JYU DISSERTATIONS 154

Markus Makkonen

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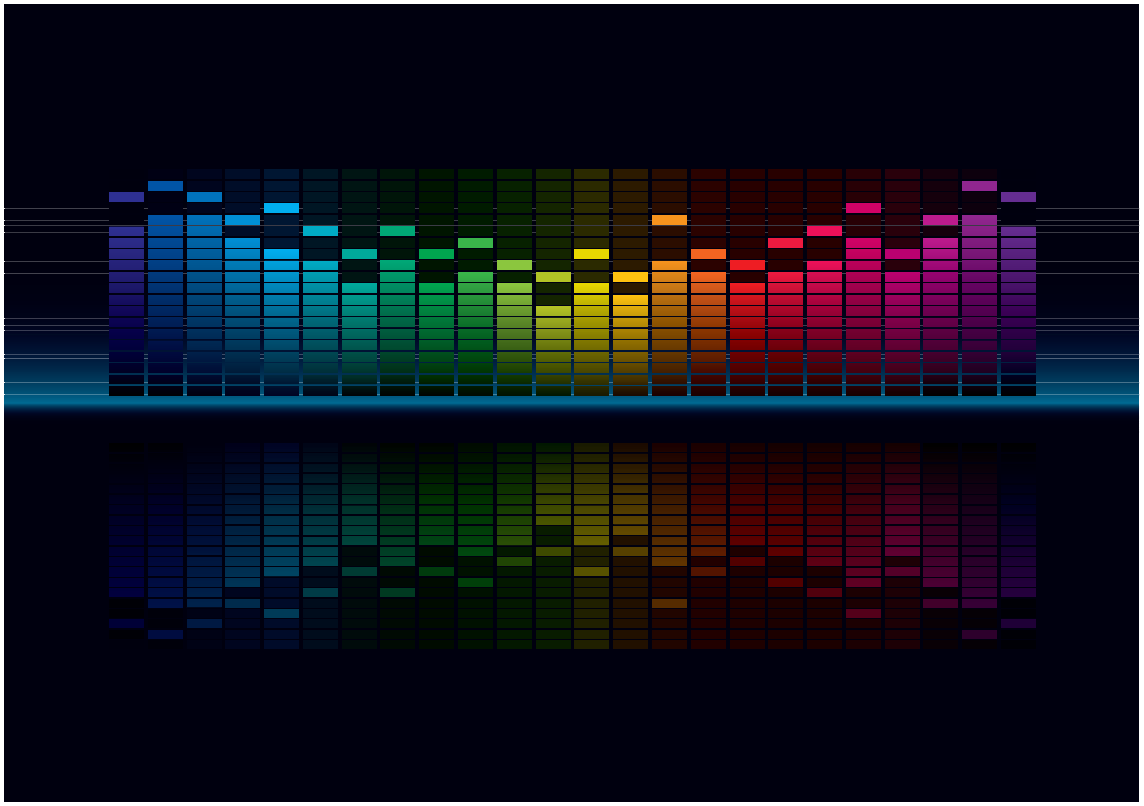
The Case of Purchasing Digital Music from Music Download Stores in Finland



UNIVERSITY OF JYVÄSKYLÄ
FACULTY OF INFORMATION TECHNOLOGY

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A Context-Specific and Dualistic Examination of Consumer Behaviour in the Context of Digital Products

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Esitetään Jyväskylän yliopiston informaatioteknologian tiedekunnan suostumuksella
julkisesti tarkastettavaksi yliopiston Agora-rakennuksen Lea Pulkkisen salissa
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in building Agora, Lea Pulkkinen hall, on December 14, 2019 at 12 o'clock noon.

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ABSTRACT

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Although digital products have become an important part of the lives of many consumers, there are several gaps in our understanding of their consumption behaviour. In particular, there seems to be an urgent call for studies that examine the phenomenon from a more context-specific and a dualistic perspective that focuses on both the enablers and inhibitors of information systems (IS) acceptance and use. The objective of this thesis is to address this call. In doing so, the thesis argues to be able to promote not only the breadth and depth of the present theoretical understanding of consumer behaviour in the context of digital products but also the relevance of the conducted research to practice. To evidence this argument, a case study is conducted, concentrating on the case context of consumer purchase behaviour in music download stores. The empirical data for the case study, which was collected from Finnish consumers in an interview study and two survey studies, is analysed in a mixed methods manner by using both qualitative and quantitative methods. The main findings of the thesis are two new theories for explaining consumer purchase behaviour in music download stores. Through these theories and its other findings, the thesis demonstrates its ability to promote both the depth and breadth of the present theoretical understanding of consumer purchase behaviour in music download stores. This is manifested as three new rich theoretical insights concerning the pronounced role of existing practices and preferences, risk perceptions, and the utilitarian versus hedonic dimension as antecedents of consumer purchase behaviour in music download stores. After discussing the generalisability of its findings from the specific case context of digital music to the broader context of digital products as well as its contributions to IS research in general, the thesis also demonstrates how its more context-specific and dualistic perspective can promote the relevance of the conducted research to practice. To do this, the thesis proposes a four-step "recipe" of concrete managerial actions for promoting the adoption of music download stores and, potentially, of other types of stores and services that sell digital products. The thesis concludes with a brief discussion of its main limitations and potential paths for future research.

Keywords: digital products, digital music, music download stores, case study, context-specific, enablers, inhibitors, consumer behaviour, Finland

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TIIVISTELMÄ (ABSTRACT IN FINNISH)

Makkonen, Markus
Kontekstispesifinen ja dualistinen tutkimus kuluttajakäyttäytymisestä digitaalisten tuotteiden kontekstissa: Case digitaalisen musiikin ostaminen musiikin latauskaupoista Suomessa
Jyväskylä: University of Jyväskylä, 2019, 177 s. (+ alkuperäiset julkaisut)
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Vaikka digitaaliset tuotteet ovat tulleet olennaiseksi osaksi monien kuluttajien arkea, ymmärryksessämme niitä koskevasta kuluttajakäyttäytymisestä on monia merkittäviä puutteita. Niiden korjaamiseksi on tarvetta lisätutkimuksille, jotka tarkastelevat ilmiötä sekä nykyistä kontekstispesifisemmästä että dualistisesta näkökulmasta, joka huomioi paitsi tietojärjestelmien omaksumisen ja käytön mahdollistavat, myös niitä estävät tekijät. Tämän väitöskirjan tavoitteena on vastata edellä mainittuun tarpeeseen, mitä kautta se väittää samalla pystyvänsä paitsi sekä laajentamaan että syventämään nykyistä teoreettista ymmärrystä digitaalisia tuotteita koskevasta kuluttajakäyttäytymisestä, myös parantamaan tehdyn tutkimuksen relevanssia käytännön kannalta. Väitteen todistamiseksi toteutetaan tapaustutkimus, jossa tarkastellaan kuluttajien ostokäyttäytymistä musiikin latauskaupoissa. Sen empiiristä aineistoa, joka kerättiin suomalaisilta kuluttajilta haastattelututkimuksessa ja kahdessa kyselytutkimuksessa, analysoidaan monimenetelmällisesti sekä laadullisia että määrällisiä tutkimusmenetelmiä käyttäen. Tärkeimmät tutkimustulokset ovat kaksi täysin uutta teoriaa kuluttajien ostokäyttäytymisen selittämiseen musiikin latauskaupoissa. Kyseisten teorioiden ja muiden tutkimustulostensa kautta väitöskirja osoittaa pystyvänsä sekä laajentamaan että syventämään nykyistä teoreettista ymmärrystä kuluttajien ostokäyttäytymisestä musiikin latauskaupoissa. Tämä voidaan kiteyttää kolmeksi uudeksi johtopäätökseksi koskien olemassa olevien käytänteiden ja mieltymysten, koettujen riskien sekä utilitaristisen ennemmin kuin hedonististen tekijöiden korostunutta roolia kuluttajien ostokäyttäytymistä musiikin latauskaupoissa selittävinä tekijöinä. Lopuksi väitöskirja pohtii tutkimustulostensa yleistettävyyttä digitaalisen musiikin kontekstista laajempaan digitaalisten tuotteiden kontekstiin sekä niiden yleisemmän tason kontribuutioita tietojärjestelmätieteen tutkimukselle. Lisäksi väitöskirja myös osoittaa, kuinka sen nykyistä kontekstispesifisempi ja dualistinen näkökulma pystyy parantamaan tehdyn tutkimuksen relevanssia käytännön kannalta.

Avainsanat: digitaaliset tuotteet, digitaalinen musiikki, musiikin latauskaupat, tapaustutkimus, kontekstispesifisyys, mahdollistajat, estäjät, kuluttajakäyttäytyminen, Suomi

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Jyväskylä 25.11.2019
Markus Makkonen

FIGURES

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RA2 Makkonen, M., Halttunen, V. & Frank, L. 2010. The effects of socioeconomic characteristics and consumer involvement on the adoption of music download stores and paid music subscription services. In P. Kommers, T. Issa & P. Isaías (Eds.), Proceedings of the IADIS International Conference on Internet Technologies & Society 2010. IADIS Press, 49–58.

RA3 Makkonen, M., Halttunen, V. & Frank, L. 2011. The effects of gender, age, and income on the willingness to pay for music downloads. In N. Wickramasinghe, U. Lechner, A. Pucihar, J. Gričar & M. Babnik (Eds.), Proceedings of the 24th Bled eConference. Kranj, Slovenia: Moderna organizacija, 102–113.

RA4 Makkonen, M., Halttunen, V. & Frank, L. 2011. Exploring the acquisition and consumption behaviour of modern recorded music consumers: Findings from a Finnish interview study. International Journal of Computer Information Systems and Industrial Management Applications, 3(1), 894–904.

RA5 Makkonen, M., Halttunen, V. & Frank, L. 2010. Applying the theory of planned behaviour to explain the usage intentions of music download stores: Gender and age differences. In P. Kommers, T. Issa & P. Isaías (Eds.), Proceedings of the IADIS International Conference on Internet Technologies & Society 2010. IADIS Press, 22–32.

RA6 Halttunen, V., Makkonen, M. & Frank, L. 2011. Why haven't people adopted music download stores? In P. Kommers & P. Isaías (Eds.), Proceedings of the IADIS International Conference on e-Society 2011. IADIS Press, 221–228.

1 INTRODUCTION

During the past few decades, numerous information and communication technology (ICT) innovations have introduced drastic changes in our daily lives. One example of such innovations is electronic commerce, or more specifically online shopping, which has been rapidly adopted by consumers all around the world. It has been estimated that, worldwide in 2018, already about 1.8 billion consumers were purchasing products and services online, with a total valuation of about US$2.8 trillion or 11.9% of worldwide retail sales (Statista 2019). By 2021, this number of consumers is expected to rise to about 2.1 billion and the value of their purchases to about US$4.9 trillion or 17.5% of worldwide retail sales (Statista 2019). Of course, this rapid adoption of online shopping cannot be seen as surprising when considering the numerous benefits it brings to consumers in comparison to traditional offline shopping (Turban et al. 2018). For example, consumers gain access to the product selections of not only their local brick-and-mortar stores but of millions of online stores globally, thus offering them much more variety and potentially significant savings in terms of lower prices. In addition, consumers are able to browse the selections and make purchases in the stores anytime and anywhere, thus being free from the constraints of opening hours or the geographical distance between them and the stores.

However, in addition to these advantages, online shopping also brings consumers some notable disadvantages in comparison to traditional offline shopping, especially in the product purchasing context. One of these is that consumers do not typically receive the purchased product right after completing the purchase transaction, as they would when purchasing the product from a brick-and-mortar store. Instead, they have to either go and collect it from a particular pick-up point or wait for it to be delivered to them by the postal or other similar services, which may sometimes take days or even weeks. In other words, there is a considerable time gap between purchasing the product and actually receiving it. Of course, many online stores have tried to narrow this time gap by offering consumers either more flexible pick-up alternatives or faster delivery options, such as Amazon Prime Now (Amazon 2019), which promises product deliveries in a matter of hours. However, these alternatives

and options have typically been only partial and incremental solutions to the issue, as their availability has often been limited to only the largest cities and they have not been able to entirely eliminate the time gap.

Recently, we have witnessed also a more complete and radical solution to the issue in terms of the emergence of new kinds of digital products that can be delivered to consumers in a matter of mere seconds or minutes, thus practically eliminating the aforementioned time gap entirely. Unlike traditional physical products, these digital products do not have any tangible physical properties. Instead, they consist only of intangible digital data, thus enabling their online distribution over the Internet. Of course, digitalisation and online distribution are not feasible for all kinds of products. If the core value of a product derives mainly from its tangible physical properties, it cannot be fully digitalised and must still be delivered to consumers via more traditional offline means. However, if the core value of a product derives mainly from its intangible information content, it can be considered a prime candidate for digitalisation and online distribution. Therefore, digitalisation and online distribution have become especially common for different types of entertainment content products, such as music, films, books, and games. For example, in 2015, the share of revenue resulting from online distributed digital products was already 60% for games, 45% for music, 21% for films, and 20% for books (IFPI 2016).

1.1 Research problem

Although digital products are being adopted by more and more consumers, consumer behaviour in the context of digital products has gained relatively little attention in information systems (IS) research, thus leaving our theoretical and practical understanding of the topic rather limited. Of course, there have been some pioneering studies that have provided valuable preliminary findings on this topic. However, these studies have typically had two problematic limitations. The first limitation is that the prior studies have concentrated less on developing new and indigenous theories for explaining consumer behaviour in the context of digital products and more on the application of prior reference theories that have been developed to explain consumer, user, or human behaviour in some more generic context. In other words, they have followed a more top-down approach of theory application rather than a more bottom-up approach of theory development based on new empirical data.

This reliance on prior reference theories obviously has the advantage of promoting the comparability of the findings between studies that apply the same reference theory. However, it also has some severe disadvantages, as has been noted in the numerous discussions about the need for reference theories in IS (e.g., Niederman, Gregor, Grover, Lyytinen & Saunders 2009). The most severe of these is that, by examining a particular phenomenon through the relatively general and abstract theoretical lenses provided by the reference theories, one often risks omitting the unique and context-specific aspects of the case con-

texts to which the reference theories are being applied. Of course, some studies have attempted to avoid this by modifying or extending the applied reference theories so that they better consider also these unique and context-specific aspects. However, such modifications or extensions have often been based on yet another reference theory or theories, once again failing to take into account the unique and context-specific aspects of the case context to which they are being applied. This all can be seen as particularly problematic when considering consumer behaviour in the context of digital products because, as will be discussed in more detail later in this thesis, digital products possess many unique characteristics that differentiate them from traditional physical products and services. These differences, in turn, are likely to considerably affect the consumption behaviour of digital products, which is why it is imperative to take them into account when explaining the phenomenon in question.

An illustrative example of the aforementioned problematics is provided by the studies by Chu and Lu (2007) as well as Bounagui and Nel (2009), which both propose a model for explaining purchase intention in music download stores by applying the technology acceptance model (TAM) by Davis (1989) as a reference theory. TAM is a well-known IS theory that was originally developed for the organisational context but has since been applied to explain system acceptance and use also in a variety of other contexts, thus making it one of the most widely used reference theories in IS (Niederman et al. 2009). In TAM, the acceptance and use of a system is hypothesised to be determined by two constructs: its perceived usefulness and its perceived ease of use. Accordingly, these two constructs are also hypothesised to act as determinants of purchase intention in music download stores in the studies by Chu and Lu (2007) as well as Bounagui and Nel (2009). In addition, both studies modify and extend their proposed models with some additional constructs taken from other reference theories, such as perceived playfulness or perceived enjoyment taken from an extension of TAM intended for hedonic IS contexts (van der Heijden 2004) and perceived trust taken from the extensions of TAM intended for online shopping contexts (e.g., Gefen, Karahanna & Straub 2003; Pavlou 2003).

After empirically testing their proposed models, both studies found them to perform very well, explaining about 60–80% of the variance in purchase intention in music download stores. In addition, their findings can be considered highly comparable to the findings of the several other studies that have applied TAM as a reference theory. In other words, at a statistical level, they are both valid studies with no obvious faults. However, at a more substantive level, their findings do not really provide us with rich theoretical insights about the potential unique or context-specific aspects of consumer purchase behaviour in the case context of music download stores. Likewise, the findings do not offer the managers of music download stores any in-depth practical implications in terms of what concrete managerial actions they should take in order to promote the diffusion and adoption of their stores in the future. For example, the mere finding that perceived usefulness or perceived ease of use affects purchase intention in music download stores provides the managers very little to work

with, as it tells them practically nothing about what these perceptions actually mean in this particular case context and how they could be best influenced.

The second limitation is that the prior studies have also examined consumer behaviour in the context of digital products by concentrating mainly on the enablers instead of the inhibitors of system use or its analogues, such as making purchases in the stores and services that sell digital products. *Enablers* (Cenfetelli 2004; Cenfetelli & Schwarz 2011) refer to the antecedents of system use that are typically elicited by asking potential users what encourages them to use the particular system. Thus, they usually have a positive valence, although each of them also always has a psychologically meaningful opposite construct with a negative valence. The effects of enablers and these opposite constructs on system use are assumed to be more or less symmetric, meaning that positively valenced constructs encourage system use and negatively valenced constructs discourage system use. The aforementioned perceived usefulness and perceived ease of use constructs of TAM offer two good examples of such enablers, as it is assumed that systems that are perceived as useful and easy to use are used more likely, whereas systems that are not perceived as useful and easy to use (or that are even perceived as useless and difficult to use) are used less likely. In contrast, *inhibitors* (Cenfetelli 2004; Cenfetelli & Schwarz 2011) refer to the antecedents of system use that are elicited by asking potential users what discourages them from using the particular system. Thus, they always have a negative valence. In addition, they always lack a psychologically meaningful opposite construct with a positive valence, thus making their effects on system use much more asymmetric. That is, they can only have a negative and never a positive effect on system use, meaning that their presence discourages system use but their absence does not have any effect on it.

One example of an inhibitor in the context of online shopping could be the ownership of a credit card or other suitable means of payment that is required for making purchases in online stores. That is, although not owning such a means of payment typically acts as an unsurmountable barrier to making purchases online stores, owning one does not, in itself, necessarily drive one to be an active online shopper. Two other examples that have often been highlighted in the context of online shopping are risk and distrust, which both have been found to act as important antecedents of online shopping in multiple prior studies (e.g., Gefen et al. 2003; Palvou 2003; McKnight, Kacmar & Choudhury 2003, 2004; McKnight & Choudhury 2006). Of them, risk is commonly considered to have no meaningful opposite construct with a positive valence (Cenfetelli 2004; Cenfetelli & Schwarz 2011). In contrast, on one hand, distrust can be considered to have a meaningful opposite construct with a positive valence in terms of trust. However, on the other hand, recent studies relying on both psychometric measurements (e.g., McKnight et al. 2003, 2004; McKnight & Choudhury 2006) and functional neuroimaging (e.g., Dimoka 2010) have found trust and distrust to be more than simply opposite ends of a single continuum. For example, in the context of online shopping, trust and distrust have been found to differ not only in terms of both their antecedents and their consequences (McKnight et al.

2003, 2004; McKnight & Choudhury 2006) but also in terms of the overall processes how they are built (Komiak & Benbasat 2008).

Because of the aforementioned reasons, it is obvious that enablers and inhibitors cannot be seen as mere opposites of each other but should rather be seen as conceptually distinct constructs that can co-exist simultaneously as well as have differing antecedent causes and different consequential effects on system use (Cenfetelli 2004; Cenfetelli & Schwarz 2011). Thus, if one wishes to understand not only why digital products are being adopted but also why they are *not* being adopted, one must examine the phenomenon from the perspective of not only enablers but also inhibitors. The potential omission of the latter perspective can be considered particularly problematic in the context of digital products because, despite their practically immediate delivery and the other benefits that they bring to consumers, many consumers still prefer to purchase and use their physical counterparts. For example, in 2018, according to the statistics of the International Federation of the Phonographic Industry (IFPI) and the Association of American Publishers (AAP), about 25% of global recorded music revenue still resulted from the sales of physical products, such as compact discs (CDs) and vinyl records, whereas as much as about 75% of consumer books publishing revenue in the United States still resulted from the sales of traditional printed books (IFPI 2019a; AAP 2019).

Thus, in summary, it seems that there is an urgent call for further studies on the topic that examine consumer behaviour in the context of digital products from a more context-specific perspective as well as from the dualistic perspective of both the enablers and inhibitors of IS acceptance and use.

1.2 Research objective

The objective of this thesis is to address the aforementioned call by examining consumer behaviour in the context of digital products from a perspective that is both (1) more context-specific and (2) dualistic in terms of focusing on both the enablers and inhibitors of IS acceptance and use. In doing so, the thesis argues being able to promote not only the breadth and depth of the present theoretical understanding of the phenomenon but also the relevance of the conducted research to practice. The examination is conducted as a case study, which has been proposed as an appropriate research approach for context-specific inquiries both in the context of scientific research in general (e.g., Yin 2018) and in the context of IS research (e.g., Benbasat, Goldstein & Mead 1987). Of course, a critical prerequisite for this is that the selected case context is itself specific enough. For this reason, the thesis, instead of examining consumer behaviour in the context of digital products in general, focuses on one more specific case context, which is defined by the three boundary conditions below. However, through the examination of this specific case context, the thesis aims to be able to make theoretical and practical contributions that are generalisable also to the broader context of digital products and their consumption behaviour.

First, of the different aspects of consumer behaviour, the thesis focuses on consumer purchase behaviour, which is often seen as the most interesting and important aspect of consumer behaviour in both theoretical and practical respects. After all, the success or failure of all businesses is typically ultimately determined by their ability to convert potential customers into actual purchasers of their offered products and services.

