical product', R2 = 'I do not buy music', R3 = 'I am used to acquire music elsewhere'

Secondary reasons	Primary reasons		
	R1	R2	R3
I am used to acquire music elsewhere	30.7 %	23.0 %	-
I want a physical product	-	15.3 %	30.0 %
I may not be able to re-download the music bought from a music download store if necessary	31.8 %	13.3 %	15.0 %
It is too difficult or laborious to use music download stores	22.1 %	17.8 %	19.6 %
I do not possess the necessary skills or knowledge	26.1 %	10.9 %	26.5 %
Music sold in music download stores includes too many restrictions for its usage and copying	30.8 %	21.2 %	14.4 %
Music sold in music download stores costs too much	24.1 %	25.5 %	17.7 %
I am not sure about the legality of music download stores or the music they are selling	27.6 %	13.0 %	24.4 %
Selection of music in music download stores is not good enough or does not meet my needs	32.0 %	18.4 %	16.8 %
I do not shop online	21.6 %	34.2 %	13.5 %
Using music download stores includes too many risks for security and privacy	27.1 %	10.4 %	16.7 %
I do not possess the necessary hardware, software or connections	18.9 %	15.6 %	24.4 %
I do not possess the necessary means of payment	22.3 %	19.1 %	17.0 %
I do not buy music	16.4 %	-	24.7 %
Quality of the music sold in music download stores is not good enough	29.7 %	10.8 %	18.9 %
Music download stores are bad for artists or other people working in the music industry	24.2 %	6.5 %	17.7 %
Mean of selected secondary reasons for each primary reason	24.1 %	15.9 %	18.6 %

3.3 Dependencies between the Reasons and Demographic Factors

According to our research questions, we also analysed the potential dependencies between the two demographic factors (gender and age) as well as the primary and secondary reasons for the non-usage of music download stores. All of the primary and secondary reasons were analysed against gender and age. In the following, we present briefly only those dependencies that were found to be statistically significant (at the level of $p < 0.01$) and also sufficiently significant in terms of effect size (Cramér's $V > 0.1$).

We did not find any strong dependencies between gender and the primary reasons. Instead, a number of dependencies were found between gender and the secondary reasons. Most of these dependencies were statistically very significant (Tables 6. and 7.), and it is also quite easy to perceive that the dependencies conform to some typical assumptions on the differences between men and women in terms of attitudes and behaviour. More precisely, it seems that the female respondents are more unsure or suspicious about certain things (such as their own skills, legality issues as well as technical facilities) while the male respondents seem to be more dissatisfied with the current properties of either music download stores themselves or the music they are selling.

Table 6. Summary of the statistically significant dependencies between gender and the secondary reasons for not using music download stores (N=1034), S = secondary reason

Selected reason	'Yes' within gender		Total
	Male	Female	
I do not possess the necessary skills or knowledge (S)	6.4 %	19.3 %	14.2 %
Music sold in music download stores includes too many restrictions for its usage and copying (S)	23.0 %	8.3 %	14.1 %
I do not possess the necessary hardware, software or connections (S)	4.7 %	11.3 %	8.7 %
Selection of music in music download stores is not good enough or does not meet my needs (S)	17.6 %	8.5 %	12.1 %
I am not sure about the legality of music download stores or the music they are selling (S)	7.6 %	14.7 %	11.9 %
I may not be able to re-download the music bought from a music download store if necessary (S)	22.8 %	12.8 %	16.7 %
Quality of the music sold in music download stores is not good enough (S)	12.5 %	3.7 %	7.2 %
N within gender	408	626	1034

Table 7. Summary of the χ^2 -tests and Cramér's V coefficients

Dependency	χ^2	df	Asymp. Sig.	Cramér's V
I do not possess the necessary skills or knowledge	34.001	1	< 0.001	0.181
Music sold in music download stores includes too many restrictions for its usage and copying	44.212	1	< 0.001	0.207
I do not possess the necessary hardware, software or connections	13.891	1	< 0.001	0.116
Selection of music in music download stores is not good enough or does not meet my needs	19.590	1	< 0.001	0.138
I am not sure about the legality of music download stores or the music they are selling	11.876	1	0.001	0.107
I may not be able to re-download the music bought from a music download store if necessary	17.782	1	< 0.001	0.131
Quality of the music sold in music download stores is not good enough (S)	28.958	1	< 0.001	0.167

When considering the relationships between the age groups and the primary reasons, two significant dependencies were found (Tables 8. and 9.). First, those who selected the item 'I do not buy music' as a primary reason were more often younger people. Second, those who selected the item 'I do not shop online' as a primary reason were more typically older people. The latter finding is not surprising while the former somehow is since young people are typically active consumers of digital music. Thus, a relevant candidate for explaining this is that young people tend to acquire their music via free channels. Regarding the secondary reasons, the findings are similarly straightforward as the findings above concerning the gender-related dependencies. Only this time, older people tend to be more unsure or suspicious about their own skills or technical facilities, whereas younger people pay more attention to the properties of music download stores and the music itself.