Second, of the different types of digital products, the thesis focuses on digital music that is purchased from *music download stores*, which refer to online stores that sell digital music as downloadable files delivered over the Internet in various audio file formats (e.g., MP3 or AAC) by using a so-called *pay-per-download* or *á-la-carte* pricing model. In this pricing model, consumers pay a separate fee for each album and track that they purchase and download, typically about €10 per album and €1 per track. This particular case context was chosen for two main reasons. A more practice-oriented reason relates to the forerunner role of the recorded music industry in terms of digitalisation and online distribution. For example, at the time of conducting most of the empirical research activities for this thesis in 2010, 29% of global recorded music revenue already resulted from the sales of digital music, constituting a market of about US$4.6 billion (IFPI 2011a). In 2018, the sales of digital music already resulted in 59% of global recorded music revenue, constituting a market of about US$11.2 billion (IFPI 2019a). In this market, music download stores have traditionally acted as one of the main business models, although their popularity in terms of the share of global recorded music revenue was surpassed in 2016 by music subscription services, such as Spotify (IFPI 2016, 2017). However, the sales of music download stores still continue to constitute a sizable market, with a valuation of about US$2.3 billion or 12% of global recorded music revenue in 2018 (IFPI 2019a). Because of this, studies that promote the theoretical understanding of consumer behaviour in the stores and provide the managers of the stores with practical tools for the systematic development of their offerings can be considered highly relevant, especially as these offerings have not been found to match particularly well the needs, wants, and expectations of consumers (Amberg & Schröder 2007). Of course, in addition to individual music download stores, the developments concerning the legal offerings can be considered critical also for the future of the whole recorded music industry in terms of its battle against illegal sharing and usage of copyrighted content, commonly referred to simply as *digital piracy* (Sinha & Mandel 2008).

Another and more academic-oriented reason for the choice of this particular case context relates to the fact that, although digital music as such has been a topic of many studies during the past two decades, most prior studies have examined the topic only in the context of illegal content sharing and usage as well as the structural changes of the whole recorded music industry, whereas studies concentrating on consumer behaviour in the context of legal content sales have been much more rare. The most notable exceptions to this are the aforementioned studies by Chu and Lu (2007) as well as Bounagui and Nel (2009), together with the studies by Styvén (2007a), Nel, Raubenheimer, and Bounagui

(2009), Suki (2011a, 2011b), as well as Dilmperi, King, and Dennis (2017), which have all proposed their own models for explaining consumer purchase behaviour in music download stores. However, all of them lack the aforementioned more context-specific and dualistic perspective.

Third, the thesis focuses on examining the topic in the case context of Finland and Finnish consumers. Finland can be considered an interesting case country for this thesis because it ranks high in various information society indicators but has traditionally had relatively low adoption levels in terms of making purchases in music download stores. For example, at the time of conducting most of the empirical research activities for this thesis in 2010, as much as 82% of Finnish households owned some type of a computer, and of the Finns aged 16–74 years, 72% used the Internet daily or almost daily and 59% had shopped online during the past year (Statistics Finland 2010). However, in the same year, only 16% of the recorded music revenue in Finland resulted from the sales of digital music (IFPI 2011b). Thus, the unwillingness of Finns to make purchases in music download stores can hardly be explained by trivial reasons, such as not having the required technical resources or the know-how for doing this. Instead, the reasons are likely to relate to the more complex enablers and inhibitors of IS acceptance and use, which are of special interest for this thesis.

1.3 Research questions and articles

The thesis aims to answer to following four research questions (RQs) concerning consumer purchase behaviour in music download stores:

RQ1 How widely adopted is making purchases in music download stores among consumers?

RQ2 How much are consumers willing to pay for the albums and tracks purchased from music download stores?

RQ3 What are the main context-specific enablers for consumers to make purchases in music download stores?

RQ4 What are the main context-specific inhibitors for consumers not to make purchases in music download stores?

Of them, RQ1 and RQ2 concentrate on a more exploratory and macro-level perspective, meaning that their aim is to explore the overall state and maturity of the digital music market in terms of how many consumers have actually adopted making purchases in music download stores and what is their willingness to pay (WTP) for the albums and tracks sold in them. Here, *adoption* refers simply to whether a consumer has ever made purchases in music download stores, so it is determined by the initial rather than continuous use of the stores. Together,

the adoption and WTP perspectives can be seen to complement each other. For example, whereas the adoption perspective typically discretely divides consumers as either adopters or non-adopters, the WTP perspective provides a more continuous measurement of their adoption or non-adoption likelihood. That is, consumers who have a very low WTP are also likely to have a relatively low adoption likelihood. In contrast, consumers who have a very high WTP are also likely to have a relatively high adoption likelihood. Of course, the aforementioned applies mainly to volitional cases in which consumers can themselves make the adoption decision, and not to non-volitional cases in which adoption is prevented, for example, by the lack of required resources for making purchases in the stores. In contrast, RQ3 and RQ4 concentrate on a more explanatory and micro-level perspective, meaning that they aim to explain the purchase behaviour of individual consumers and how these behaviours result in the adoption and WTP levels that were observed in the case of the previous two research questions. As mentioned above, when examining these explanations, the antecedents of purchase behaviour are examined from the dualistic perspective of both the enablers and inhibitors of IS acceptance and use.

The answers to the four research questions are provided in six research articles (RAs) and their two extensions, which report the results of the research activities that were conducted for this thesis. The relationships between the research questions and the research articles, as well as their overall research perspective and scope, are illustrated in Figure 1.

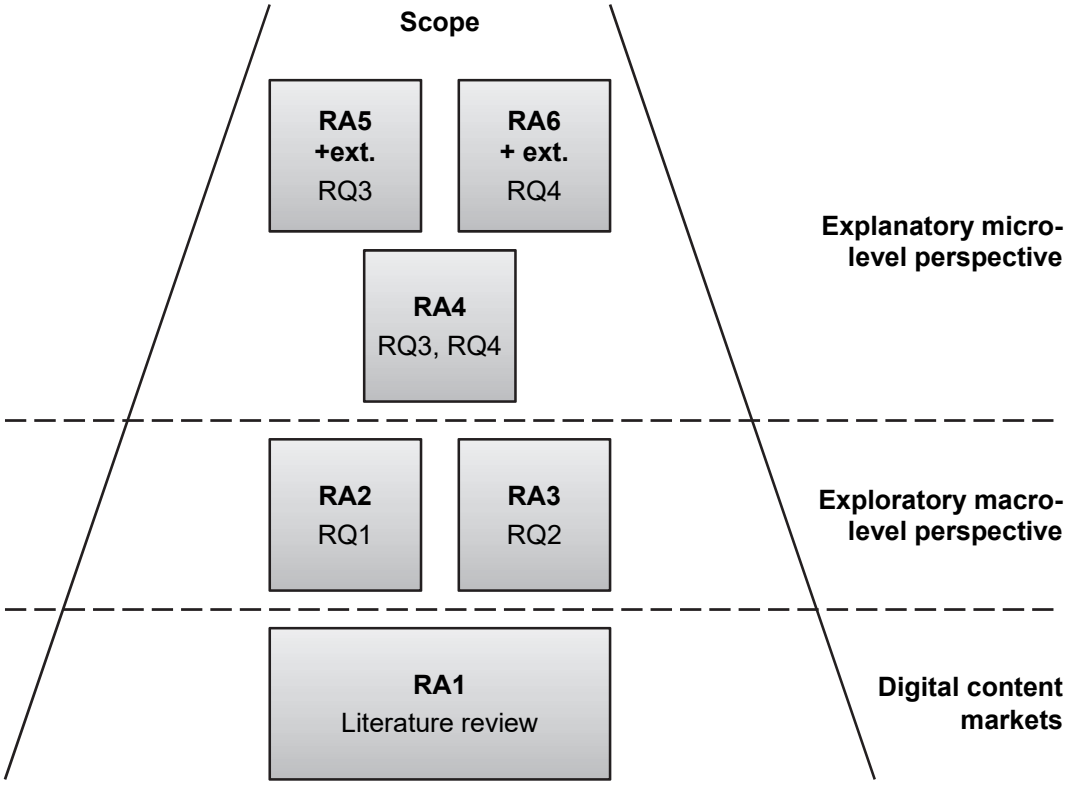

FIGURE 1 Relationships between the research questions and research articles

Of the research articles, RA1 is not directly related to any of the research questions. Instead, it reports the results of a literature review that was conducted before the actual empirical research activities for the thesis. It does not concentrate specifically on digital music and music download stores but more generally on digital products and digital content markets. As a literature review, its primary purpose is to promote awareness of the prior research that has already been conducted on the topic as well as of the potential gaps in this prior research that should be addressed in future studies (Creswell & Creswell 2018).

The remaining five research articles and their two extensions report the results of the actual empirical research activities for the thesis that were conducted in order to answer the four research questions. Of them, RA2 and RA3 concentrate on RQ1 and RQ2, respectively, and examine the adoption levels and WTP of consumers as well as the potential differences in these between different consumer segments in terms of gender, age, income, and involvement in music. In turn, RA4–RA6, as well as the extensions of RA5 and RA6, concentrate on RQ3 and RQ4 from different but interrelated perspectives. RA4 concentrates on both RQ3 and RQ4 by conducting a preliminary qualitative examination on what kinds of perceived advantages and disadvantages associated with music download stores and other acquisition channels of recorded music drive or deter the adoption of music download stores, and why. As such, its primary objective is to promote a more in-depth understanding of the spectrum of enablers and inhibitors that act as antecedents of making or not making purchases in music download stores. However, it does not yet make any interferences about which of the enablers and inhibitors actually are the most influential.

This latter issue is examined more thoroughly and quantitatively in RA5 and RA6 as well as their extensions. Of them, RA5 and its extension concentrate on RQ3 by first proposing a basic model for explaining consumer purchase behaviour in music download stores, which is based on the theory of planned behaviour (TPB) by Ajzen (1985, 1991). After this, the model is extended by eliciting the modal salient behavioural beliefs of consumers, which are hypothesised to act as antecedents of their attitude towards making purchases in music download stores, and by examining how their purchase intention actualises into purchase behaviour. Special attention is also paid to the potential gender and age differences in the constructs of the model and their interrelationships. In contrast, RA6 and its extension concentrate on RQ4 by examining what are the most frequently referred reasons of consumers for not having made purchases in music download stores, whether there are potential gender and age differences in these references, and whether consumers can be categorised into different segments or latent classes based on these references.

1.4 Theoretical and methodological approach

Consumer purchase behaviour in music download stores can be considered both a fruitful and challenging topic to study because there are numerous po-

tential perspectives from which it can be examined. For example, from the perspective of IS, one can view music download stores as a particular type of information technology (IT) artifact (e.g., Benbasat & Zmud 2003) and concentrate on issues like their acceptance and use. In turn, from the perspective of sociology, one can view online music download stores as a particular type of innovation (Rogers 2003) and concentrate on issues like their perceived characteristics that either drive or deter their diffusion and adoption. Yet again, from the perspective of psychology, making purchases in music download stores can be viewed as a particular type of human behaviour, thus focusing the interest on factors that have generally been found to act as antecedents of human behaviour in various contexts, such as attitude, perceived social pressure, and beliefs (Fishbein & Ajzen 2010). Finally, also marketing provides a very natural and obvious perspective from which to examine consumer purchase behaviour in music download stores because the phenomenon basically concerns purchasing particular types of products from a particular type of a store.

All these different perspectives, although being interrelated, highlight particular aspects of the examined phenomenon while omitting others, thus raising the need for multidisciplinary studies that examine consumer purchase behaviour in music download stores by utilising theories and theoretical concepts originating from not only one but multiple different disciplines. Therefore, this thesis, although being a thesis on IS, bases its theoretical foundation on theoretical triangulation (Denzin 1970), in which the phenomenon is examined by utilising theories and theoretical concepts originating not only from IS but also from sociology, psychology, and marketing. As such, the thesis somewhat counters the view suggested by Benbasat and Zmud (2003) that all IS studies should concentrate on investigating only the IT artifact and its immediate nomological net, such as (1) how the IT artifact is conceived, constructed, and implemented, (2) how the IT artifact is used, supported, and evolved, and (3) how the IT artifact impacts and is impacted by the context in which it is embedded. Studies that include neither the IT artifact nor at least one of the constructs in its immediate nomological network are considered by Benbasat and Zmud (2003) to commit the so-called error of exclusion, whereas studies that include constructs that are not in the immediate nomological network are considered by them to commit the so-called error of inclusion.

This thesis can be seen to avoid the error of exclusion as it does study the usage of a particular type of an IT artifact, namely music download stores. However, due to its multidisciplinary nature, it falls victim of the error of inclusion by also concentrating on constructs like the WTP for the albums and tracks sold in music download stores, which are not included in the immediate nomological network but, as discussed above, can be considered critical in terms of thoroughly understanding consumer purchase behaviour in music download stores. Thus, instead of following the relatively narrow-minded and "purist" view of Benbasat and Zmud (2003), this thesis can be seen to follow the more open-minded and liberal views put forward, for example, by Robey (2003) and Galliers (2003), who argue that many IS phenomena are inherently multidisci-

plinary or even transdisciplinary in nature, and this should also be reflected in the way these phenomena are studied.

In addition to theoretical triangulation, the thesis also uses methodological triangulation (Denzin 1970) as it utilises multiple data collection and data analysis methods to examine consumer purchase behaviour in music download stores. By following an interpretation by Jick (1979) of the original classification suggested by Denzin (1970), some of this methodological triangulation can be classified into the category of between-method triangulation, in which a mix of both qualitative and quantitative methods is used to examine a particular phenomenon in order to promote the external validity of the findings. A good example of this is the overall research process of the thesis, in which the antecedents of making purchases in music download stores are examined first through a qualitative interview study and then through quantitative survey studies. However, some of the methodological triangulation can also be classified into the category of within-method triangulation, which relies on the use of multiple qualitative or quantitative methods, but not a mix of them, thus mainly promoting the internal reliability of the findings. For example, the analysis of the collected survey data about the aforementioned antecedents was conducted by using not only one but multiple statistical techniques, such as basic frequency and dependency analysis as well as more complex covariance-based structural equation modelling (CB-SEM) approaches, including multiple group analysis (MGA) and latent class analysis (LCA). Of these two types of triangulation, between-method triangulation is also commonly referred to as mixed methods research, which has risen as a more and more commonly used methodological approach also in IS research (e.g., Kaplan & Duchon 1988; Mingers 2001, 2003; Venkatesh, Brown & Bala 2013).

1.5 Research paradigm

In terms of research paradigms, IS research has traditionally been dominated by the positivist paradigm (Orlikowski & Baroudi 1991), although since the 1990s, also the interpretivist paradigm has gained more and more ground (Walsham 1995b). Positivism and interpretivism, of which the first is often associated with "hard" natural sciences and the latter with "soft" human sciences, can be considered two very different, or even opposite, paradigms in terms of their underlying ontological and epistemological assumptions (Hudson & Ozanne 1988; Chen & Hirschheim 2004), although Weber (2004) notes that the differences between positivism and interpretivism may actually not be as substantial as what we have traditionally been led to believe. In turn, Siponen and Tsohou (2018) note that what has traditionally been labelled as positivism in IS research and what is also discussed below, is actually quite different from the original logical positivism that was endorsed by the Vienna Circle in the 1920s and 1930s.

Ontologically, positivists adopt a realist position and assume that there exists only one objective reality independent of the individuals who are experi-

encing it. In contrast, interpretivists adopt a nominalist position and assume that there are multiple subjective and social constructed realities because each individual typically interprets the world in a different way and gives it different meanings. Epistemologically, in accordance with the prior, positivists adopt a nomothetic position and aim to find general laws or causalities in the objective reality that can be either verified or falsified by using empirical evidence. In contrast, interpretivists adopt an idiographic position and aim to promote the understanding of the particular subjective interpretations of individuals. The difference in these ontological and epistemological assumptions is also reflected in the methodological choices of positivists and interpretivists. Positivists typically rely on quantitative research methods, such as surveys, which are often more suitable for the creation and testing of generalisations. In contrast, interpretivists typically rely on qualitative research methods, such as interviews, which allow them to more closely interact with their research participants and to build a better understanding of them.

Because of its pluralistic rather than monistic approach in terms of the applied research methods and theories, it is difficult to call this thesis either purely positivist or purely interpretivist. For example, of its research articles and their extensions, RA4 follows more closely the interpretivist paradigm, whereas RA2 and RA3, as well as RA5 and RA6 with their extensions, follow more closely the positivist paradigm. Therefore, the overall research paradigm of the whole thesis can perhaps be best called pragmatism, which has been proposed as a rising third paradigm in IS research by Goles and Hirschheim (2000) and has also more generally been considered the most appropriate paradigm to be used when conducting mixed methods research (e.g., Johnson & Onwuegbuzie 2004; Johnson, Onwuegbuzie & Turner 2007).

The main idea of pragmatism is that researchers should use the philosophical assumptions as well as the methodological or theoretical approaches that they find as the most useful in solving a particular problem under study (Tashakkori & Teddlie 1998). Thus, ontologically, epistemologically, and methodologically, pragmatism can be seen in many respects to strike a balance between the dichotomy of positivism and interpretivism (Goles & Hirschheim 2000). That is, like positivists, pragmatists assume that there exists one objective reality, but like interpretivists, they also acknowledge the importance of the subjective interpretations of this reality. However, not all these interpretations are typically considered equally valuable. Instead, their value is determined by their usefulness in terms of addressing the research objectives. Similarly, unlike positivists and interpretivists, pragmatists perceive knowledge as neither purely objective nor purely subjective but rather a continuum between these two extremes, which provides them the philosophical foundation to select the methodology that is most suitable for solving a particular research problem and allows for the flexible mixing of both qualitative and quantitative methods. Because of this flexibility, pragmatism can be considered an ideal paradigm for conducting research that is not only rigorous in methodological and theoretical respects but also relevant to practice (Goles & Hirschheim 2000). This can be

considered to further promote the suitability of pragmatism as the research paradigm for this thesis, as its research objectives are related not only to promoting the breadth and depth of the present theoretical understanding of consumer behaviour in the context of digital products but also the relevance of the conducted research to practice.

1.6 Thesis structure

The thesis consists of six chapters and the six included research articles that can be found at the end of the thesis. After this introductory chapter, the second chapter discusses in more detail the concepts of digital products and digital music as well as the history of and prior research on digital music. The third chapter presents the theories and theoretical concepts that form the theoretical foundation of the thesis. The fourth chapter describes both the general research approach and the more specific data collection and data analysis methods employed in the thesis, whereas the fifth chapter reports its main findings through a summary of the six research articles and a more detailed discussion of their two extensions. Finally, the findings are discussed in more detail in the sixth chapter, which summarises the answers to the four research questions of the thesis, considers the contributions of the thesis from both theoretical and practical perspectives, as well as briefly discusses the main limitations of the thesis while also proposing potential paths for future research.

2 DIGITAL MUSIC

This chapter first defines the concepts of digital products and digital music as well as discusses their unique characteristics and the potential implications of these unique characteristics for their consumption behaviour. This is followed by brief reviews of the history and prior research on digital music.

2.1 Digital products and digital music

Because this thesis concentrates on consumer behaviour in the context of online distributed digital products in general and online distributed digital music in particular, it is logical to begin with more detailed definitions of these two central concepts. In this thesis, *online distributed digital products* are defined as information products that are delivered to consumers in a digital form over a communication network, such as the Internet. In turn, *online distributed digital music* is defined as a specific type of online distributed digital product in which the information content consists mainly of music in the form of individual tracks or album compilations, but which may also contain extra material like digital replicas of record sleeves and liner notes as well as music videos or making-of videos. *Information goods* or *information products*, in turn, are as products whose value proposition is primarily based on their intangible information content rather than on their physical or tangible properties (Rayna 2006).

Here, it is important to note that, although, according to our definition, all online distributed digital products are information products, not all information products are online distributed digital products. For example, a traditional music CD or vinyl purchased from a record store is an information product because its value proposition is primarily based on the intangible music content. Of them, a music CD can even be considered a digital product in the sense that its music content is in a digital form. However, neither of them is an online distributed digital product because the music content is stored on a tangible carrier medium (i.e., a disc or a record) that can be considered to be an integral part of

the product itself. For example, unlike the packaging, one cannot just simply throw it away because this would mean throwing away the whole product. This physical medium obviously cannot be digitalised, thus preventing the delivery of the product over a communication network, such as the Internet. Of course, both of these products can be quite easily converted into online distributed digital products by "ripping" the intangible music content from its tangible carrier medium and converting it into a digital form, if it is not already in it, thus making the product purely digital and possible to be distributed online. Although these kinds of purely digital products still require some physical medium on which they are stored and through which they are delivered to consumers, this medium does not typically constitute an integral part of the products themselves as it does in the case of traditional physical information products.

So, in short, one could say that whereas traditional physical information products, such as CDs, vinyls, and books, *contain* information, online distributed digital products *are* information (Rayna 2006). That is why they are also commonly referred to as *pure information goods* or *pure information products* (e.g., Shapiro & Varian 1999) or as *pure digital goods* or *pure digital products* (e.g., Koiso-Kanttila 2004; Rayna 2006). It is also common to refer to online distributed digital products briefly as *digital goods* or *digital products* and to online distributed digital music briefly as *digital music*. In this thesis, these terms will be used interchangeably when there is no risk of confusion. An interesting question related to online distributed digital products is also that if these products are information, whether there are any limits to the quantity or quality of the information in order for it to qualify as a product. To this, it is difficult to give any straightforward answer. On one hand, because products are commonly defined as anything that can be offered to a market for attention, acquisition, use, or consumption that might satisfy a want or need (Kotler & Armstrong 2018), any piece of information that can be offered to a market to satisfy a want or need can basically be considered an information product. On the other hand, whether a particular piece of information is actually able to do the above depends on the context in question. For example, a 30-second clip of a particular track may very well be seen as a product by a consumer who is looking for a new ringtone for a mobile phone but not by a consumer who wishes to listen the whole track. For this consumer, it will only act as a sample of the actual product.

All in all, online distributed digital products have many unique characteristics that differentiate them from traditional physical products. The first unique characteristics is that online distributed digital products can be seen as a hybrid of traditional physical products and services because they share characteristics of them both (Koiso-Kanttila 2004). For example, like services, online distributed digital products are intangible in the sense that they cannot be touched. In contrast, like products, their standardisation is possible, their production can be separated from their consumption, and it is possible to store them.

The second unique characteristic of online distributed digital products is their replicability (Rayna 2006). That is, online distributed digital products can be replicated with nearly null marginal costs, and the resulting replicas are typ-

ically perfect copies of the original product, with no loss of information or quality. The obvious consequence of this is that, even though some online distributed digital products may be expensive to produce, they all are very inexpensive to reproduce (Shapiro & Varian 1999). However, replicability also has a few less obvious consequences. On one hand, it makes the consumption of online distributed digital products both non-rivalrous and non-excludable (Rayna 2006), which are commonly considered the two definitive characteristics of public goods (Samuelson 1954). That is, because each consumer can create a replica of the product for his or her own consumption, the consumption of the product by one consumer does not limit the consumption possibilities of other consumers. Because of this, consumers are often very willing the share replicas of the product also with other consumers, making it practically impossible to prevent a particular consumer from consuming the product. Of course, both non-rivalry and non-excludability can be attempted to be artificially limited by using, for example, different kinds of digital rights management (DRM) systems, which allow the control and management of the rights to use online distributed digital products (Rosenblatt, Trippe & Mooney 2002). Some more recent studies (e.g., O'Dwyer 2018) have also examined the potential of the blockchain technology to create artificial scarcity. However, neither traditional DRM nor these more recent technologies can typically be considered an integral part of the products themselves. On the other hand, replicability also makes online distributed digital products durable goods with potentially infinite durability because, even though the physical medium on which they are stored is finitely durable, they can always be replicated onto a new medium before the old one fails (Rayna 2006). Nowadays, thanks to cloud computing, the owners of the products do not usually even have to worry about such things themselves.

The third unique characteristic of many online distributed digital products, especially those with entertainment content, is that it is often difficult for consumers to determine their value prior to purchasing and consuming them (Rayna 2006), thus making them experience goods (Nelson 1970). Many online distributed digital products, such as online distributed digital music, may even have to be consumed multiple times before their value can be determined. The fourth unique characteristic of online distributed digital products is that, in addition to their reproduction, also their storage and delivery can be conducted very inexpensively. For example, instead of needing vast physical storage space, only one digital copy of a particular product needs to be stored on a hard drive or database, and a replica of it can made at the time of purchase. Depending on the size of the product in bits and the bandwidth of the communication network used for distribution, its delivery can also usually be conducted in a matter of seconds or minutes, without the need to send any physical packages through the postal or other similar services or compelling consumers to visit a brick-and-mortar store in order to pick the product up. Finally, the fifth unique characteristic of online distributed digital products is that they are also typically much more mutable in comparison to their physical counterparts, making it possible to create various differentiated versions of them to be offered to differ-

ent consumer segments. Such a versioning strategy can be utilised, for example, in pricing (Shapiro & Varian 1999).

These unique characteristics of online distributed digital products can, in turn, be considered to have unique implications for their consumption behaviour, raising the call for more indigenous theories to explain this phenomenon, as already discussed in the introduction of this thesis. For example, because of their low or nearly non-existent reproduction, storage, and delivery costs, consumers are likely to expect online distributed digital products to be sold at much lower prices in comparison to their physical counterparts, or to even to be practically free. This is why their pricing cannot be based on these costs but must be based on their perceived value to consumers, which is typically more difficult to determine (Shapiro & Varian 1999). For the same reason, consumers are also likely to be very sensitive to changes in the prices of online distributed digital products, and the price elasticity of demand can be expected to be further lowered by the characteristic of them being experience goods and durable goods (Nelson 1970). Moreover, the characteristic of online distributed digital products being experience goods is likely to make the consumption choices concerning them more difficult, to create inertia in consumer decision-making, and to promote the role of pre-purchase samples and trials as well as brands and reputation (Nelson 1970). Some companies have even introduced return policies for the sold products (Schulz, Shehu & Clement 2019). The importance of such measures can be expected to be further emphasised by the characteristic of online distributed digital products being durable goods (Rayna 2006). Similarly, the characteristic of online distributed digital products being durable goods with potentially infinite durability decreases the likelihood of a consumer or even his or her descendants ever re-purchasing a particular product, thus causing a progressive decrease in its demand (Rayna 2006). Finally, the hybrid nature of online distributed digital products as a mix of products and services may affect consumer behaviour through new legislation (Hojnik 2017).

However, perhaps the most significant implication for their consumption behaviour results from the characteristic of online distributed digital products being public goods. Similar to all public goods, because of their non-rivalrous and non-excludable consumption, online distributed digital products are exposed to a serious free-rider problem, in which consumers are able to consume the products without paying for them or otherwise contributing to their provision, thus typically resulting in a market failure (Rayna 2006). In practice, this free-riding behaviour actualises as the free and illegal usage and sharing of the products over the Internet without the permission of the copyright holders, which is commonly referred to as *digital piracy*. For the providers of online distributed digital products, digital piracy is often seen as a negative phenomenon in the sense that many consumers who download a particular product illegally from the Internet are less likely to purchase a legal copy of it. However, it can also be seen as a positive phenomenon in the sense that some consumers may use the freely downloaded products for sampling and, thus, be more likely to purchase the actual product if they perceive the sample as valuable enough in

comparison to its price (Peitz & Waelbroeck 2006). For this purpose, several optimal sampling strategies have been suggested (e.g., Li, Jain & Kannan 2019).

Because of these two contradictory views, there exists considerable disagreement of the total effects of digital piracy, for example, on the sales of recorded music, which have decreased steadily since the turn of the millennium. Some studies see digital piracy as the main contributor to this decrease (e.g., Blackburn 2004; Peitz & Waelbroeck 2004; Liebowitz 2006, 2008; Michel 2006; Rob & Waldfogel 2006; Zentner 2006; Hong 2007; Waldfogel 2010), whereas others find no empirical evidence to back this claim (e.g., Oberholzer-Gee & Strumpf 2007; McKenzie 2009; Andersen & Frenz 2010; Aguiar & Martens 2016) and suggest that the decrease can be better explained, for example, by the fact that modern music download stores enable consumers to purchase also individual tracks instead of whole albums, and the increase in the sales of tracks has simply not been able to compensate for the decrease in the sales of albums (Elberse 2010). However, irrespective of what the total effects of digital piracy are on the sales of recorded music, it is obvious that the existence of this free but illegal alternate acquisition source adds its own unique twist to consumer behaviour in the context of online distributed digital products, especially as consumers typically perceive the risks of getting caught and being punished for such illegal activities as very low (e.g., Al-Rafee & Cronan 2006).

2.2 History of digital music

Because online distributed digital music and other online distributed digital products are basically digitalised information, their online distribution has been, in theory, possible since the inception of the Internet and other digital communication networks. However, in practice, the online distribution of digital music began to increase in popularity in the mid-1990s. This was driven by multiple developments in ICT, such as the increase in network bandwidths, the diffusion of computer soundcards and CD drives, as well as the increase in computing power, which enabled not only hardware but also software encoding and decoding of music content (Brandenburg 1999). However, one of the most important technological developments was the introduction of audio file formats that allowed music files to be compressed into a fraction of their original size without notable deterioration of their audio quality. The most famous of such audio file formats was and still is MP3, or more formally MPEG-1/2 Audio Layer III, which was developed in the early 1990s in an initiative lead by the Fraunhofer Institute and Thomson Multimedia SA (Hacker 2000) and was standardised by the International Organisation for Standardisation (ISO) and the International Electrotechnical Commission (IEC) as ISO/IEC 11172-3 (MPEG-1 Part 3) in 1993 and ISO/IEC 13818-3 (MPEG-2 Part 3) in 1995. MP3 is a lossy audio file format that is based on the idea of perceptual audio coding (Brandenburg 1999). This means that some information is irreversibly lost in the compression, but the compression is done by relying on psychoacoustics, the

scientific study of sound perception, so that the loss of information is as inaudible as possible. How small the compressed files actually become depends on the used bit and sample rates, but typically they are about one-tenth or one-eight of their uncompressed size (Hacker 2000). Later on, MP3 has been succeeded by more technically advanced audio file formats, such as AAC, or more formally Advanced Audio Coding, which was also standardised by ISO and IEC as ISO/IEC 13818-7 (MPEG-2 Part 7) in 1997 and ISO/IEC 14496-3 (MPEG-4 Part 3) in 1999. However, despite this, MP3 has still managed to maintain its status as one of the most used, if not the most used, audio file format in the world.

Regrettably, much of the early online distribution of digital music in the late 1990s concentrated on digital piracy as consumers searched the Internet for sites that allowed them to freely, although often illegally, download albums and tracks as MP3 files. By 1999, *MP3* had already become one of the most popular terms to be used in Internet search engines (Brandenburg 1999). However, an explosion in digital piracy took place later that year with the emergence of various peer-to-peer (P2P) file-sharing services, which allowed consumers to download music files not in a centralised manner from one server but in a more decentralised manner from multiple other consumers, thus making it much more difficult for legal authorities to track the file downloads. Of these services, one of the first and most famous was Napster, which was launched in 1999 and operated only about two years until 2001, when it was shut down by court order (Hughes, Lang & Vragov 2008). Since then, it and other first-generation services have been followed by several subsequent-generation services, such as Gnutella, Kazaa, Grokster, Morpheus, Freenet, and BitTorrent (Hughes et al. 2008).

The initial response of the recorded music industry to this ever more serious threat of digital piracy were legal actions targeted against both the operators of the illegal sites and services as well as the consumers who were using them (e.g., Lysonski & Durvasula 2008). However, since the early 2000s, more and more effort was also put into developing the commercial offering of online distributed digital music in order to give consumers an attractive alternative to digital piracy. Eventually, these efforts began to pay off, as can be seen from Figure 2, which reports the relative share of global recorded music revenue resulting from the sales of online distributed digital music and the absolute size of this market in US$ billions from 2004 to 2018. For example, in 2018, the sales of online distributed digital music already resulted in 59% of global recorded music revenue, constituting a market of about US$11.2 billion (IFPI 2019a).

TABLE 1 Business models of online distributed digital music (Dörr et al. 2013)

	Download-to-own	**Download-to-rent**	**Music-as-a-service**
Distribution model	Download	Download	Streaming
Payment model	Pay-per-download	Flat rate	Free or flat rate
Recommendation systems	Several	Several	Many
Examples	iTunes Store	Napster	Spotify

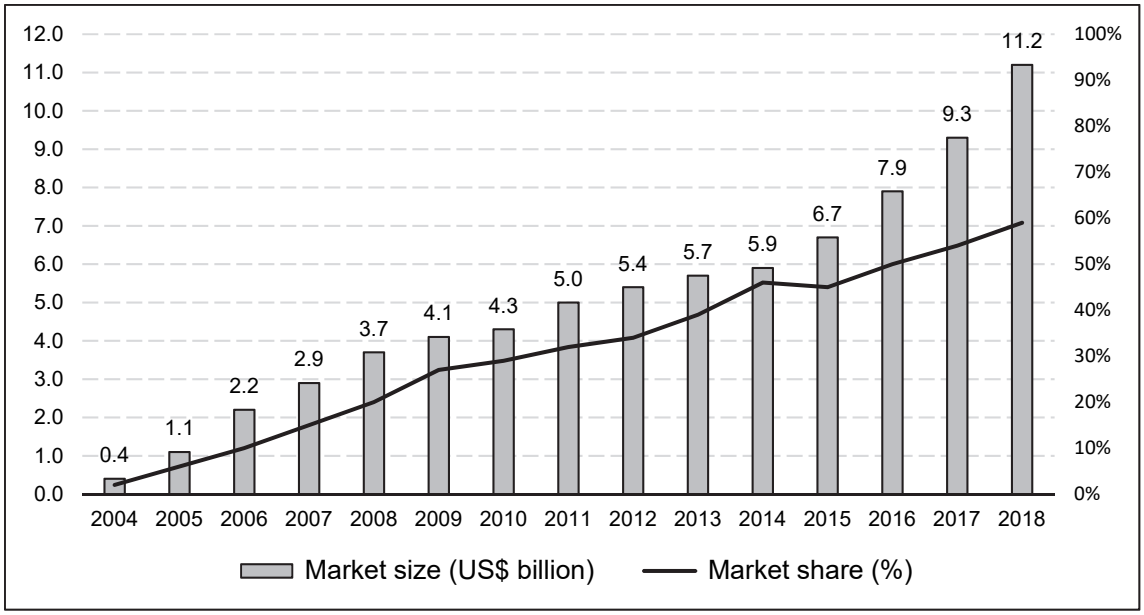

FIGURE 2 Market of online distributed digital music (IFPI 2004–2019)

During the past decade, the actors operating in the market of online distributed digital music have experimented with various business models, some of which have been summarised by Dubosson-Torbay, Pigneur, and Usunier (2004) as well as Amberg and Schröder (2007). However, those that have emerged as the most successful and most used can be classified into three main categories based on their distribution model and payment or pricing model, as demonstrated by Dörr, Wagner, Benlian, and Hess (2013) in Table 1.

The *download-to-own* model by Dörr et al. (2013) is the business model used by music download stores. It is based on the so-called pay-per-download pricing model in which consumers pay a separate fee for each album and track that they purchase and download, typically about €10 per album and €1 per track, and the music is distributed to consumers as downloadable files. These files may be either DRM-protected, meaning that the usage and sharing of the files is being restricted by some DRM system, or DRM-free, meaning that there are no such restrictions. In this sense, consumers own the albums and tracks that they have purchased and downloaded, similar to the music purchased from traditional offline or online record stores.

Although several music download stores were launched already in the 1990s, one of the first to have significant success was Apple's iTunes Store, originally launched as iTunes Music Store by Apple in the United States in April 2003 (Apple 2003). In February 2013, iTunes Store was reported to be available in 119 countries, to have sold over 25 billion tracks, and to be selling them about 15,000 more every minute, making it the most popular music store in the world (Apple 2013). In Finland, iTunes Store was launched in October 2004 (Apple 2004) and was one of the first music download stores in the country, along with Microsoft's MSN Music and Finnish Laturi (IFPI 2005). Some of the factors that contributed to the success of iTunes Store were obviously its first-mover ad-

vantages, its synergies with both the Apple's iTunes music player software released in January 2001 (Apple 2001a) and the Apple's iPod digital music player released in October 2001 (Apple 2001b), its simple pricing system originally consisting of only two price tiers of $9.99 per album and $0.99 per track, as well as its extensive music catalogue, which, already at launch, contained over 200,000 tracks from all the major record labels of the time: BMG, EMI, Sony, Universal, and Warner (Apple 2003). By February 2013, the music catalogue was reported to have grown to over 26 million tracks (Apple 2013). Originally, the music sold in iTunes Store was DRM-protected by the Apple's proprietary FairPlay technology, which restricted the number of computers on which the tracks could be played and effectively prevented the music from being played with mobile devices other than Apple's iPods, iPhones, and iPads (Apple 2003). However, since the mid-2000s, the strong trend from DRM-protected to DRM-free music, which was driven by the low consumer acceptance of DRM systems (e.g., Fetscherin 2003, 2006), forced also Apple to introduce a DRM-free file format (Apple 2007) as well as ultimately to offer its whole catalogue in this file format and abandon DRM-protected file formats altogether (Apple 2009). Today, most music download stores have followed this example.

The *download-to-rent* and *music-as-a-service* models by Dörr et al. (2013) are the two business models most commonly used by music subscription services. Their pricing model is not based on consumers paying a separate fee for each album and track that they download but on consumers paying a flat rate subscription fee, which allows the service to be used while having a valid subscription. In the music-as-a-service model, the subscriptions are also often based on a so-called freemium pricing model, in which consumers are offered two types of subscriptions: a free subscription with limited features and a paid subscription with premium features. However, instead of pricing, the main difference between the two models is in the way the music is distributed to consumers. In the download-to-rent model, this takes place as downloadable files that are DRM-protected and can be used only while having a valid subscription. In this sense, consumers cannot be seen as owning the downloaded music but only as renting it. In the music-as-a-service model, the distribution takes place in a more service-like manner as streaming content, thus typically requiring constant Internet connectivity. However, in order to circumvent this requirement, many modern music subscription services actually act as a sort of hybrid of the two models by being mainly based on online streamed content but also allowing the content to be downloaded and stored offline in order to be used in situations where constant Internet connectivity is not an option. In this latter case, the downloaded content is once again DRM-protected so that it can only be used while having a valid subscription.

Music subscription services are by no means a new idea, and the first ones of them, such as Rhapsody, were launched already in the early 2000s. However, in the 2010s, their popularity has soared. In 2010, at the time of conducting most of the empirical research activities for this thesis, the services had about eight million paying subscribers globally. In 2016, they already surpassed music

download stores in terms of the share of global recorded music revenue (IFPI 2016, 2017). In 2018, the services had about 255 million paying subscribers globally who generated about 37% or US$7.0 billion of global recorded music revenue (IFPI 2019a). At the same time that the revenue generated by music subscription services has increased, the revenue generated by music download stores has decreased steadily since 2013 (IFPI 2013, 2014), suggesting that many of the consumers who used to make purchases in music download stores have switched to using music subscription services. However, the findings of recent studies concerning such sales displacement have been rather mixed, with some suggesting that music download stores and music subscription services act as substitutes (e.g., Wlömert & Papies 2016; Datta, Knox & Bronnenberg 2017; Aguiar & Waldfogel 2018) and others suggesting that they act as complements (e.g., Aguiar & Martens 2016; Aguiar 2017). It is also important to note that, in any case, music download stores still continue to act as a viable music acquisition source for many consumers, generating about 12% or US$2.3 billion of global recorded music revenue in 2018 (IFPI 2019a).

Perhaps the best-known example of music subscription services, at least in the Nordic countries, is the Swedish service Spotify, which was launched in October 2008 (Spotify 2008). In 2019, it had more than 100 million paying subscribers in 79 markets and a vast music catalogue of over 50 million tracks licenced from all major record labels (Spotify 2019a). Since its launch, the business model of Spotify has been based on the freemium pricing model, in which subscribers are nowadays offered two subscription options: Spotify Free, which is advertising-supported, and Spotify Premium, which is priced at €9.99 per month and offers users some additional features, such as the ability to listen to the tracks not only online but also offline, a listening experience that is free from advertisements, and better audio quality (Spotify 2019b).

Despite the recent developments in the commercial offering of online distributed digital music, it is also important to note that digital music piracy still continues to be a prevalent problem in many countries. For example, globally in 2018, 38% of Internet users still engaged in digital music piracy (IFPI 2019b). However, digital music piracy has changed in nature during the past decade by adapting to the developments in the commercial offering. For example, globally in 2018, only 23% of consumers illegally downloaded music from cyberlockers and P2P services, whereas as much as 32% of consumers engaged in illegal stream ripping (IFPI 2019b), which enables the streamed content to be listened to not only online but also offline without having a paid subscription to some music subscription service. In other words, instead of only displacing music piracy by offering consumers attractive commercial music acquisition alternatives, music subscription services also seem to have simultaneously resulted in new kinds of music piracy. Therefore, as in the case of music download stores and music subscription services, prior studies have not been able to agree on whether music subscription services and music piracy actually act as complements (e.g., Borja, Dieringer & Daw 2015; Borja & Dieringer 2016; Aguiar 2017) or substitutes (e.g., Aguiar & Waldfogel 2018).

2.3 Research on digital music

During the past two decades, the online distribution of digital music has been the topic of several academic studies. Based on RA1, which conducted a literature review in the context of online distributed digital products and digital content markets in general, also the research on online distributed digital music can be divided into three different domains: (1) technology, (2) business, and (3) consumers. As the names suggest, the technology domain has mainly focusd on the technologies that enable the digitalisation and online distribution of music, such as different types of audio file formats (e.g., Brandenburg 1999) and DRM systems (e.g., Rosenblatt et al. 2002). In turn, the focus of the business domain has mainly been on topics like macro-level market or industry developments (e.g., Lam & Tan 2001; Clemons, Gu & Lang 2002; Premkumar 2003; Bockstedt, Kauffman & Riggins 2006; Swatman, Krueger & van der Beek 2006; Bhattacharjee, Gopal, Marsden & Sankaranarayanan 2009) as well as the potential effects of illegal music usage and sharing on the legal sales of recorded music (e.g., Blackburn 2004; Peitz & Waelbroeck 2004; Liebowitz 2006, 2008; Michel 2006; Rob & Waldfogel 2006; Zentner 2006; Hong 2007; Oberholzer-Gee & Strumpf 2007; McKenzie 2009; Andersen & Frenz 2010; Waldfogel 2010; Aguiar & Martens 2016). Finally, the consumer domain has mainly focused on micro-level consumer behaviour, which is also the main topic of interest in this thesis.