Table 8. Summary of the statistically significant dependencies between age as well as the primary and secondary reasons for not using music download stores (N = 1034), P = primary, S = secondary

Selected reason	'Yes' within age group					Total
	-24	25-34	35-44	45-54	55-	
I do not buy music (P)	31.6 %	23.2 %	20.0 %	17.0 %	16.7 %	22.3 %
I do not shop online (P)	8.0 %	4.4 %	9.3 %	9.0 %	21.2 %	9.1 %
I do not possess the necessary skills or knowledge (S)	8.5 %	7.1 %	15.1 %	26.1 %	21.2 %	14.2 %
Music sold in music download stores includes too many restrictions for its usage and copying (S)	16.5 %	22.2 %	8.3 %	9.6 %	7.6 %	14.1 %
Music sold in music download stores costs too much (S)	19.3 %	17.5 %	11.2 %	8.5 %	6.8 %	13.6 %
I do not possess the necessary hardware, software or connections (S)	4.2 %	5.7 %	9.8 %	14.9 %	12.1 %	8.7 %
Selection of music in music download stores is not good enough or does not meet my needs (S)	16.0 %	18.2 %	6.3 %	7.4 %	7.6 %	12.1 %
I am not sure about the legality of music download stores or the music they are selling (S)	9.4 %	6.1 %	12.2 %	20.2 %	16.7 %	11.9 %
I may not be able to re-download the music bought from a music download store if necessary (S)	23.1 %	22.9 %	13.2 %	10.1 %	7.6 %	16.7 %
N within age group	212	297	205	188	132	1034

Table 9. Summary of the χ^2 -tests and Cramér's V coefficients (age group vs. reasons for non-usage)

Dependency	χ^2	df	Asymp. Sig.	Cramér's V
I do not buy music (P)	16.784	4	0.002	0.127
I do not shop online (P)	31.755	4	< 0.001	0.175
I do not possess the necessary skills or knowledge (S)	45.207	4	< 0.001	0.209
Music sold in music download stores includes too many restrictions for its usage and copying (S)	30.682	4	< 0.001	0.172
Music sold in music download stores costs too much (S)	20.058	4	< 0.001	0.139
I do not possess the necessary hardware, software or connections (S)	19.912	4	0.001	0.139
Selection of music in music download stores is not good enough or does not meet my needs (S)	26.199	4	< 0.001	0.159
I am not sure about the legality of music download stores or the music they are selling (S)	26.167	4	< 0.001	0.159
I may not be able to re-download the music bought from a music download store if necessary (S)	30.028	4	< 0.001	0.170

4. CONCLUSIONS

Our study reveals several issues that deserve attention in both further research and practical endeavours to improve the quality of music download stores. Several studies prior to this study have already brought out that music download stores have not succeeded to meet the consumers' fundamental needs, wants and expectations (e.g., Amberg & Schröder, 2007; Halttunen et al., 2010a). Thus, we believe that revealing the reasons for the non-usage of music download stores is a step to better solutions. This can also make the expectations for the future more realistic.

According to our study, the most important reasons for the non-usage of music download stores were that (1) consumers still want a physical product, (2) they tend to acquire their music elsewhere, or (3) they do not buy music in general. Although these findings can be explained in several different ways, one conclusion is straightforward: quite many consumers see special value in having a physical product. This finding is in line with the findings of some earlier studies (e.g., Makkonen et al., 2010a). One could argue that for this consumer segment, there is no need for music download stores. However, as Andersen and Frenz (2010) point out, CDs and digital music in the Internet can fruitfully live in parallel. Hence, music consumers who absolutely want to have music on CDs should not be coaxed to replace their CDs with digital music. Instead, their attitudes and values should be respected and they should be provided with digital music as complementary products.

The finding that people prefer other acquisition channels to music download stores indicates that either (1) consumers want a physical product, (2) they use other paid digital acquisition channels, or (3) they use other free digital acquisition channels. The first option is relevant for a relative large segment of consumers as shown above. The second option is also possible, but to a certain extent it is in contrast to our finding that relatively many of the respondents mentioned that they do not buy music in general. Thus, we assume that those who do not buy CDs, most frequently turn to free acquisition channels of digital music. It is obvious that a great deal of this music is illegally distributed over the Internet, although lately we have also witnessed the emergence of several legal alternatives, such as the Swedish subscription service Spotify.