The consumer domain can be further divided into three different sub-domains (Bounagui & Nel 2009). The first sub-domain has mainly focused on consumer behaviour in the context of legal content sales. In turn, the focus of the second sub-domain has mainly been on consumer behaviour in the context of illegal content sharing and usage (e.g., Bhattacharjee, Gopal & Sanders 2003; Gopal, Sanders, Bhattacharjee, Agrawal & Wagner 2004; d'Astous, Colbert & Montpetit 2005; Chiou, Huang & Lee 2005; Huang 2005; Al-Rafee & Cronan 2006; Chiang & Assane 2007, 2008; Cronan & Al-Rafee 2008; Lysonski & Durvasula 2008; Morton & Koufteros 2008; Shang, Chen & Chen 2008; Taylor, Ishida & Wallace 2009; Sinha, Machado & Sellman 2010). Finally, the third sub-domain has mainly focused on the comparisons and interactions between legal and illegal behaviours (e.g., Walsh, Mitchell, Frenzel & Wiedmann 2003; Ouellet 2007; Coyle, Gould, Gupta & Gupta 2009). Of these, this thesis positions itself in the first sub-domain, which has so far received relatively little attention in academic research, at least in comparison to the second sub-domain. However, as it was already discussed in the introduction of the theisis, some pioneering prior studies belonging in it are already available. Similar to this thesis, some of them have even concentrated on the antecedents of consumer behaviour in the context of the commercial stores and services that offer online distributed digital music. These studies can be seen as the closest points of reference to this thesis. A brief summary of these studies in terms of their scope, dependent and independent constructs, as well as the potential moderators of the effects of independent constructs on dependent constructs is reported in Table 2.

TABLE 2 Prior research on online distributed digital music

Article	Scope	Dependent constructs	Independent constructs	Moderators
Chu & Lu (2007)	Music download stores	Perceived customer value, purchase intention	Perceived usefulness, perceived playfulness, perceived price, perceived ease of use	–
Styvén (2007a)	Music download stores, music subscription services	Perceived customer value, use intention, WTP	Perceived effects of file sharing on artists, view of digital music as free	Gender, age, music involvement, music knowledge, P2P service use, online music service use
Kwong & Park (2008)	Music subscription services	Attitude, subscription intention	Perceived usefulness, perceived ease of use, perceived service quality, subjective norm, perceived behavioural control	–
Bounagui & Nel (2009)	Music download stores	Use intention	Perceived usefulness, perceived ease of use, perceived self-efficacy, perceived financial cost, perceived trust, perceived risk, perceived enjoyment	Gender (in Nel et al. 2009)
Dörr et al. (2010)	Music subscription services	WTP, perceived customer value	Price, contract duration, music quality, distribution channel, mobile application, offline access, community features, personalisation	–
Suki (2011b)	Music download stores	Perceived customer value, purchase intention	Perceived usefulness, perceived playfulness, perceived price, perceived ease of use	Gender, age, education (in Suki 2011a)
Dörr et al. (2013)	Music subscription services	Relative advantage of music-as-a-service, attitude, use intention of paid or free	Submission of music recommendations, search for music recommendations, desire to own, flat rate preference, sound quality, search costs, law-abiding actions, moral scruples, subjective norm, perceived behavioural control	–
Lin et al. (2013)	Music subscription services	Pay intention, attitude, subjective norm, perceived behavioural control, perceived benefit, perceived sacrifice	Free mentality, expected outcome, value added, perceived cost, perceived risk, interpersonal influence, external influence, controllability, ethical self-efficacy	Free mentality

Article	Scope	Dependent constructs	Independent constructs	Moderators
Wagner et al. (2013)	Music subscription services	Pay intention, attitude towards premium, attitude towards free, cognitions about premium, cognitions about free	Perceived value of free	–
Wagner & Hess (2013)	Music subscription services	Use intention of premium, attitude	Subjective norm, perceived behavioural control, use intention of free, price value, tangibility preference, innovativeness	–
Wang et al. (2013)	Music subscription services	Perceived customer value, pay intention	Perceived usefulness, perceived enjoyment, technicality, perceived fee, ethical self-efficacy for online piracy	Ethical self-efficacy for online piracy
Wagner et al. (2014)	Music subscription services	Pay intention, attitude towards premium, attitude towards free, cognitions about premium	Perceived premium fit, perceived price value	–
Mäntymäki & Islam (2015)	Music subscription services	Continuance intention, social connectivity, discovery of new music, ubiquity, enjoyment	Account type	Account type
Dilmperi et al. (2017)	Music download stores, brick-and-mortar music stores, street vendors, P2P services	Purchase or download intention, attitude	Subjective norm, perceived behavioural control, perceived quality of music, perceived benefits of piracy, price of legitimate music, perceived likelihood of punishment, artist / band idolisation	Gender, income, country of study
Chen et al. (2018)	Music subscription services	Pay intention, continuance intention	Attitude, social influence, trust, facilitating condition, communication control capacity, trust, masculinity / femininity, frequency of online music listening	–
Mäntymäki & Islam (2019)	Music subscription services	Upgrade intention, retain intention, enjoyment, price value	Ubiquity, social connectivity, discovery of new content, intrusiveness of advertising	Subscription type

As can be seen, five studies have focused on the antecedents of consumer behaviour in the context of music download stores (Chu & Lu 2007, Bounagui & Nel 2009; Nel et al. 2009; Suki 2011a, 2011b), whereas 11 studies have focused on the antecedents of consumer behaviour in the context of music subscription services (Kwong & Park 2008; Dörr, Benlian, Vetter & Hess 2010; Dörr et al. 2013; Lin, Hsu & Chen 2013; Wagner, Benlian & Hess 2013, 2014; Wagner & Hess 2013; Wang, Yeh & Liao 2013; Mäntymäki & Islam 2015, 2019; Chen, Leon & Nakayama 2018). In addition, one study (Styvén 2007a) has focused on the antecedents of consumer behaviour in the context of both music download stores and music subscription services. Finally, the focus of one study (Dilmperi et al. 2017) has been on the comparisons between music download stores, brick-and-mortar music stores, street vendors, and P2P file-sharing services. In other words, the antecedents of consumer behaviour in music download stores, which is also the main topic of interest in this thesis, have been the main topic or at least a major part of the topic of seven prior studies. These seven studies will be discussed in more detail below.

To date, perhaps the most in-depth examination of the antecedents of consumer behaviour in the context of commercial online distribution of digital music has been conducted by Styvén (2007a) in her doctoral thesis. The thesis covered both music download stores and music subscription services, which were collectively termed online music services. Similar to this thesis, the thesis employed a mixed methods approach that combined both qualitative and quantitative perspectives. The qualitative part of the thesis was based on five unstructured consumer interviews, 537 online consumer comments on 13 articles on online music and file-sharing, as well as 203 free comments from respondents to a survey study. In turn, the quantitative part of the thesis was based on a survey study of 870 Swedish consumers. Based on this data, the thesis examined the WTP for the albums and tracks sold in music download stores as well as for the subscriptions to music subscription services. In addition, the thesis proposed a model for explaining the use intention of music download stores and the WTP for the music sold in them.

The central construct of the model was perceived consumer value, which was hypothesised to have a positive effect on both use intention and WTP. Perceived customer value, in turn, was hypothesised to be negatively affected by two intercorrelated dimensions of the perceived fairness of file-sharing, which were the perceived effects of file-sharing on artists and the view of digital music as free. In addition to their indirect effects through perceived consumer value, these two interrelated dimensions were hypothesised to also have direct negative effects on use intention and WTP, and WTP was hypothesised to be affected positively by use intention. The thesis found support for all the hypothesised effects except for the effect of the first dimension of the perceived fairness of file-sharing (the perceived effects of file-sharing on artists) on use intention (which was found to be positive instead of negative) and on WTP (which was found to be statistically not significant). In addition, the thesis found music involvement, music knowledge, P2P file-sharing service use, and online music

service use to moderate some of the hypothesised effects. All in all, in the whole sample, the model was able to explain 6.5% of the variance in perceived customer value, 16.1% of the variance in use intention, and 40.0% of the variance in WTP. Finally, the thesis also proposed a segmentation in which consumers were clustered into three segments based on their desired benefits and expected sacrifices concerning the use of online music services. These segments were labelled the risk conscious, the heavy users, and the reluctants.

In terms of the studies covering only music download stores, Chu and Lu (2007), Bounagui and Nel (2009) as well as Nel et al. (2009) have based their proposed models on TAM, which will be discussed in more detail in Chapter 3.4. However, Chu and Lu (2007) do not use the perceived usefulness and perceived ease of use constructs of TAM to explain the intention to make purchases in music download stores directly but indirectly through the construct of perceived customer value. Furthermore, they complement the model with the constructs of perceived playfulness and perceived price. All in all, their model was able to explain 74% of the variance in perceived customer value and 82% of the variance in purchase intention. In contrast, Bounagui and Nel (2009) use the perceived usefulness and perceived ease of use constructs of TAM to explain the intention to use music download stores directly instead of indirectly but complement their model with the constructs of perceived enjoyment, perceived financial cost, perceived self-efficacy, perceived trust, and perceived risk. All in all, their model was able to explain 62% of the variance in use intention. In addition, a subsequent study by Nel et al. (2009) has examined the potential moderating effects of gender on the interrelationships between the model constructs, finding that perceived enjoyment has a stronger effect on use intention in the case of men, whereas perceived self-efficacy and perceived trust have a stronger effect on use intention in the case of women.

In turn, the study by Suki (2011b) is a replication of the study by Chu and Lu (2007) but is set in Malaysia instead of Taiwan, where the performance of the proposed model was found to be considerably poorer. All in all, the model was able to explain only 45% of the variance in perceived customer value and 23% of the variance in purchase intention. In contrast, another study by Suki (2011a) has examined the potential moderating effects of gender, age, and education on the direct instead of indirect effects of not only perceived customer value but also perceived usefulness, perceived ease of use, perceived playfulness, and perceived cost on purchase intention. In terms of gender, the study found perceived ease of use, perceived playfulness, and perceived price to have a stronger effect on perceived customer value in the case of men, whereas perceived usefulness and perceived customer value were found to have a stronger effect on purchase intention in the case of women. In terms of age, the study found perceived usefulness, perceived ease of use, perceived enjoyment, and perceived cost to have a stronger effect on purchase intention in the case of younger consumers aged under 25 years than in the case of older consumers aged 25 years or over. Finally, in terms of education, the study found perceived usefulness to have a stronger effect on purchase intention in the case of consumers

with a lower level of education, whereas perceived ease of use, perceived playfulness, and perceived value were found to have a stronger effect on purchase intention in the case of consumers with a higher level of education.

Finally, the study by Dilmperi et al. (2017) has proposed a model for explaining music purchasing not only from music download stores but also from brick-and-mortar music stores and street vendors as well as music downloading from P2P file-sharing services. The proposed model can be considered to perhaps be the closest point of reference to this thesis because it is based on TPB, which also acts as the theoretical basis of RA5 and its extension. TPB will be discussed in more detail in Chapter 3.3. In the model, the intention to make purchases in music download stores is hypothesised to be affected positively by the attitude towards this behaviour as well as the subjective norm towards and the perceived behavioural control over the behaviour. Attitude, in turn, is hypothesised to be affected by the perceived quality of music, the perceived likelihood of punishment, artist or band idolisation, the perceived benefits of piracy, and the price of legitimate music, of which the three former are hypothesised to have a positive effect and the two latter are hypothesised to have a negative effect. In addition, the effect of attitude on purchase intention is hypothesised to be moderated by gender and income, the effect of the perceived likelihood of punishment on attitude by gender, and the effect of perceived behavioural control on purchase intention by the country of study. The study found support for all these hypotheses except for the moderations and the effect of perceived behavioural control on purchase intention (which were all found to be statistically not significant) as well as the effect of the price of legitimate music on attitude (which was found to be positive instead of negative).

Although the case context of this thesis concentrates on music download stores, it should also be noted that in addition to the previous model, TPB has also acted as the basis of three models that have been proposed to explain the use of music subscription services in the studies by Kwong and Park (2008), Dörr et al. (2013), and Lin et al. (2013). Of these, the model proposed by Kwong and Park (2008) explains the intention to subscribe to music subscription services and complements the core TPB constructs with the perceived usefulness and perceived ease of use constructs of TAM as well as the construct of perceived service quality. In turn, the model proposed by Dörr et al. (2013) explains the intention to use both free and paid music subscription services and examines more closely the antecedents of attitude in terms of the distinctive features of music subscription services in comparison to other legal offerings and the relative advantages of music subscription services in comparison to illegal offerings. The antecedents concerning distinctive features cover the submission of music recommendations, the search for music recommendations, the desire to own, and flat rate preference, whereas the antecedents concerning relative advantages cover sound quality, search costs, law-abiding actions, and moral scruples. All in all, the model was able to explain 24% of the variance in the attitude towards and 32% of the variance in the intention to use paid music subscription services as well as 23% of the variance in the attitude towards and

51% of the variance in the intention to use free music subscription services. Finally, the model proposed by Lin et al. (2013) explains the intention to pay for the subscriptions to music subscription services and examines more closely the antecedents of not only attitude but also subjective norm and perceived behavioural control. The antecedents of attitude cover perceived benefits in terms of expected outcomes and added value as well as perceived sacrifices in terms of perceived cost and perceived risk. In turn, the antecedents of subjective norm cover interpersonal influence and external influence, whereas the antecedents of perceived behavioural control cover controllability and ethical self-efficacy. In addition, free mentality is used as an antecedent of attitude and a moderator for the effects of perceived benefits and perceived sacrifices on attitude. All in all, the model was able to explain 29.6% of the variance in attitude and 30.5% of the variance in pay intention.

3 THEORETICAL FOUNDATION

As already discussed in the introduction, the theoretical foundation of this thesis is not based on only one theory or theoretical concept but on theoretical triangulation, in which consumer purchase behaviour in music download stores is examined from the perspective of multiple theories and theoretical concepts that originate not only from IS but also from sociology, psychology, and marketing. These theories and theoretical concepts are discussed in more detail in the following five sub-chapters. The final sub-chapter presents a summary of the theoretical foundation of the thesis based on this discussion.

3.1 Innovation diffusion theory

Innovation diffusion theory (IDT), also commonly referred to as the theory on the diffusion of innovations (DOI), is not so much a single theory but rather a set of interrelated theories gathered together by Rogers in his book *Diffusion of Innovations*, whose first edition was published in 1962 and later editions have been published in 1971, 1983, 1995, and 2003. As its name suggests, IDT concentrates on explaining the diffusion of innovations, in which *innovations* are defined as ideas, practices, or objects that are perceived as new by an individual or other unit of adoption, such as an organisation, and *diffusion* is defined as the process in which innovations are communicated through certain channels over time among the members of a social system. In other words, the diffusion of innovations can be defined as a special type of communication, in which the communicated messages concern new ideas. A central concept related to the diffusion of innovations is also their *adoption*, which is defined as the decision made by an individual member of a social system to make full use of an innovation as the best course of action available.

At the macro level of social systems, IDT posits that not all members of a social system adopt an innovation at the same time. Instead, its diffusion is hypothesised to occur gradually over time. The degree to which an individual or

other unit of adoption is relatively earlier in adopting the innovation than the other members of a social system is determined by his or her innovativeness, which can be conceptualised as either a global trait affecting the adoption of all innovations or a domain-specific trait affecting the adoption of innovations only in some specific domain (Goldsmith, Freiden & Eastman 1995). Like many other human traits, innovativeness is hypothesised to be a normally distributed trait, resulting in the adoption curve of a successfully diffused innovation resembling either an S-shaped curve if the cumulative number of adopters is plotted over time or a bell-shaped curve illustrated in Figure 3 if the momentary number of adopters is plotted over time. In other words, the diffusion first takes off slowly, speeds up until about half of the members of a social system have adopted an innovation, and then begins to slow down again. Based on their innovativeness and the bell-shaped curve illustrated in Figure 3, the members of a social system are typically classified into five adopter categories: (1) *innovators*, (2) *early adopters*, (3) *early majority*, (4) *late majority*, and (5) *laggards*. Of them, the innovators constitute the first 2.5% of the members of a social system who adopt the innovation. They are followed by the early adopters who constitute the next 13.5%, the early and late majority who each constitute the next 34%, as well as the laggards who constitute the last 16% of the members of a social system who adopt the innovation. In addition, of course, there may also be some who do not adopt the innovation at all. The adopter categories are typically differentiated from each other by several characteristics, which are classified by Rogers (2003) into three categories: (1) socioeconomic characteristics, (2) personality variables, and (3) communication behaviour.

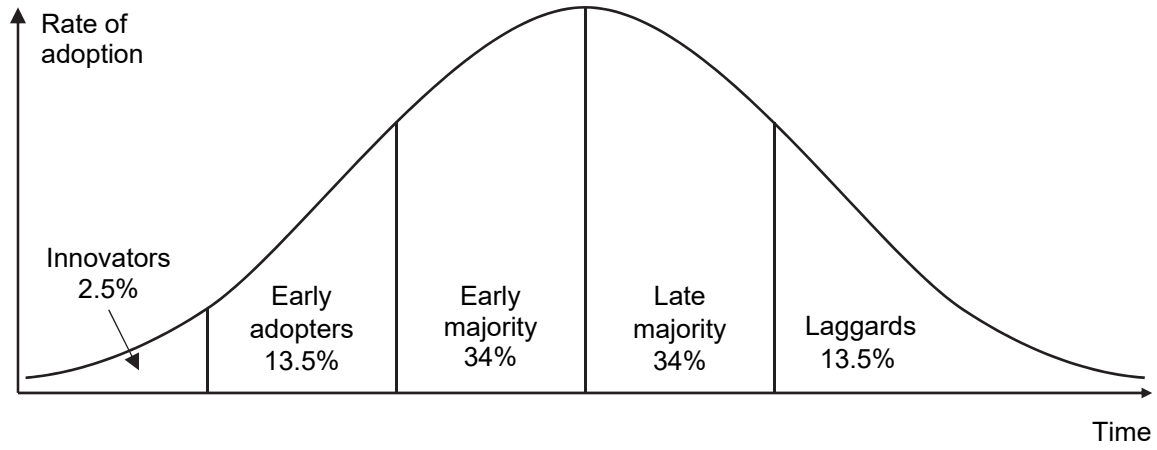

FIGURE 3 Bell curve and adopter categories (Rogers 2003)

At the micro level of individual members of a social system, IDT posits that when an individual or other unit of adoption becomes aware of an innovation, they go through an innovation-decision process consisting of five sequential stages illustrated in Figure 4: (1) *knowledge*, in which they are exposed to the existence of the innovation and gain an understanding of how it functions, (2) *persuasion*, in which they form a favourable or unfavourable attitude towards

the innovation, (3) *decision*, in which they engage in activities that lead to a choice to adopt or reject the innovation, (4) *implementation*, when they put the innovation to use if having decided to adopt it, and (5) *confirmation*, when they seek reinforcement of an innovation-decision already made. This reinforcement or the lack of it may result in them sticking to their previous adoption or rejection decision, referred to as continued adoption or continued rejection, or it may result in later adoption of an innovation that was previously rejected or in discontinuance, which refers to a decision to reject the innovation after having previously adopted it. In other words, the innovation-decision process is fundamentally an information-seeking, information-processing, and decision-making activity in which an individual or other unit of adoption obtains information in order to decrease the uncertainty that is inherently involved in deciding whether to adopt or reject the innovation. Because of the crucial role of information, different types of communication channels obviously play a central part in the innovation-decision process, mass media channels especially in the knowledge stage and interpersonal channels especially in the subsequent stages. Other factors that influence whether individuals or other units of adoption become aware of an innovation at all are the prior conditions in terms of previous practices, perceived needs and problems, innovativeness, and the norms of the social system as well as their characteristics in terms of socioeconomic characteristics, personality variables, and communication behaviour, which were already mentioned above. In turn, a critical factor influencing the formation of attitude towards the innovation are the perceived characteristics of an innovation, which will be discussed in more detail below.

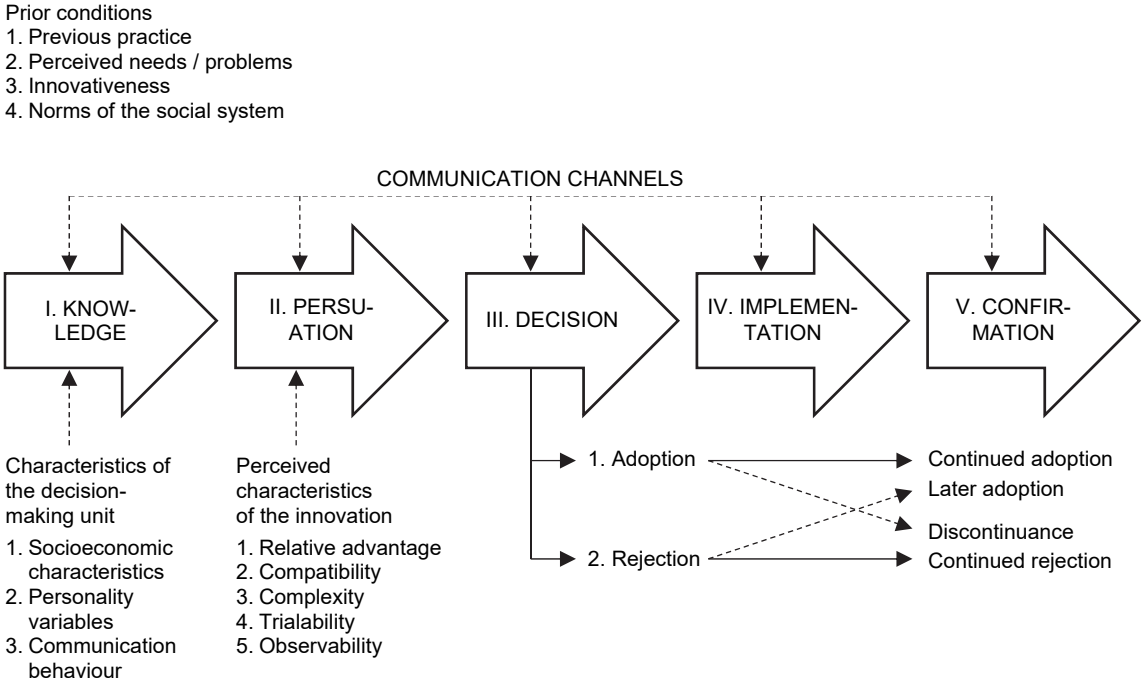

FIGURE 4 Innovation-decision process (Rogers 2003)

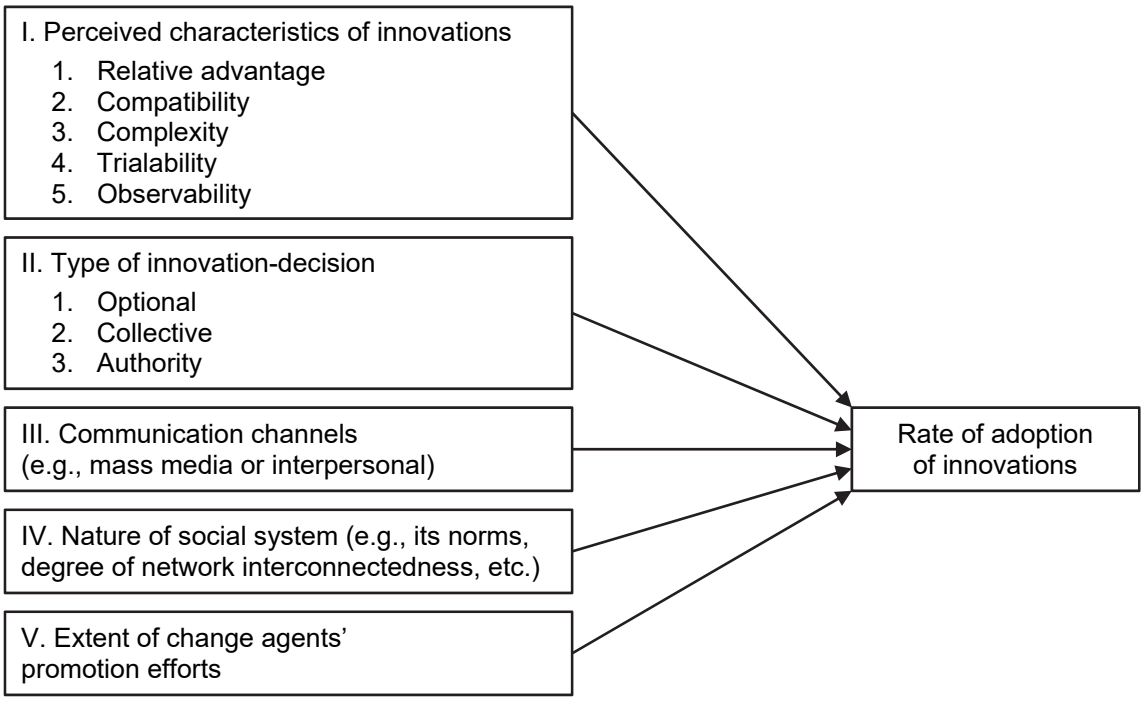

FIGURE 5 Determinants of the rate of adoption of innovations (Rogers 2003)

One commonly referred aspect of IDT are its hypotheses concerning the rate of adoption of innovations, which refers to the relative speed with which an innovation is adopted by the members of a social system. In IDT, it is posited to be determined by five factors illustrated in Figure 5: (1) the perceived characteristics of an innovation, (2) the type of innovation-decision, (3) communication channels, (4) the nature of social system, and (5) the extent of change agents' promotion efforts. Of these, the ones that have gained the most attention are the five perceived characteristics of an innovation that were already mentioned above: (1) *relative advantage*, which is defined as the degree to which an innovation is perceived as being better than the idea it supersedes, (2) *compatibility*, which is defined as the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters, (3) *complexity*, which is defined as the degree to which an innovation is perceived as relatively difficult to understand and use, (4) *trialability*, which is defined as the degree to which an innovation may be experimented with on a limited basis, and (5) *observability*, which is defined as the degree to which the results of an innovation are visible to others. Together, these have been found to explain from 49 to 87 percent of the variance in the rate of adoption of innovations (Rogers 2003), and of them, the first three have been found to have the most consistent effects on it (Tornatzky & Klein 1982). In addition, in the context of IT innovations in organisations, Moore and Benbasat (1991) have proposed two additional perceived characteristics of innovations that affect their rate of adoption: *image*, which is defined as the degree to which the use of an innovation is perceived to enhance one's image or status in one's social system, and *voluntar-*

iness of use, which is defined as the degree to which the use of the innovation is perceived as being voluntary or of free will.

Because online distributed digital products in general and online distributed digital music and music download stores in particular can be seen as innovations that supersede the previous physical products and services, IDT can be considered a very suitable theory for studying their diffusion and adoption as well as other aspects of consumer behaviour related to them. In this thesis, IDT is used as a theoretical foundation especially in RA2, which examines the adoption levels and 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. IDT is also used as theoretical background in RA4 when examining what kind of perceptions of relative advantages and disadvantages drive modern recorded music consumers to use different acquisition channels as well as in the extension of RA5 when eliciting the behavioural beliefs about making purchases in music download stores by asking consumers what relative advantages and disadvantages they associate with this behaviour. In addition, IDT is closely related to the theoretical concept of innovation resistance, which is used as the theoretical foundation of RA6 and its extension. It will be discussed in more detail in the next sub-chapter.

3.2 Innovation resistance

Innovation resistance is a concept for which there is no universally accepted definition. Typically, the decisions in the innovation-decision process to reject the innovation are referred to as innovation resistance, but, as noted by Ram (1987), innovation resistance should not merely be seen as a synonym for innovation rejection or as an antonym for innovation adoption because every innovation typically encounters at least some resistance since its inception, regardless of whether it becomes adopted or rejected later on. Of course, the degree of this resistance may, and usually does, vary depending on the innovation, individual, and context in question. Depending on its degree, innovation resistance may manifest itself in many different ways. Therefore, based on the prior works by Ram and Sheth (1989) as well as Szmigin and Foxall (1998), Kleijnen, Lee, and Wetzels (2009) suggest that innovation resistance should actually be seen as a hierarchical concept consisting of at least three manifestations: (1) *postponement*, (2) *rejection*, and (3) *opposition*. Of these, they define postponement as an active decision not to adopt the innovation at the moment, whereas rejection is defined as an active decision not to adopt the innovation at all. In turn, opposition is defined as an active behaviour directed in some way against the innovation, such as spreading negative word-of-mouth about it to other consumers.

Despite the lack of a universally accepted definition, there is broad agreement that innovation resistance can and should be considered a central concept in the diffusion of innovations and an important topic to study in itself (e.g.,

Sheth 1981; Ram 1987, 1989; Ram & Sheth 1989). There are at least three reasons for this. First, a better understanding of innovation resistance gained through the studies can be considered a prerequisite for the systematic development of strategies that aim to reduce innovation resistance in one way or another and, consequently, to promote the diffusion of innovations. Because, as already discussed above, every innovation typically encounters at least some resistance since its inception, these strategies can be considered relevant for all innovations, for example, in terms of helping them to attract the critical mass of adopters that is required for their diffusion to become self-sustaining (Rogers 2003) and to cross the infamous "chasm" in their adoption curve (Moore 2014). However, the strategies can be considered especially critical for the so-called disruptive innovations, whose adoption would result in considerable changes to the day-to-day existence of their adopters, thus causing them to be resisted even more than usual. Online distributed digital music and music download stores can be considered two good examples of such innovations because their adoption often results in considerable changes to the existing music acquisition and consumption practices of consumers.

Second, studying innovation resistance can be considered important because not all innovations should necessarily be adopted by all members of a social system, meaning that some members may actually be better off without adopting an innovation at all. In the case of such innovations, a better understanding of innovation resistance can save the change agents and other corresponding actors the trouble of pointlessly promoting the innovation to these members. Music download stores can once again be considered a good example of these kinds of innovations. For example, if a person prefers the authentic sound of old vinyl records when listening to his or her music or the excitement of browsing through the shelves of a local brick-and-mortar record store, it is difficult to make a reasonable case for why that particular person should start making his or her purchases in music download stores. Of course, music download stores could perhaps provide that person better audio quality in a technical sense and perhaps also savings in terms of money, effort, and time when making the purchases, but these kinds of increases in the utilitarian value would most likely be outweighed by a decrease in hedonic value resulting from the actual listening or shopping experience, thus leaving the person worse off than without adopting the innovation at all.

Third, studying innovation resistance can also be considered important because it allows us to examine the diffusion of innovations from the dualistic perspective of not only enablers but also inhibitors (Cenfetelli 2004; Cenfetelli & Schwarz 2011), which was already discussed in the introduction of the thesis. That is, whereas IDT concentrates mainly on the enabler perspective, innovation resistance also incorporates the inhibitor perspective.

Although being a central concept in the diffusion of innovations and an important topic to study in itself, innovation resistance has so far received relatively little attention in academic studies, which is why it is often referred to as the "less developed concept" of diffusion research (Sheth 1981). According to

Sheth (1981), the prime cause for this is the so-called pro-innovation bias in diffusion research, which is defined by Rogers (2003) as the often more implicit than explicit assumption that all innovations are always "good" and should be adopted by all members of a social system. The traces of this bias can be seen, for example, in the tendency to refer to the first adopters of an innovation positively as *innovators* but its last adopters or non-adopters negatively as *laggards* as well as in the preference of many diffusion researchers to rather concentrate on topics like the early adopters of an innovation and the adoption drivers instead of topics like its late or non-adopters and the adoption barriers. However, as already discussed above, this aforementioned assumption behind the pro-innovation bias cannot be considered to hold true for all innovations, which is why studies concentrating specifically on the topic of innovation resistance are also needed. Fortunately, some prior studies have done just this. Most of them have been marketing studies concentrating on consumer behaviour (e.g., Sheth 1981; Ram 1987, 1989; Ram & Sheth 1989; Szmigin & Foxall 1998; Kleijnen et al. 2009), but also many IS studies have concentrated on innovation resistance specifically in the context of user resistance to new systems (e.g., Keen 1981; Markus 1983; Hirschheim & Newman 1988; Joshi 1991; Marakas & Hornik 1996; Martinko, Zmud & Henry 1996; Lapointe & Rivard 2005; Ferneley & Sobreperez 2006; Kim & Kankanhalli 2009; Polites & Karahanna 2012).

One popular theme of the prior studies has been the antecedents of innovation resistance, about which several divergent views have been presented. For example, Sheth (1981) considers innovation resistance to be caused by two fundamental factors: (1) the habits associated with the existing practices or behaviours to which adopting an innovation poses changes and (2) the perceived risks associated with adopting an innovation, which can relate to aversive physical, social, or economic consequences, to performance uncertainty, or to perceived side effects associated with the innovation. The stronger the habits and the higher the perceived risks, the stronger the encountered innovation resistance typically is. Based on these two dimensions, Sheth (1981) also suggests a typology of innovation resistance that consists of four types of innovations: (1) dual resistance innovations, (2) habit resistance innovations, (3) risk resistance innovations, and (4) no resistance innovations. Of these, the dual resistance innovations are obviously likely to encounter the strongest resistance, whereas the no resistance innovations are likely to encounter the weakest resistance. Ram (1989) later modifies this typology by renaming its first dimension as cognitive resistance, its second dimension as risk resistance, and innovation resistance as behavioural resistance. Of these, he considers risk resistance to be caused by four components: (1) functional risk, (2) economic risk, (3) social risk, and (4) psychological risk. In turn, cognitive resistance is considered to be caused by two components: (1) the amount of additional information and cognitive processing needed in terms of an innovation and (2) the conflicts of an innovation with the prior beliefs of consumers.

A somewhat similar view of the antecedents of innovation resistance is suggested jointly by Ram and Sheth (1989), who trace its origins to two funda-

mental factors: (1) an innovation poses potential changes from a satisfactory status quo or to the current habits of consumers or (2) an innovation conflicts with the prior beliefs of consumers. Highly disruptive innovations that require a high degree of change in the day-to-day existence of consumers and considerably disrupt their established routines are assumed to encounter stronger resistance than others, as are also innovations that run counter to the prior beliefs of consumers. Based on this idea, Ram and Sheth (1989) also suggest two main types of barriers that cause innovation resistance. First, functional barriers are the ones that arise when an innovation poses significant changes to the current habits of consumers. These barriers can be further divided into usage barriers related to the existing usage patterns of consumers, value barriers related to the perceived value of an innovation, and risk barriers related to the perceived risks associated with an innovation. Second, psychological barriers are the ones that arise from the conflicts between the innovation and the prior beliefs of consumers. These barriers can be further divided into tradition barriers related to the traditions and norms of consumers as well as image barriers related to the perceived image of an innovation. Finally, Ram and Sheth (1989) also suggest several strategies for breaking these barriers.

Yet another but slightly different view of the antecedents of innovation resistance is suggested by Ram (1987) in his model of innovation resistance, in which the antecedents are classified into three categories. These are innovation characteristics, consumer characteristics, and the propagation mechanisms of an innovation. Of these, innovation characteristics can be further divided into consumer-dependent and consumer-independent ones, whereas consumer characteristics can be classified into psychological and demographic ones. In addition, a more detailed differentiation between the propagation mechanisms can be made based on their types and characteristics. Finally, based on the synthesis of several prior studies, Kleijnen et al. (2009) suggest so far the most comprehensive typology for the antecedents of innovation resistance that consists of eight drivers: (1) traditions and norms, (2) existing usage patterns, (3) perceived image, (4) information overload, and perceived risks, which can be further divided into (5) physical risk, (6) economic risk, (7) functional risk, and (8) social risk. They also study the effects of each of these drivers on the three manifestations of innovation resistance already mentioned above: (1) postponement, (2) rejection, and (3) opposition. Their findings suggest that postponement is driven mainly by economic risk and conflicts with existing usage patterns, whereas rejection is driven mainly by economic risk and conflicts with existing usage patterns but also by functional risk, social risk, and issues with perceived image. In contrast, the main drivers of opposition were found to be functional risk, social risk, and issues with perceived image but also physical risk and conflicts with the existing traditions and norms of society.

In this thesis, innovation resistance is obviously very closely connected to its objective of examining consumer purchase behaviour in music download stores from the dualistic perspective of not only the enablers but also the inhibitors of IS acceptance and use. Therefore, it is used as the theoretical foundation

especially in RA6 and its extension, which examine consumer resistance to making purchases in music download stores in terms of the reasons why some consumers have never made purchases in them.

3.3 Theory of reasoned action and theory of planned behaviour

The theory of reasoned action (TRA) by Fishbein and Ajzen (Fishbein & Ajzen 1975; Ajzen & Fishbein 1980) and the theory of planned behaviour (TPB) by Ajzen (1985, 1991) are some of the most well-known and widely used theories for explaining human behaviour, whose efficacy to explain human behaviour in a variety of context has been validated in multiple meta-analytic reviews (e.g., Sheppard, Hartwick & Warshaw 1988; Armitage & Conner 2001). Both TRA and TPB are based on the basic idea that our *behavioural intention* is the best determinant of our *actual behaviour*. In other words, the more motivated we are to perform a behaviour, the more probable it is that we will actually perform it. The main difference between TRA and TPB concerns the determinants of behavioural intention. In TRA, which is illustrated in Figure 6, behavioural intention is hypothesised to be determined by two constructs: *attitude*, which is defined as an individual's favourable or unfavourable feeling about the performance of the behaviour, and *subjective norm*, which is defined as an individual's perception of the normative or social pressure to perform or not to perform the behaviour. That is, the more positive the attitude and the subjective norm towards the behaviour, the stronger the intention to perform it should be.

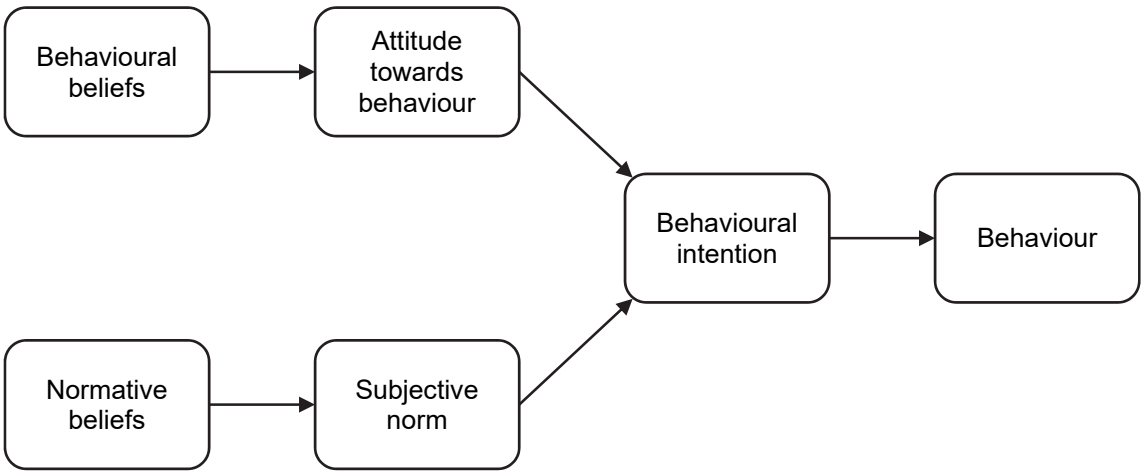

FIGURE 6 Theory of reasoned action (Fishbein & Ajzen 1975; Ajzen & Fishbein 1980)

TPB, which is illustrated in Figure 7, extends TRA to contexts in which individuals have incomplete volitional control over their behaviours. It adds a third determinant for behavioural intention: *perceived behavioural control*, which is defined as an individual's perception of capacity, autonomy, and self-efficacy over the performance of the behaviour. More simply put, perceived behavioural con-

trol can also be defined as the perceived ease or difficulty of performing the behaviour, although in some subsequent IS theories that are based on TPB, the perceived control and perceived ease of use dimensions have been decoupled into distinct constructs (see Chapter 3.4). The stronger the perceived behavioural control over the behaviour, the stronger the intention to perform it should once again be. In the original TPB, in addition to influencing behaviour indirectly via intention, perceived behavioural control is also hypothesised to influence behaviour directly because if there are two individuals who have an equally strong intention to perform a behaviour, the one who has more confidence in his or her ability to perform it is typically more likely to persevere than the other. In more recent revisions of TPB (e.g., Fishbein & Ajzen 2010), instead of having a direct effect on behaviour, perceived behavioural control is also commonly hypothesised to moderate the effect of intention on behaviour, at least to the extent that it acts as an accurate and realistic proxy for actual control. In other words, if our perceptions of the easiness or difficulty of performing a behaviour are accurate, this should correlate with how easy or difficult it is for us to actualise our intention into behaviour.

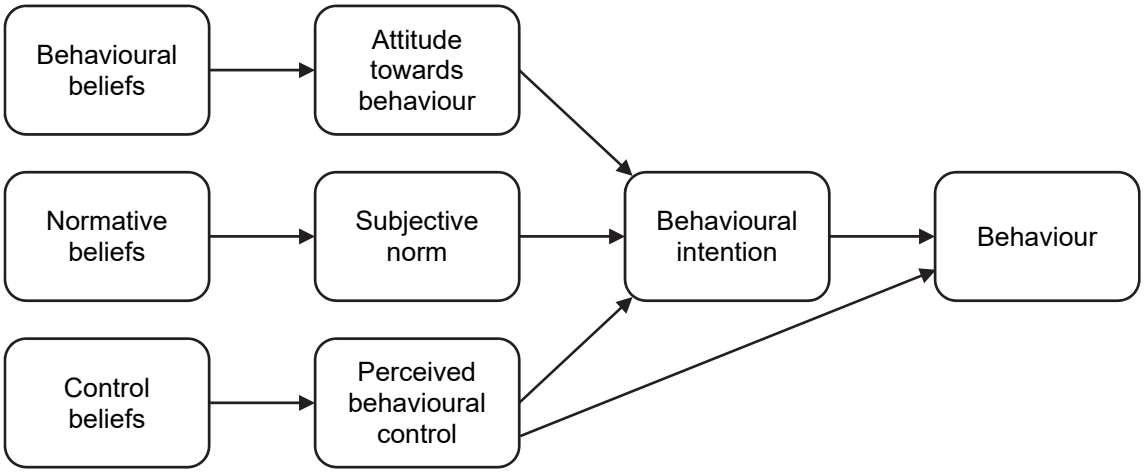

FIGURE 7 Theory of planned behaviour (Ajzen 1985, 1991)

The aforementioned constructs and their hypothesised interrelationships can be seen to constitute the so-called core constructs and hypotheses of TRA and TPB. Many studies limit themselves only to these core constructs and hypotheses when using the theories to explain or predict a particular human behaviour. However, it is also often both interesting and important to examine how our attitude and subjective norm towards and perceived behavioural control over a behaviour are formed. To answer this question, TPB contains three additional constructs that are hypothesised to act as the determinants of attitude, subjective norm, and perceived behavioural control: (1) *behavioural beliefs*, (2) *normative beliefs*, and (3) *control beliefs*. Of these three types of beliefs, behavioural beliefs refer to the perceived probabilities that the performance of the behaviour will result in particular outcomes, whereas normative beliefs refer to the perceived probabilities that important referents will approve or disapprove the perfor-

mance of the behaviour. In turn, control beliefs refer to the perceived probabilities of the presence or absence of resources or opportunities required to perform the behaviour. When these beliefs influence the formation of attitude, subjective norm, and perceived behavioural control, this is hypothesised to occur in an interaction between the aforementioned belief strengths and belief evaluations, which concern the desirability or undesirability of each outcome in the case of behavioural beliefs, the motivation to comply with each important referent in the case of normative beliefs, and the perceived power of the presence or absence of each resource or opportunity to facilitate or impede the performance of the behaviour in the case of control beliefs. Therefore, each belief is typically measured by using so-called multiplicative composite indicators, in which both belief strength and belief evaluation are scored, and these two scores are then multiplied together to get the indicator score.