Interestingly, those factors that earlier seemed to be very important barriers to online shopping in general and to online music services in particular, namely security and privacy concerns (Ahuja et al., 2003; Kunze & Mai, 2007), did not get very much attention in our study (only 1 % as a primary reason and 9% as a secondary reason).

We also found differences in the attitudes of men and women as well as different age groups. Our findings are similar to the earlier studies that have considered the effects of these two factors on the adoption of new technologies (e.g., Venkatesh & Morris 2000; Morris & Venkatesh 2000). Briefly, women and older people are more likely to emphasise the factors that are related to skills and facilities (e.g., how easy it is to use the technology), whereas men and younger people tend to pay more attention on the outcomes and performance (what is gained by using the technology).

To sum up, our analysis shows that there are factors that make the music consumption market relatively scattered. Therefore, we suggest that the music industry should consider a strategy that more carefully takes into account the diversified needs, wants and expectations of several consumer segments.

Our study has a few limitations. First, due to the data gathering method employed, the sample can be somewhat biased. Therefore, generalisations to the entire population need to be done with a special caution. Second, since our aim was to provide an overall study about the reasons for the non-usage of music

download stores, we were not able to analyse all the detailed aspects and variations of the reasons. Hence, there can be some overlaps between the pre-defined reasons. Third, the dependencies between the demographic factors and the reasons for the non-usage were analysed one dependency at a time, which means that there is a need to further study the interactions between the variables. Finally, the classification of respondents into only two categories (adopters and non-adopters) is very simplified, yet arguable for practical reasons. In the further studies, this classification could be extended.

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Correction to Article 7

N(answered to some questions) = 1833

N(answered to all questions): 1447

N(no response to whether or not used music download stores) = 57

N(N(answered to all questions) - N(no response to whether or not used music download stores)) = 1390 (incorrect N)

N(answered whether or not used music download stores) = 1610 (correct N)

Sukupuoli

	Frequency	Percent	Valid Percent	Cumulative Percent
Nainen	949	58.9	58.9	58.9
Mies	661	41.1	41.1	100.0
Total	1610	100.0	100.0	

Ikä

	Frequency	Percent	Valid Percent	Cumulative Percent
-24	303	18.8	18.8	18.8
25-34	495	30.7	30.7	49.6
35-44	332	20.6	20.6	70.2
45-54	293	18.2	18.2	88.4
55-	187	11.6	11.6	100.0
Total	1610	100.0	100.0	

Musiikin ostaminen latauskaupoista * Sukupuoli Crosstabulation

		Sukupuoli		Total
		Nainen	Mies	
Musiikin ostaminen latauskaupoista	Kyllä	Count 210 22.1%	Count 180 27.2%	Count 390 24.2%
	Ei	Count 739 77.9%	Count 481 72.8%	Count 1220 75.8%
Total		Count 949 100.0%	Count 661 100.0%	Count 1610 100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.527 ^a	1	.019		
Continuity Correction ^b	5.253	1	.022		
Likelihood Ratio	5.488	1	.019	.021	.011
Fisher's Exact Test					
Linear-by-Linear Association	5.524	1	.019		
N of Valid Cases	1610				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 160.12.

b. Computed only for a 2x2 table

Symmetric Measures

	Value	Approx. Sig.
Phi	-.059	.019
Nominal by Nominal Cramer's V	.059	.019
N of Valid Cases	1610	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Musiikin ostaminen latauskaupoista * Ikä Crosstabulation

		A2_X_Y				Total
		-24	25-34	35-44	45-54	
Musiikin ostaminen latauskaupoista	Kyllä	Count 63	Count 164	Count 94	Count 60	Count 9
	% within Ikä	20.8%	33.1%	28.3%	20.5%	4.8%
Total	Ei	Count 240	Count 331	Count 238	Count 233	Count 178
	% within Ikä	79.2%	66.9%	71.7%	79.5%	95.2%
Total		Count 303	Count 495	Count 332	Count 293	Count 187
		% within Ikä	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	66.990 ^a	4	.000
Likelihood Ratio	79.284	4	.000
Linear-by-Linear Association	23.634	1	.000
N of Valid Cases	1610		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 45.30.

Symmetric Measures

	Value	Approx. Sig.
Nominal by Nominal	.204	.000
Phi	.204	.000
Cramer's V	.1610	.000

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.