In addition to the differences in their measurement, the three belief constructs differ from the core constructs of TRA and TPB in terms of their more context-specific nature, which makes the two theories suitable for examining also the more context-specific determinants of a particular behaviour. That is, TRA and TPB as such do not propose any predetermined set of beliefs that are hypothesised to influence the formation of attitude, subjective norm, and perceived behavioural control in all contexts. On the contrary, these beliefs are hypothesised to vary from one context to another. Therefore, when studying the influence of the belief constructs on the core constructs of TRA and TPB, one must typically first elicit the *salient beliefs* of individuals in that specific context, which refer to the beliefs that individuals have readily accessible in their mind or memory, thus making them the most influential ones in that specific context. Their number usually varies from about five to nine per individual. This elicitation can be performed at an individual level, but more commonly it is performed at a population level by concentrating on the so-called *modal salient beliefs*, which are beliefs that the individuals in the population most frequently have readily accessible in their mind or memory. The number of these beliefs may obviously be much higher than what was described above because different individuals may hold different beliefs.

In the original TRA and TPB, the elicited behavioural, normative, and control beliefs are conceptualised as unidimensional constructs, in which the scores of individual beliefs are simply summed together in order to get a score of the whole behavioural, normative, or control belief construct. The shortcoming of this approach is that it assumes that all the individual beliefs are equally influential and provides no means to examine which of them are potentially more or less influential than the others in the formation of attitude, subjective norm, and perceived behavioural control. In order to address this limitation, Taylor and Todd (1995a, 1995b) have proposed an extension of the original TPB, which is commonly called the decomposed theory of planned behaviour (DTPB). In it, the unidimensional belief constructs are decomposed into multiple constructs, each of which represents a particular belief dimension. This decomposition can be done in two main ways. The first and more theoretically driven approach is

to use some prior theory as a basis of the decomposition. As it is illustrated in Figure 8, this approach was also used by Taylor and Todd (1995a, 1995b) in their original studies, in which they concentrated on explaining the adoption and usage of two technological innovations and used IDT as a basis of decomposing the behavioural beliefs into beliefs concerning the relative advantage, compatibility, and complexity of the innovation. The second and more empirically driven approach is to base the decomposition on empirical evidence, such as what kinds of beliefs were elicited from the members of the research population. An excellent example of this approach is presented in a study by Pavlou and Fygenson (2006) on electronic commerce adoption, in which they elicit both behavioural and control beliefs behind the attitude towards and the perceived behavioural control over searching for information and making purchases in online stores, classify them into different categories, and use the most frequently referred beliefs as antecedents of attitude and perceived behavioural control in their proposed model. A very similar approach is followed in this thesis in the extension of RA5 when eliciting the behavioural beliefs about making purchases in music download stores.

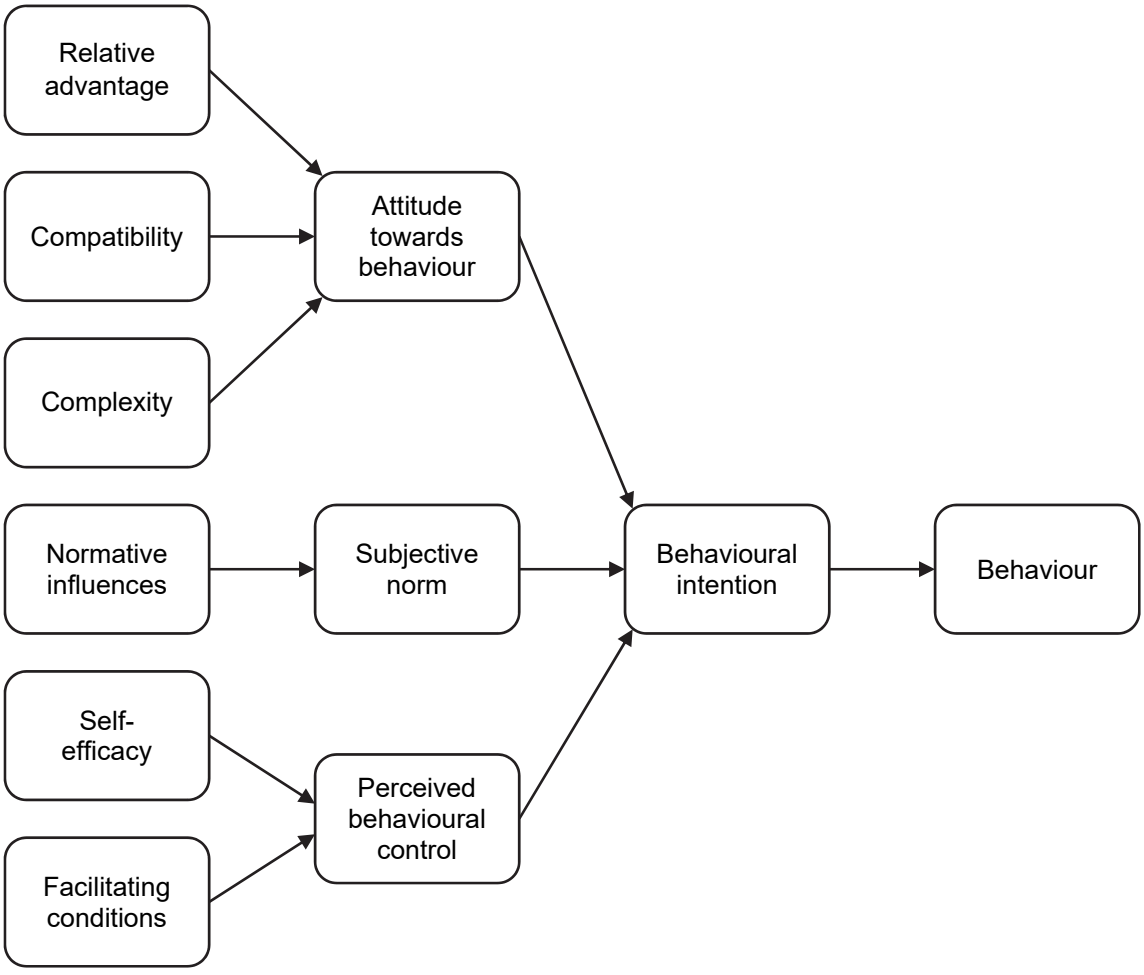

FIGURE 8 Decomposed theory of planned behaviour (Taylor & Todd 1995a)

In the IS context, TRA, TPB, DTPB, and their numerous extensions have been used to explain online shopping (e.g., George 2004; Pavlou & Fygenson 2006; Lin 2007), digital piracy (e.g., d'Astous et al. 2005; Al-Rafee & Cronan 2006; Cronan & Al-Rafee 2008; Morton & Koufteros 2008; Yoon 2011), the use of both free and paid music subscription services (Kwong & Park 2008; Dörr et al. 2013; Lin et al. 2013), and even the use of music download stores (Dilmperi et al. 2017). Due to its aforementioned suitability for context-specific inquiries, TPB, or more precisely DTPB, is used in this thesis as a theoretical foundation of RA5 and its extension, which propose a model for explaining consumer purchase behaviour in music download stores.

3.4 Technology acceptance model and unified theory of acceptance and use of technology

The technology acceptance model (TAM), which was originally proposed by Davis (1986) in his doctoral thesis and published later by Davis (1989) as well as Davis, Bagozzi, and Warshaw (1989), is an extension of TRA for the IS context that is used for explaining the user acceptance of IT and IS. In TAM, which is illustrated in Figure 9, the behavioural intention to use a particular system, and consequently its actual use, is hypothesised to be determined only by the attitude towards its use, thus disregarding the role of subjective norm as a behavioural determinant. By using the idea of belief decomposition discussed in the context of DTPB, the attitude towards system use, in turn, is posited to be determined by two types of beliefs that are considered particularly relevant in the context of IT or IS acceptance: *perceived usefulness*, which is defined as the degree to which an individual believes that using a particular system would enhance his or her job performance, and *perceived ease of use*, which is defined as the degree to which an individual believes that using a particular system would be free of effort. In addition to acting as determinants of attitude, perceived ease of use is also hypothesised to act as a determinant of perceived usefulness because systems that are perceived as easier to use are typically also perceived as more useful. Similarly, perceived usefulness is hypothesised to act not only as an indirect but also as a direct determinant of behavioural intention because, especially in an organisational context, employees may have a strong intention to use a particular system despite their feelings towards it because they may believe that the system use enhances their job performance and, thus, also results in rewards, such as pay raises and promotions. For this same reason, in many subsequent adaptations of TAM, the attitude construct is omitted altogether, and both perceived usefulness and perceived ease of use are hypothesised to act as direct determinants of behavioural intention.

During the past three decades, TAM has become one of the most well-known and widely used IS theories and numerous extensions for it have been

introduced, such as TAM2 by Venkatesh and Davis (2000) as well as TAM3 by Venkatesh and Bala (2008). Although TAM was originally developed specifically for organisational contexts, it and its extensions have also been very commonly and successfully applied to consumer contexts, such as explaining online shopping in general (e.g., Chen, Gillenson & Sherrell 2002; Gefen et al. 2003; Pavlou 2003) and the use of music download stores in particular (e.g., Chu & Lu 2007; Bounagui & Nel 2009; Nel et al. 2009; Suki 2011a, 2011b). In this thesis, TAM is utilised especially as a background theory when reflecting its findings to those of prior research on the antecedents of IS acceptance and use. In addition, the operationalisation of the perceived ease of use construct of TAM is utilised in the extension of RA5 when testing the proposed model for explaining consumer purchase behaviour in music download stores.

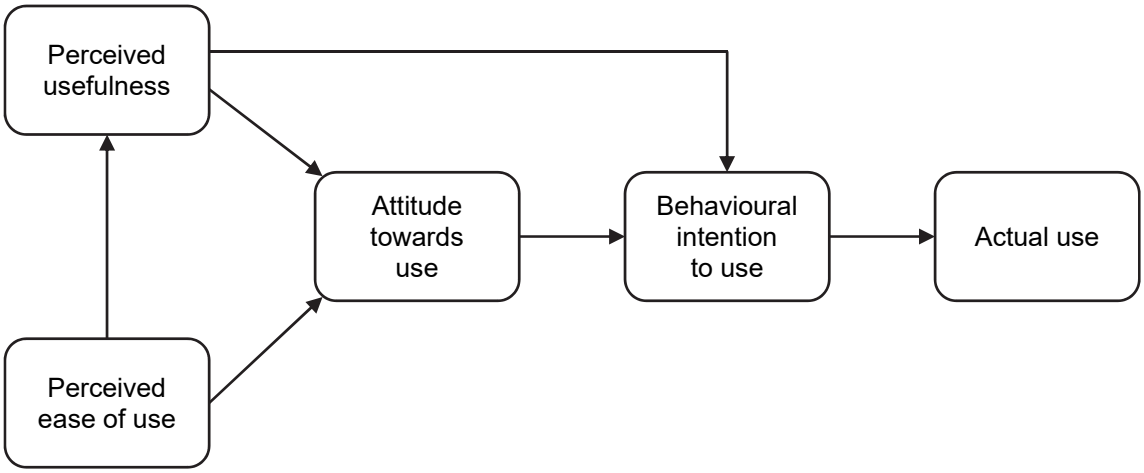

FIGURE 9 Technology acceptance model (Davis et al. 1989)

The unified theory of acceptance and use of technology (UTAUT) proposed by Venkatesh, Morris, Davis, and Davis (2003) is often seen as an extension of TAM, although it is actually a synthesis of eight prior theories for explaining human behaviour, including TAM and the aforementioned IDT, TRA, TPB, and DTPB. In UTAUT, which is illustrated in Figure 10, acceptance or use behaviour is hypothesised to be determined by four constructs: (1) *performance expectancy*, which is defined as the degree to which an individual believes that using the system will help him or her to attain gains in job, (2) *effort expectancy*, which is defined as the degree of ease associated with the use of the system, (3) *social influence*, which is defined as the degree to which an individual perceives that important others believe he or she should use the new system, and (4) *facilitating conditions*, which is defined as the degree to which an individual believes that an organisational and technical infrastructure exists to support the use of the system. Of these, the first three constructs are hypothesised to act as indirect determinants of usage behaviour via usage intention, whereas the last construct is expected to act as a direct determinant of usage behaviour. In terms of the prior theories discussed above, the performance expectancy construct is derived from the perceived usefulness construct of TAM and the perceived relative ad-

vantage construct of IDT, whereas the effort expectancy construct is derived from the perceived ease of use construct of TAM and the perceived complexity construct of IDT. In turn, the social influence construct is derived from the subjective norm construct of TRA, TPB, and DTPB, whereas the facilitating conditions construct is derived from the perceived behavioural control construct of TPB and DTPB. In addition, UTAUT hypothesises that the effects of the four aforementioned constructs on behavioural intention and acceptance or use behaviour are moderated by gender, age, experience with the system, and voluntariness of its use so that (1) the effect of performance expectancy on behavioural intention will be stronger for men and for younger individuals, (2) the effect of effort expectancy on behavioural intention will be stronger for women, for younger individuals, and for individuals with less experience, (3) the effect of social influence on behavioural intention will be stronger for women, for older individuals, for individuals with less experience, and in mandatory settings, and (4) the effect of facilitating conditions on acceptance or use behaviour will be stronger for older individuals and for individuals with more experience.

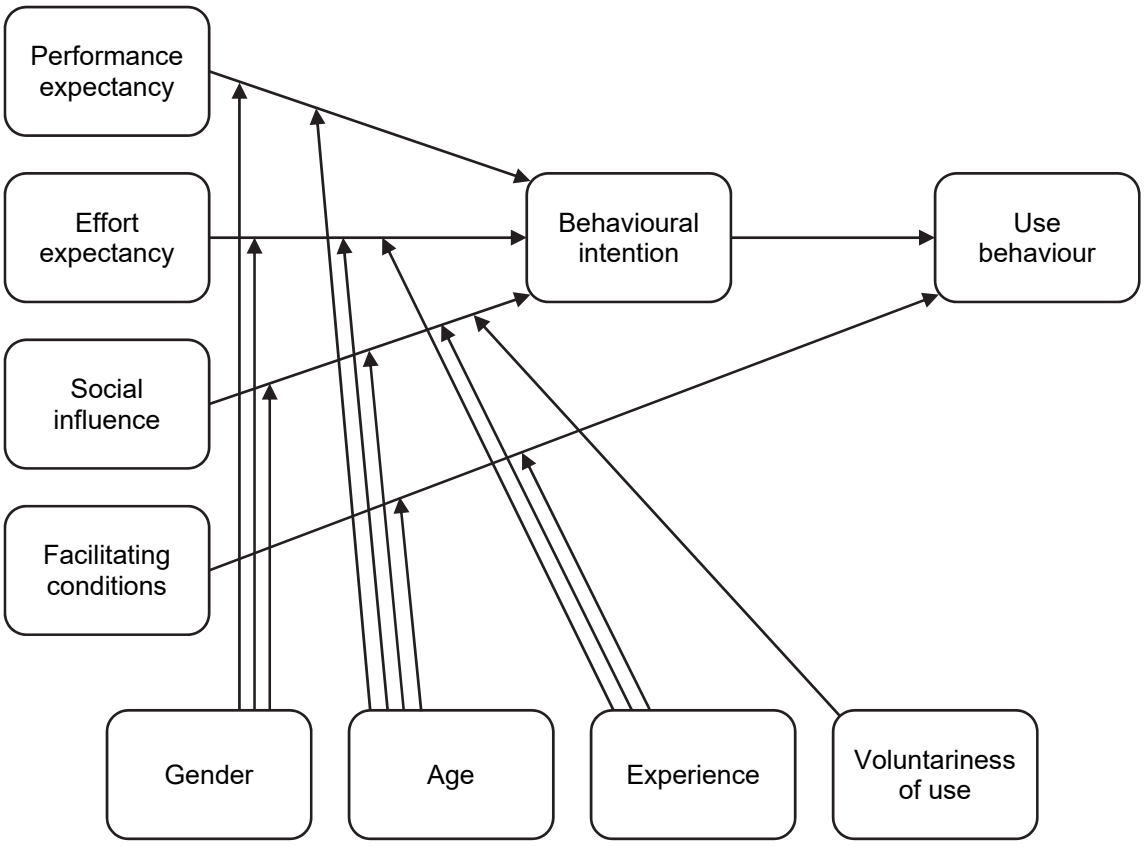

FIGURE 10 Unified theory of acceptance and use of technology (Venkatesh et al. 2003)

Similar to TAM, numerous extensions for UTAUT have been introduced over the years, such as UTAUT2 by Venkatesh, Thong, and Xu (2012), which extends its applicability from organisational contexts to consumer contexts. In this thesis, UTAUT and UTAUT2 will be utilised especially as background theories when reflecting its findings to those of prior research on the antecedents of IS ac-

ceptance and use. In addition, the hypotheses of UTAUT and UTAUT2 concerning the gender and age moderations are utilised in RA2 as well as in RA5 and RA6 with their extensions as partial justifications for examining the potential gender and age differences in the adoption of music download stores, in consumer purchase behaviour in music download stores, as well as in the references to the reasons for not having made purchases in music download stores.

3.5 Willingness to pay

Willingness to pay (WTP) is commonly defined as the maximum price a buyer is willing to pay for a given quantity of a product or service (Wertenbroch & Skiera 2002). Thus, it can be considered a critical input for the business models of all companies that aim at implementing optimal pricing policies. There are many different methods for measuring WTP. Breidert (2005) classifies these into two main categories. The methods in the first category aim at measuring WTP by eliciting revealed consumer preferences through observations, which may be based on actual market data, or on field or laboratory experiments. Typical examples of these kinds of experiments are auctions conducted by using the Vickrey (1961) or Becker-DeGroot-Marschak (BDM, 1964) mechanisms. The methods in the second category aim at measuring WTP by eliciting stated consumer preferences through direct or indirect surveys. In direct surveys, consumers are directly asked about their WTP by using open-ended or closed-ended questions. In the context of non-market products and services, this approach is also commonly referred to as the contingent valuation (CV) method (e.g., Mitchell & Carson 1989). In indirect surveys, consumers are offered a selection of products or services with varying attributes, and WTP is inferred from their rankings or ratings of these alternatives. A common example of this kind of approach is the conjoint analysis (CA) method (e.g., Green, Krieger & Wind 2001).

Observation-based and survey-based methods can be seen to have both their advantages and their disadvantages in measuring WTP. On one hand, observation-based methods are typically perceived as producing more reliable and valid estimates of the true WTP of consumers, but they are capable of producing only *ex-post* information and are often relatively complex to employ. On the other hand, survey-based methods are often simpler to employ and capable of producing also *ex-ante* information, but they are typically perceived as producing less reliable and less valid estimates of the true WTP of consumers, often either underestimating or overestimating it.

In the context of online distributed digital products in general and online distributed digital music in particular, both observation-based and survey-based methods have been employed in measuring WTP. However, the employment of survey-based methods has been much more common. Of the survey-based methods, the most commonly employed method has been a direct survey with one or more open-ended questions (e.g., Fetscherin & Lattemann 2007; Sandulli & Martín-Barbero 2007; Chiang & Assane 2009), most probably

due to its intuitiveness and simplicity from the perspective of both the respondent and the researcher. For these same reasons and in order to promote compatibility and comparability with prior studies, this measurement method is also employed in this thesis in RA3, which examines the WTP for the albums and tracks sold in music download stores as well as the potential differences them in terms of gender, age, and income.

3.6 Summary of the theoretical foundation

The theoretical foundation of the thesis is once more summarised in Table 3 in terms of which theories and theoretical concepts were used in which research articles and their extensions. In addition, as it was discussed in Chapter 1 and above, theories like TAM, UTAUT, UTAUT2, and innovation resistance are also used more broadly in the thesis, for example, as a motivation for its more context-specific and dualistic perspective that focuses on both the enablers and inhibitors of IS acceptance and use.

TABLE 3 Summary of the theoretical foundation

Research article or extension	Utilised theories and theoretical concepts
RA1	–
RA2	IDT (+ UTAUT and UTAUT2 in terms of gender and age moderations)
RA3	WTP
RA4	IDT
RA5 + extension	TPB and DTPB + IDT + TAM (+ UTAUT and UTAUT2 in terms of gender and age moderations)
RA6 + extension	Innovation resistance (+ UTAUT and UTAUT2 in terms of gender and age moderations)

4 METHODOLOGY

This chapter reports the research methodology of the thesis by concentrating first on its overall research process and then more precisely on the employed data collection and data analysis methods. The chapter concludes with a brief discussion of the various actions that were taken to promote the validity and reliability of the research results.

4.1 Research process

The empirical research activities for this thesis were conducted mainly as part of the Digital Content Marketing (DCM) project, which lasted from 1 January 2009 to 31 December 2010 and in which the thesis author worked as a project researcher from 1 April 2009 to 31 December 2010. The project was a joint research project between the Department of Computer Science and Information Systems at the University of Jyväskylä and the Helsinki Institute for Information Technology (HIIT). It was funded by Tekes (the Finnish Funding Agency for Innovation) as well as four Finnish companies (SOK, Teosto ry, Dr.Elma Oy, and Nemesys Oy). The objective of the project was to research digital content marketing and markets from the technology, business, and consumer perspectives, concentrating mainly on recorded music content.

Figure 11 illustrates the overall research process of the thesis in terms of the conducted empirical research activities and the employed data collection and data analysis methods. The upper part concentrates on data collection and reports the specific interview and survey studies that were used to collect the data for the thesis, the number of participants taking part in each study, the timing of each study, and the interrelationships between the studies in terms of how the data from the previous study or studies was utilised in preparing the subsequent one or ones. In turn, the lower part concentrates on data analysis and reports on which studies each of the five empirical research articles and their extensions are based on and how the data was analysed in each them.

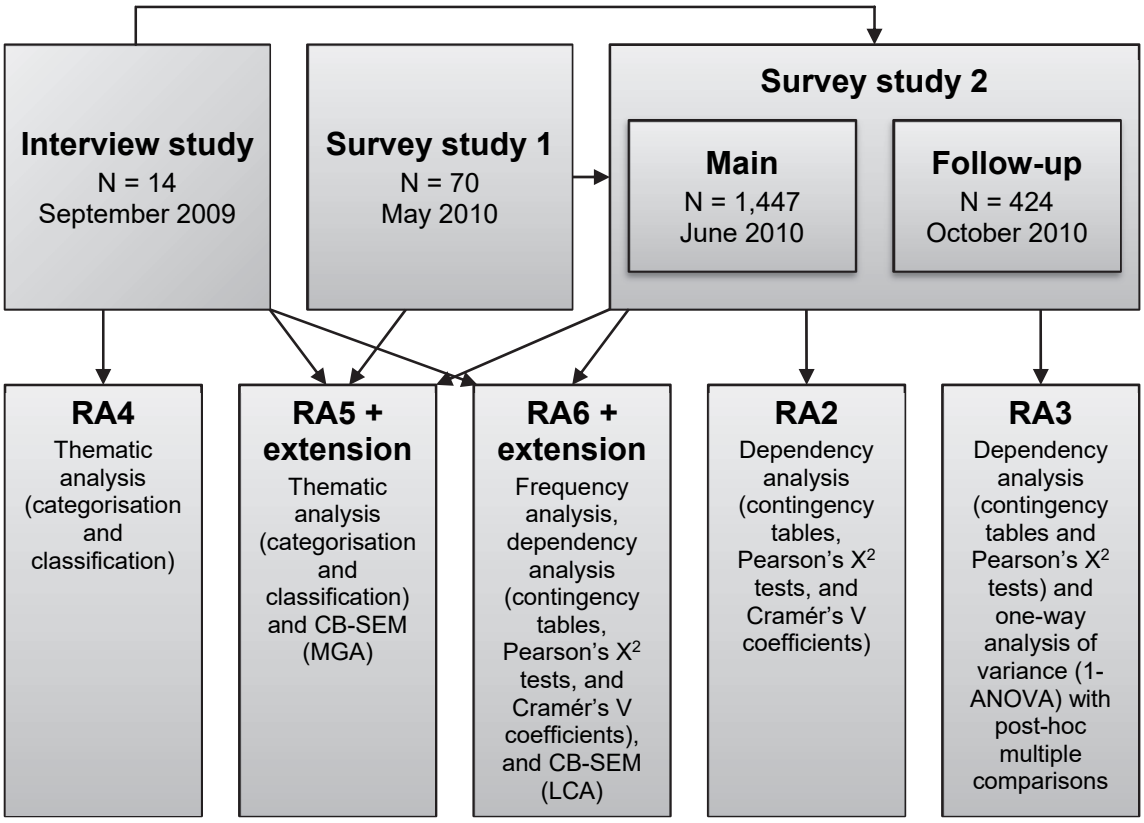

FIGURE 11 Research process of the thesis

In the following two sub-chapters, the employed data collection and data analysis methods of the thesis are discussed in more detail.

4.2 Data collection

The data collection activities of the thesis were conducted in three studies, of which one was an interview study and two were survey studies. The interview study was conducted as semi-structured interviews of 14 young Finnish recorded music consumers in September 2009, and its data was utilised mainly in RA4 but also in the extension of RA5 when interpreting some of the elicited behavioural beliefs about making purchases in music download stores as well as in RA6 and its extension as a basis for the list of reasons for not having made purchases in music download stores. In addition, its data was utilised when designing the second survey study. The interviewees were recruited by first sending an invitation e-mail to two Finnish student associations, which together represented undergraduate students majoring in sociology, social politics, social work, mathematics, physics, and mathematical information science. The invitation revealed the topic of the interviews and promised a free cinema ticket to each participant as compensation for their participation. As a response to the invitation, about 30 replies were received, based on which seven males and sev-

en females of different ages were selected as interviewees. Because of this recruitment method, the majority of the interviewees were full-time undergraduate students at their early 20s, but there were also two slightly older interviewees who had full-time jobs. The descriptive statistics of this sample in terms of gender, age, monthly net income, and full-time student or working status are reported in Table 4.

TABLE 4 Sample statistics of the interview study (N = 14)

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

Before the actual interviews, the interview instrument was pilot tested on two postgraduate students, and based on their feedback, a few minor modifications were made. The final interview instrument concentrated on two main themes: (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. All the interviews were conducted at the university campus as face-to-face individual interviews with two interviewers. On average, they lasted a bit over one hour, and they were all recorded.

The first survey study was conducted as a self-administered online survey in May 2010 by using the LimeSurvey 1.87+ software. Similar to the interview study, also this study was targeted mainly at younger consumers aged around 20–30 years, who were expected to have more prior experience of making purchases in music download stores in comparison to older consumers and, thus, to act as better informants. Because of this, the respondents to the study were once again recruited by first sending an invitation e-mail to a Finnish student association, this time representing undergraduate students majoring in IS and computer science. The invitation revealed the topic of the survey and offered the respondents who completed the survey an opportunity to take part in a price draw of five cinema tickets.

The survey was completed by 93 respondents. However, 23 respondents had to be discarded due to missing or invalid data, resulting in a sample of 70 respondents to be used in the actual analyses. Because of the recruitment method, the majority of the respondents were once again full-time students in their 20s. The descriptive statistics of this sample in terms of gender, age, full-time student status, and the prior experience of making purchases in music download stores is reported in Table 5.

TABLE 5 Sample statistics of the first survey study (N = 70)

	N	%
Gender		
Man	39	55.7
Woman	31	44.3
Age		
Under 30 years	53	75.7
30–44 years	13	18.6
45 years or over	4	5.7
Full-time student		
Yes	53	75.7
No	17	24.3
Prior purchases		
Yes	28	40.0
No	42	60.0

The questionnaire of the survey consisted of 16 items that were divided into three different sections. The first section consisted of three items in which the respondents were inquired about their gender, age, and full-time student status. The second section consisted of an item inquiring about whether the respondents had made purchases in music download stores prior to participating in the survey study as well as of three open-ended questions that were used to elicit the modal salient behavioural beliefs about making purchases in music download stores for the extension of RA5. In accordance with the procedure proposed by Fishbein and Ajzen (2010), these three open-ended questions concentrated on the advantages, disadvantages, and other things or outcomes that the respondents associated with making purchases in music download stores during the next three months:

1. What do you believe would be the advantages of you purchasing your music from download stores in the next three months?

2. What do you believe would be the disadvantages of you purchasing your music from download stores in the next three months?

3. Are there any other things or outcomes that you associate with you purchasing your music from download stores in the next three months?

The third section consisted of nine items that were used to pilot test some of the indicators for measuring the purchase intention, attitude, subjective norm, and perceived behavioural control constructs of TPB in preparation for the second survey study. At the end of the questionnaire, the respondents could also freely comment on the topic and the survey as well as submit their e-mail address if they wanted to take part in the price draw.

The second survey study was also conducted as a self-administered online study by using the LimeSurvey 1.87+ survey software but as a longitudinal instead of cross-section study. It consisted of a main survey conducted in June 2010 and a short follow-up survey conducted in October 2010. In contrast to the first survey study, this study was targeted not only at young consumers but more broadly at all Finnish consumers. Therefore, the respondents for the main survey were recruited by sending an invitation e-mail through the internal communication channels of the home university of the thesis author as well as an e-mail list provided by a Finnish company, which contained 5,000 e-mail addresses of their randomly sampled regular customers. The invitation was also posted to two websites promoting online competitions and surveys as well as to two music-related discussion forums. In addition, a small amount of Google AdWords online advertising was used to promote the survey. In order to raise the response rate, all the respondents who completed the survey were offered an opportunity to take part in a prize draw of 41 gift cards, with a total value of €1,500 (1 x €300, 5 x €100, and 35 x €20).

Before the launch of the main survey, its questionnaire was quantitatively evaluated in two pilot tests. Of these, the first pilot test of 70 respondents was conducted as a part of the first survey study and, as already mentioned above, it concentrated on evaluating the indicators for measuring the purchase intention, attitude, subjective norm, and perceived behavioural control constructs of TPB. The second pilot test of 53 respondents was conducted as a separate survey study in May 2010, and it concentrated on evaluating the entire questionnaire. Finally, also a more qualitative evaluation of the entire questionnaire was conducted by using three academic researchers and three industry experts in May 2010. Based on these three rigorous evaluation rounds, a few minor modifications were made to the wordings and order of the items. The final questionnaire consisted of 108–112 items, depending on the given responses. These were divided into six different sections, which concentrated on (1) basic demographic background information, (2) music listening in general, (3) purchasing music in physical formats, (4) purchasing music in digital formats from music download stores, (5) acquiring music from other online sources, and (6) willingness to give online music recommendations. All these sections, such as the last section, were not relevant for this thesis. At the end of the questionnaire, the respondents could also freely comment on the topic and the survey as well as submit their e-mail address if they wanted to take part in the price draw.

TABLE 6 Sample statistics of the second survey study (N = 1,447 and N = 424)

	Main survey (N = 1,447)		Follow-up survey (N = 424)	
	N	%	N	%
Gender				
Man	612	42.3	182	42.9
Woman	835	57.7	242	57.1
Age				
Under 30 years	529	36.6	161	38.0
30–44 years	509	35.2	150	35.4
45 years or over	409	28.3	113	26.7
Income				
Under €15,000	487	33.7	135	31.8
€15,000–€29,999	387	26.7	112	26.4
€30,000 or over	385	26.6	113	26.7
Missing	188	13.0	64	15.1
Socioeconomic status				
Student	343	23.7	96	22.6
Employed	793	54.8	244	57.5
Unemployed	126	8.7	36	8.5
Pensioner	86	5.9	15	3.5
Other	86	5.9	29	6.8
Missing	13	0.9	4	0.9
Prior purchases				
Yes	351	24.3	107	25.2
No	1,039	71.8	302	71.2
Missing	57	3.9	15	3.5

The survey was completed by 1,447 respondents, but a varying number of them had to be discarded from the actual analyses due to missing or invalid data. The exact sample sizes used in the analyses are reported in each of the research articles and their extensions. The descriptive statistics of the full sample of 1,447 respondents are reported on the left side of Table 6. As can be seen, it 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 made purchases in music download stores prior to participating in the survey study. The mean age of the respondents was 36.4 years (standard deviation 12.6 years), and their gender, age and income distributions corresponded very well with the gender and age distributions of the Finnish population as well as with the income distribution of the Finnish income recipients in 2010 (Statistics Finland 2011, 2012). Women and the youngest age group were slightly overrepresented, whereas men and the two oldest age groups

were slightly underrepresented. However, there was no indication of any severe non-response bias in terms of these variables. The mean response time to the survey was a bit less than 17 minutes (standard deviation 12.5 minutes), indicating that the survey questionnaire was rather long for a self-administered online survey. This was also implied by the relatively high drop-off rate of 25.9%. However, the response time or the drop-off rate were not considered too high in terms of suggesting severe respondent fatigue.

The respondents to the follow-up survey were recruited amongst the 1,348 respondents to the main survey who had submitted their e-mail address. These respondents were sent an invitation e-mail approximately three months after they had completed the main survey, which revealed the topic of the follow-up survey and once again offered the respondents who completed the survey an opportunity to take part in a price draw, this time of three €50 gift cards. Of those respondents who received the invitation, 424 completed the follow-up survey, which corresponds to a response rate of 31.5%. The descriptive statistics of this sample are reported on the right side of Table 6. As can be seen, the gender, age, income, and socioeconomic group distributions of the follow-up sample remained very similar to those of the full sample of 1,447 respondents, as did the proportion of respondents who had made purchases in music download stores prior to participating in the survey study. In addition, there was almost no difference in the mean age of the respondents, which was 36.1 years (standard deviation 12.0 years). Thus, there was once again no indication of any severe non-response bias in terms of these variables.

The responses of the same respondent to the main survey and the follow-up survey were matched by using a unique token embedded in the survey link. The questionnaire of the follow-up survey consisted of only one item, in which the respondents were inquired about whether they had made purchases in music download stores during the three-month period following the completion of the main survey. At the end of the questionnaire, the respondents could also once again freely comment on the topic and the survey as well as submit their e-mail address if they wanted to take part in the price draw.

4.3 Data analysis

Due to the both qualitative and quantitative nature of the employed data collection methods and the collected data, also the employed data analysis methods were a mix of both qualitative and quantitative methods. A more detailed description of the data analysis can be found in each of the research articles and their extensions. Qualitative methods were used mainly in RA4 when conducting a preliminary exploration of the acquisition and consumption behaviour of modern recorded music consumers in terms of how they acquire and consume their music and what kind of perceptions of relative advantages and disadvantages drive their usage of different acquisition channels as well as in the extension of RA5 when eliciting the more precise behavioural beliefs about mak-

ing purchases in music download stores. The used qualitative methods can be best labelled as thematic analysis because the aim of the analysis was to identify commonly recurring themes within the data, and the analysing process roughly followed the six phases of thematic analysis suggested by Braun and Clarke (2006): (1) familiarising oneself with the data, (2) generating initial codes, (3) searching for the themes, (4) reviewing the themes, (5) defining and naming the themes, and (6) producing the report. For example, in RA4, the relevant themes were mainly related, at a higher level, to the different acquisition channels of recorded music and, at a lower level, to the perceived relative advantages and disadvantages of using each of them. In the extension of RA5, the relevant themes were related to the positive and negative behavioural beliefs about the advantages and disadvantages of making purchases in music download stores. Of course, the aforementioned analysing process is very similar to that of content analysis, which has been suggested by Elo and Kyngäs (2007) to consist of three phases: (1) preparation, (2) organising, and (3) reporting the analysing process and the results. However, whereas the focus of content analysis is traditionally more descriptive, thematic analysis traditionally has a more interpretive focus (Vaismoradi, Turunen & Bondas 2013). Therefore, of these two alternatives, thematic analysis can be seen as a better label than content analysis to describe the qualitative methods used in this thesis.

In contrast, quantitative methods were used in RA2 and RA3 as well as in RA5 and RA6 with their extensions. In RA2, the data was analysed mainly by using contingency tables, the Pearson's χ^2 tests of independence, and the Cramér's V coefficients. Contingency tables and the Pearson's χ^2 tests of independence were also used in RA3, in addition to one-way analysis of variance (1-ANOVA) with post-hoc multiple comparisons. In RA5 and its extension, the data was analysed mainly by using covariance-based structural equation modelling (CB-SEM) as well as multiple group analysis (MGA), which is a special application of CB-SEM. Finally, in RA6 and its extension, the data was analysed by using basic frequency analysis as well as dependency analysis in terms of contingency tables, the Pearson's χ^2 tests of independence, and the Cramér's V coefficients. In addition, the extension of RA6 used latent class analysis (LCA), which is another special application of CB-SEM. Most of the aforementioned statistical analyses were conducted with the PASW Statistics 18 or IBM SPSS Statistics 24 software, except for CB-SEM, which was conducted with the Mplus 6 and 7.11 (Muthén & Muthén 2019) software.

4.4 Validity and reliability

In scientific research, two central criteria for assessing the quality of obtained research results are their validity and reliability. Therefore, a better consideration of these two criteria has also been called for in IS research (e.g., Straub 1989; Boudreau, Gefen & Straub 2001). In prior literature, several different, and often somewhat overlapping, types of validity and reliability have been identified

(e.g., Straub, Boudreau & Gefen 2004). In IS research, the most commonly referred to types of validity include internal validity, external validity, statistical conclusion validity, face validity, content validity, different types of criterion validity, such as concurrent validity and predictive validity, as well as different types of construct validity, such as convergent validity, discriminant validity, nomological validity, factorial validity, and common method bias (CMB) resulting from common method variance (CMV). Of the above, the different types of criterion validity can also be seen as particular types of construct validity (e.g., Straub et al. 2004). In turn, the most commonly referred to types of reliability include internal consistency, split-half reliability, test-retest reliability, inter-rater reliability, and unidimensional reliability. In some typologies (e.g., Straub et al. 2004), reliability is also seen as a specific type of validity, which is not surprising when considering how intertwined the two concepts often are in the reality. Thus, also the discussion below does not aim at concentrating separately on the actions that were taken to promote validity and on the actions that were taken to promote reliability but discusses more holistically the various actions that were used to promote the overall quality of obtained research results by affecting either one or both of the two concepts.

In this thesis, actions to promote validity and reliability were taken both when designing its general theoretical and methodological approach, which was discussed in Chapter 1.4, as well as when designing and conducting its specific data collection and data analysis activities, which were discussed in the two previous sub-chapters. In terms of the general theoretical and methodological approach of the thesis, validity and reliability were promoted mainly through the use of both theoretical and methodological triangulation. For example, as already discussed in Chapter 1.4, the use of methodological triangulation can be seen to promote both external validity and internal reliability. External validity is promoted especially in the case of between-method triangulation, in which a mix of both qualitative and quantitative methods is used to examine a particular phenomenon. In contrast, internal reliability is promoted especially in the case of within-method triangulation, which relies on the use of multiple qualitative or quantitative methods but not a mix of them. The same logic can also be seen to apply to theoretical triangulation in terms of how different or similar the applied theories or theoretical concepts are.

During data collection, validity and reliability were promoted in multiple ways. First, the design of the interview instrument and the survey questionnaires that were used for collecting the data as well as the conduction of the actual interviews and surveys followed the guidelines that have been given, for example, by Myers and Newman (2007) as well as Couper (2008). Second, whenever possible, the design of the interview instrument and the survey questionnaires was also based on the established theories and theoretical concepts discussed in Chapter 3, which were operationalised by using the procedures, items, and scales proposed prior literature. For example, in the first survey study, the behavioural beliefs about making purchases in music download stores were elicited by using the procedure proposed by Fishbein and Ajzen

(2010), whereas in the main survey of the second survey study, the indicators for measuring the core TPB constructs were based on the guidelines given by Ajzen (2006). Third, the design of the next phases of study often utilised the data from the previous phases. For example, the design of the questionnaire for the main survey of the second survey study utilised the data from both the interview study and the first survey study, which helped to target its items at interesting and important topics as well as to word them as clearly and precisely as possible. Finally, both the interview instrument and the survey questionnaires were rigorously tested before conducting the actual interviews and surveys. For example, as already discussed in Chapter 4.2, the interview instrument was pilot tested on two postgraduate students, whereas the questionnaire of the main phase of the second survey study went through three rigorous evaluation rounds, which consisted of both quantitative evaluation through two pilot tests with 70 and 53 respondents, respectively, and qualitative evaluation by using three academic researchers and three industry experts. All the aforementioned actions can be seen to promote especially face and content validity as well as overall reliability by resulting in better research instrumentation.

During data analysis, validity and reliability were promoted particularly through the rigorous analysis of the collected data. In terms of the qualitative analyses conducted in RA4 and the extension of RA5, this rigorous analysis was ensured, for example, by following the guidelines given by Spiggle (1994) and Patton (2002). In addition, researcher triangulation was used whenever possible. For example, in RA4, both interviewers who had been present in the interviews also participated in the analyses. In turn, in the extension of RA5, the elicitation of the behavioural beliefs about making purchases in music download stores was done by using two raters, which enabled the evaluation of inter-rater reliability. In terms of the quantitative analyses conducted in RA2 and RA3 as well as in RA5 and RA6 with their extensions, the rigorous analysis was ensured especially through the proper use of appropriate statistical techniques, which is critical for statistical conclusion validity. For example, in RA2, RA3, as well as RA6 and its extension, when conducting the dependency analyses by using contingency tables, it was ensured that the analysed groups were large enough for such analyses. Similarly, when conducting 1-ANOVA in RA3, it was ensured that there were no serious violations of its normality and homoscedasticity assumptions. If there were signs of non-normality and heteroscedasticity, the results of the parametric 1-ANOVA were verified by using the non-parametric Kruskal-Wallis (1952) test. In turn, RA5 and RA6 as well as their extensions followed the guidelines for conducting CB-SEM, which have been given by, among others, Gefen, Straub, and Boudreau (2000) as well as Gefen, Rigdon, and Straub (2011). For example, when estimating the models, the issues of non-normal and missing data were appropriately handled by using the maximum likelihood estimator robust to non-normality (MLR) and the full information maximum likelihood estimator (FIML). Moreover, all the estimated models were rigorously evaluated from multiple perspectives and by using multiple criteria. For example, in RA5 and its extension, the proposed models for ex-

plaining consumer purchase behaviour in music download stores were all evaluated in terms of their goodness-of-fit with the data, their reliability and validity at both indicator and construct levels, as well as CMV and CMB. Special attention was also paid to the percentages of missing values in the indicator variables, which can signal problems in responding to particular items. In addition, when conducting MGA, the existence of an adequate level of measurement invariance was tested before testing any structural invariance across the groups. In turn, in the extension of RA6, the number of latent classes in the model was determined based on three different likelihood-ratio tests as well as on changes in information criteria and entropy. Finally, in all the empirical research articles and their extensions, not only internal but also external validity was considered by examining whether the analysed samples were representative in terms of a broader research population. However, because the analysed samples were not based on true probability sampling but more on convenience sampling, purely probabilistic generalisations to a broader research population are obviously not possible.

5 FINDINGS

This chapter reports the findings of the thesis by briefly summarising each of the six research articles and describing in more detail their two extensions. The chapter concludes with a discussion about the contributions of the thesis author to each of the six research articles and their two extensions.

5.1 Findings of RA1

RA1 reports the findings of a literature review that concentrated on examining the recent research trends in digital content markets from three interrelated perspectives: technology, business, and consumer behaviour. The research article does not yet aim to answer to any of the research questions of the thesis. Instead, its main purpose is to provide a basis and framework for the subsequent research activities by reviewing the prior and present research in the area of digital content markets in general and digital music markets in particular.

The literature review was conducted based on the research model illustrated in Figure 12, which consists of three interrelated perspectives from which it is possible to examine and from which most prior studies have examined the phenomenon of digital content markets: technology, business, and consumers. The technology perspective typically concentrates on the different types of ICT that form the foundation for the very existence of digital content markets, whereas the business and consumer perspectives, respectively, concentrate on the commercialisation of these technologies by using various business models as well as on the consumer behaviour related to the commercialised products and services. In the research model, each of these three perspectives is seen to interact with the other two perspectives. For example, on one hand, technological innovations often result in new business opportunities and may also change consumer behaviour. On the other hand, new business opportunities often act as an impetus for further technological innovations, as do the changes in consumer behaviour, especially in cases where consumers come up with innovative

ways to use the technology in their daily lives, which may drastically differ from the way the technology was originally designed and developed to be used. In addition, there obviously also exists an interaction between businesses and consumers in which, on one hand, businesses aim to manage the needs, wants, expectations, and behaviours of consumers in order to better match them with their product and service offerings, and in which, on the other hand, these needs, wants, expectations, and behaviours act as a stimulus for further product and service innovation.

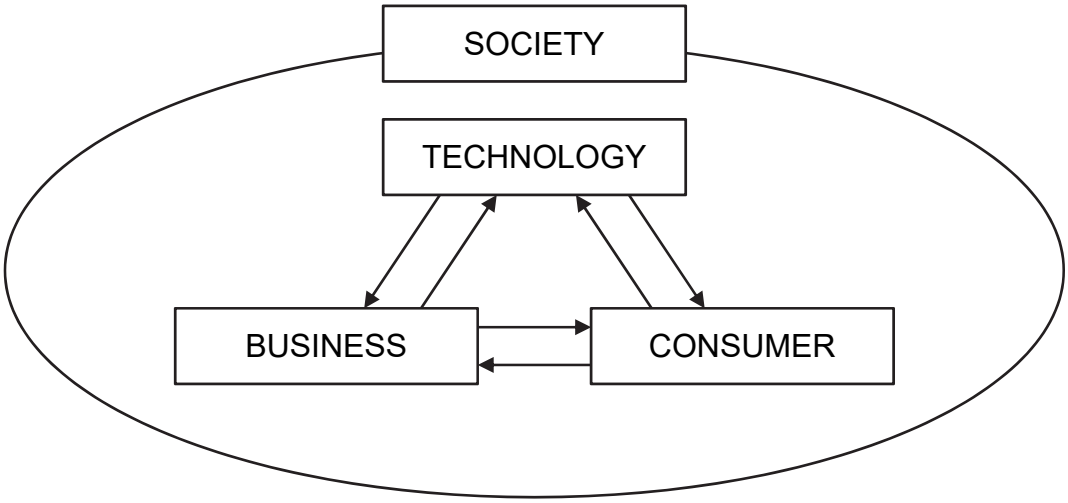

FIGURE 12 Research model of the literature review

The findings of the literature review suggest that most of the prior research in the area of digital content markets in general and digital music markets in particular has examined the phenomenon from the technology and business perspectives, whereas the consumer perspective has received relatively little attention. This bias has resulted in a situation where the proposed solutions to some of the most critical problems of digital content markets, such as those related to digital piracy, have concentrated mainly on restrictive technological and business measures, such as DRM and the strict enforcement of copyright legislation, which have obviously not been well received by consumers. Instead, the alternative approach of attempting to better understand consumers in terms of their needs, wants, and expectations and then trying to match these with the offerings of the stores and services that operate in the digital content market has been a road much less travelled. Therefore, there seems to be an urgent call for more studies on digital content markets in general and digital music markets in particular, especially concentrating on the consumer perspective.

In addition, the findings of the literature review suggest that there seems to be a need to complement its research model with a fourth perspective: society. It is important to understand that the interactions of the three existing perspectives of the research model do not occur in a void. Instead, they are always surrounded by some specific societal context that influences how these interactions occur and that is, in turn, influenced by them. The recognition of this soci-

etal context and these societal transformations as well as their management through legislation and other similar means should also be considered a potential way of solving some of the critical problems facing digital content markets, such as those related to digital piracy.

5.2 Findings of RA2

> RQ1: How widely adopted is making purchases in music download stores among consumers?

RA2 concentrates on answering RQ1 by examining the adoption levels of music download stores as well as the differences in them between distinct consumer segments in terms of gender, age, income, and consumer involvement in music. It also compares the adoption levels to those of paid music subscription services, which were beginning to emerge as serious competitors to music download stores at the time of conducting the study. The research article is based on the data collected from 1,447 Finnish consumers during the main phase of the second survey study in June 2010, in which the adoption of the stores and services were measured with two closed-ended questions. This data was then analysed by first classifying the respondents as adopters or non-adopters of the stores and services based on whether they had reported ever having made purchases in them or ever having subscribed to them. After this, the dependencies of the adoption levels on gender, age, income, and consumer involvement in music were analysed with the PASW Statistics 18 software by using contingency tables, the Pearson's χ^2 tests of independence, and the Cramér's V coefficients.

Table 7 reports the adoption levels of music download stores and paid music subscription services. As can be seen, the adoption levels of both the stores and especially the services were found to remain relatively low among Finnish consumers at the time of conducting the study. In total, music download stores were found to be adopted by 25.6% of the respondents, whereas paid music subscription services were found to be adopted by only 10.6% of the respondents. In addition, several statistically significant dependencies were found between the adoption levels as well as gender, age, income, and consumer involvement in music. In terms of gender, men were found to be more apt adopters of both music download stores and paid music subscription services. In turn, in terms of age and income, the adoption of music download stores was found to be driven especially by consumers aged 25–44 years and with higher levels of income, whereas the adoption of paid music subscription services was found to have occurred much more homogenously. Finally, in terms of consumer involvement in music, a linear relationship was found in the case of music download stores, with higher levels of involvement resulting in higher adoption levels, whereas a non-linear relationship was found in the case of paid music subscription services, with the adoption levels being highest among consumers with very low and very high levels of involvement.

TABLE 7 Adoption of music download stores and paid music subscription services

	Music download stores			Paid music subscription services		
	N	Adopters	Non-adopters	N	Adopters	Non-adopters
Gender						
Man	586	28.3%	71.7%	612	14.7%	85.3%
Woman	804	23.0%	77.0%	835	7.7%	92.3%
Age						
Under 25 years	262	21.0%	79.0%	281	9.3%	90.7%
25–34 years	452	34.3%	65.7%	479	12.5%	87.5%
35–44 years	274	31.0%	69.0%	278	11.5%	88.5%
45–54 years	253	19.8%	80.2%	257	10.5%	89.5%
55 years or over	149	4.0%	96.0%	152	5.9%	94.1%
Income						
Under €10,000	325	19.4%	80.6%	342	7.0%	93.0%
€10,000–€19,999	227	22.0%	78.0%	237	12.7%	87.3%
€20,000–€29,999	287	26.5%	73.5%	295	11.2%	88.8%
€30,000–€39,999	197	28.9%	71.1%	202	11.4%	88.6%
€40,000 or over	179	37.4%	62.6%	183	15.8%	84.2%
Involvement						
Very low	42	14.3%	85.7%	43	11.6%	88.4%
Low	139	22.3%	77.7%	145	9.7%	90.3%
Moderate	290	21.0%	79.0%	299	7.0%	93.0%
High	440	23.9%	76.1%	459	9.6%	90.4%
Very high	465	31.6%	68.4%	481	14.3%	85.7%

All in all, the findings suggest that the examined socioeconomic characteristics and consumer involvement in music have had significant effects on the adoption of both music download stores and paid music subscription services in Finland. These effects and the explanations behind them should be better understood when crafting future business models for digital music retailing because an understanding of how and why the diffusion processes have occurred in the past allows the various actors operating in the recorded music industry to better prepare also for future challenges. In addition, the findings related to low adoption levels suggest that there exists great growth potential in digital music retailing. In the case of music download stores, the greatest growth potential seems to reside among consumers aged under 25 years and 45 years or over as well as among consumers with lower levels of income. In the case of paid music subscription services, there seems to reside great growth potential in all consumer segments but especially among female consumers, among consumers aged 55 years or over as well as among consumers with lower levels of income.

5.3 Findings of RA3

RQ2: How much are consumers willing to pay for the albums and tracks purchased from music download stores?

RA3 concentrates on answering RQ2 by examining how much consumers are willing to pay for the albums and tracks sold in music download stores and the potential differences in this WTP in terms of gender, age, and income. The research article is based on the data collected from 1,330 Finnish consumers during the main phase of the second survey study in June 2010, in which the WTP for the albums and tracks sold in music download stores was measured with two open-ended questions. This data was then analysed with the PASW Statistics 18 software by using a two-phase strategy. A similar strategy has been previously employed by Sandulli and Martín-Barbero (2007) as well as Chiang and Assane (2009). In the first phase, the dependencies of consumers' unwillingness to pay (UWTP) for album and track downloads on gender, age, and income were examined by using contingency tables and the Pearson's χ^2 tests of independence. In the second phase, the dependencies of consumers' actual WTP for album and track downloads on gender, age, and income were examined by using 1-ANOVA and post-hoc multiple comparisons.

First, Table 8 reports the percentages of unwilling (WTP = 0) and willing (WTP > 0) payers in each examined consumer segment. Here, no statistically significant differences in the UWTP for albums and tracks were found between men and women, but the UWTP for both albums and tracks was found to increase more or less linearly with age. In terms of income, statistically significant differences were found in the UWTP for albums but not in the UWTP for tracks, with the income group of €15,000–€29,999 having the highest and the income group of €30,000 or over having the lowest percentage of unwilling payers.

TABLE 8 Percentages of unwilling and willing payers

	Albums			Tracks		
	N	WTP = 0	WTP > 0	N	WTP = 0	WTP > 0
Gender						
Man	578	7.8%	92.2%	578	9.3%	90.7%
Woman	743	8.2%	91.8%	745	9.7%	90.3%
Age						
Under 30 years	502	5.6%	94.4%	506	7.5%	92.5%
30–44 years	471	7.9%	92.1%	470	9.4%	90.6%
45 years or over	348	11.8%	88.2%	347	12.7%	87.3%
Income						
Under €15,000	454	7.5%	92.5%	458	9.4%	90.6%
€15,000–€29,999	348	9.8%	90.2%	348	10.6%	89.4%
€30,000 or over	348	4.9%	95.1%	347	6.6%	93.4%

TABLE 9 WTP means, standard deviations, and standard errors of mean

	Albums				Tracks			
	N	**Mean**	**SD**	**SE**	**N**	**Mean**	**SD**	**SE**
Gender								
Man	483	€7.75	€3.20	€0.15	469	€0.82	€0.52	€0.02
Woman	610	€9.18	€3.42	€0.14	608	€0.99	€0.61	€0.02
Age								
Under 30 years	430	€8.36	€3.50	€0.17	428	€0.84	€0.53	€0.03
30–44 years	400	€8.73	€3.13	€0.16	392	€0.94	€0.57	€0.03
45 years or over	263	€8.57	€3.60	€0.22	257	€1.01	€0.65	€0.04
Income								
Under €15,000	373	€8.24	€3.44	€0.18	374	€0.84	€0.54	€0.03
€15,000–€29,999	280	€8.52	€3.38	€0.20	280	€0.95	€0.65	€0.04
€30,000 or over	306	€8.60	€3.38	€0.19	294	€0.97	€0.57	€0.03
Gender and age								
Man (Under 30 years)	195	€7.56	€3.20	€0.23	187	€0.76	€0.47	€0.03
Man (30–44 years)	171	€7.87	€2.96	€0.23	167	€0.82	€0.51	€0.04
Man (45 years or over)	117	€7.88	€3.51	€0.32	115	€0.92	€0.59	€0.05
Woman (Under 30 years)	235	€9.02	€3.61	€0.24	241	€0.90	€0.56	€0.04
Woman (30–44 years)	229	€9.38	€3.11	€0.21	225	€1.03	€0.60	€0.04
Woman (45 years or over)	146	€9.12	€3.58	€0.30	142	€1.09	€0.69	€0.06
Gender and income								
Man (Under €15,000)	160	€7.55	€3.19	€0.25	158	€0.78	€0.53	€0.04
Man (€15,000–€29,999)	106	€7.62	€3.15	€0.31	106	€0.84	€0.60	€0.06
Man (€30,000 or over)	173	€7.90	€3.29	€0.25	162	€0.85	€0.47	€0.04
Woman (Under €15,000)	213	€8.76	€3.53	€0.24	216	€0.89	€0.55	€0.04
Woman (€15,000–€29,999)	174	€9.07	€3.40	€0.26	174	€1.02	€0.68	€0.05
Woman (€30,000 or over)	133	€9.52	€3.28	€0.28	132	€1.11	€0.65	€0.06
Age and income								
Under 30 y (Under €15,000)	261	€8.06	€3.52	€0.22	262	€0.81	€0.53	€0.03
Under 30 y (€15,000–€29,999)	86	€8.58	€3.25	€0.35	83	€0.84	€0.49	€0.05
Under 30 y (€30,000 or over)	33	€8.39	€3.79	€0.66	31	€0.90	€0.60	€0.11
30–44 y (Under €15,000)	75	€8.73	€3.34	€0.39	77	€0.89	€0.56	€0.06
30–44 y (€15,000–€29,999)	120	€8.75	€3.07	€0.28	119	€0.96	€0.65	€0.06
30–44 y (€30,000 or over)	153	€8.73	€3.21	€0.26	150	€0.96	€0.54	€0.04
45 y or over (Under €15,000)	37	€8.52	€3.02	€0.50	35	€0.98	€0.58	€0.10
45 y or over (€15,000–€29,999)	74	€8.09	€3.95	€0.46	78	€1.07	€0.77	€0.09
45 y or over (€30,000 or over)	120	€8.51	€3.50	€0.32	113	€0.99	€0.61	€0.06

Second, Table 9 reports the WTP means, standard deviations (SDs), and standard errors of mean (SEs) for each examined consumer segment. In terms of gender, women were found to have a significantly higher WTP for both albums and tracks. This was also true when the differences between men and women

were examined separately in each of the three age and income groups. The only exception was the income group of under €15,000, in which no statistically significant difference between men and women was found in the WTP for tracks. In turn, in terms of age, no statistically significant differences between the age groups were found in the WTP for albums, and this was also true when the differences were examined separately among men and women as well as in each of the three income groups. In contrast, statistically significant differences between the age groups were found in the WTP for tracks, with the age group of under 30 years having a lower WTP than the age groups of 30–44 years and 45 years or over. However, when these differences were examined separately among men and women as well as in each of the three income groups, statistically significant differences were found only among men and women and only between the age groups of under 30 years and 45 years or over. Finally, in terms of income, no statistically significant differences between the income groups were found in the WTP for albums, and this was also true when the differences were examined separately among men and women as well as in each of the three age groups. In contrast, statistically significant differences between the income groups were found in the WTP for tracks, with the income group of under €15,000 having a lower WTP than the income groups of €15,000–€29,999 and €30,000 or over. However, when these differences were examined separately among men and women as well as in each of the three age groups, a statistically significant difference was found only among women and only between the income groups of under €15,000 and €30,000 or over.

All in all, the findings suggest two important implications for the business models of music download stores. First, as also concluded by Bauxmann, Pohl, Johnscher, Strube, and Groffmann (2005), the current prices of the albums and tracks sold in music download stores seem to be too high for most consumers. In Finland, for example, the typical prices of music downloads at the time of conducting the study varied from €9.49 to €12.99 per album and from €0.99 to €1.69 per track, which clearly exceed the WTP expressed by most of the examined consumer segments, especially in the case of albums. Thus, there seems to be strong pressure to lower the prices. Bauxmann et al. (2005) also suggest that these kinds of price reductions could actually increase the revenue of the actors involved in digital music retailing through increased sales, although their implementation would likely require considerable cooperation and consensus among the actors. Second, the findings also suggest some substantial opportunities for third-degree price discrimination, in which different consumer segments are charged different prices. For example, instead of just differentiating the prices of albums and tracks based on their novelty or popularity, their target segments in terms of gender and age should be considered when setting the prices. Here, the most important segmentation variable seems to be gender, with women expressing an about 16–21% higher WTP for albums and about 14–31% higher WTP for tracks, depending on their age and income. However, age and income can also be considered important segmentation variables, although their effects on WTP seemed to be slightly weaker.

5.4 Findings of RA4

RQ3: What are the main context-specific enablers for consumers to make purchases in music download stores?

RQ4: What are the main context-specific inhibitors for consumers not to make purchases in music download stores?

RA4 concentrates on providing preliminary answers to both RQ3 and RQ4 from an interpretive and qualitative perspective by exploring the acquisition and consumption behaviour of modern recorded music consumers in terms of how they acquire and consume their music and what kind of perceptions of relative advantages and disadvantages drive their usage of different acquisition channels. As music download stores have emerged as a notable example of these acquisition channels, the topic obviously relates closely to the context-specific enablers and inhibitors of consumers to make or not to make purchases in them. The research article is based on the data collected from 14 Finnish consumers during the interview study in September 2009, which was analysed by using thematic analysis. The perspective of this analysis was holistic and phenomenographic, meaning that it concentrated on the full assortment of acquisition channels available to modern recorded music consumers as well as on the personal experiences and perceptions of the interviewees concerning the advantages and disadvantages of using them.

As a conceptual basis for developing the interview instrument and analysing the collected data, the article utilises the framework illustrated in Figure 13, in which the acquisition channels of recorded music are classified into four distinct categories by using two dichotomous dimensions: tangibility and chargeability. *Tangibility* refers to whether music content is delivered to consumers on tangible physical carriers (e.g., discs, records, or cassettes) or as intangible digital deliverables (e.g., downloadable files or streaming content). In turn, *chargeability* refers to whether consumers must pay a monetary fee for the content or whether the content is free of charge to them. Typical examples of paid tangible channels are the traditional offline or online record stores that sell and deliver music recordings on different types of physical carriers. In turn, 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. The category of free intangible channels is the most divergent of the four categories, and it can be further divided into two distinct subcategories. On one hand, there are the traditional radio stations that broadcast their programmes either nationally or internationally. On the other hand, there are the various free online sources that deliver music content digitally over the Internet. The category of free tangible channels is, by far, the least common of the four, and the rare examples of the sources belonging to this category are promotional products handed out as a part of advertising and marketing campaigns as well as illegal disc and cassette copying among consumers.

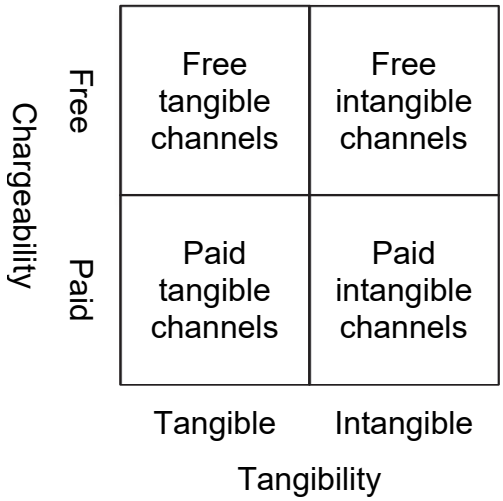

FIGURE 13 Acquisition channels of recorded music

The findings of the study suggest some considerable divergence in the ways the interviewees acquired and consumed recorded music. They also provide interesting particulars about the usage patterns and preferences of different acquisition channels. For example, although novel online channels were already actively used by almost all the interviewees at the time of conducting the study, most of the used channels were free channels. In contrast, the usage of paid channels remained relatively rare. Paid tangible channels, in turn, remained surprisingly popular among the interviewees. In other words, it seems that most interviewees still resorted to CDs and other physical carriers when they were actually willing to pay for the acquired music content.

In addition, the findings of the study suggest that the acquisition channel choices of the interviewees were 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. 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. This all means 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 to be in prior research. On the contrary, they appear to be extremely complex processes in which there exists considerable divergence, both from one channel and from one consumer to another. This complexity and divergence should be taken into better account in the business models of music download stores and paid music subscription services. Of course, a critical prerequisite for this is to first gain a better understanding of the context-specific enablers and inhibitors of consumers to use or not to use the stores and services.

5.5 Findings of RA5

RQ3: What are the main context-specific enablers for consumers to make purchases in music download stores?

RA5 concentrates on providing more in-depth answers to RQ3 from a positivist and quantitative perspective by examining the applicability of TPB to explain the intention to make purchases in music download stores as well as the potential gender and age differences in its constructs and their interrelationships. It is based on the data collected from 1,418 Finnish consumers during the main phase of the second survey study in June 2010. This data was analysed with the PASW Statistics 18 and Mplus 6 (Muthén & Muthén 2019) software, of which the former was used for preliminary analyses and the latter for CB-SEM.

In terms of TPB, the research article concentrated on estimating a basic TPB model consisting of four constructs: attitude, subjective norm, perceived behavioural control, and intention. In the survey questionnaire, these constructs were measured reflectively by 11 indicators, which were based on the guidelines given by Ajzen (2006). Attitude (ATT) was measured by three indicators, in which the respondents were asked to rate their attitude towards making a purchase in a music download store by using a five-point semantic differential scale consisting of bipolar adjective pairs. These were designed to capture both the experiential (ATT2) and instrumental (ATT3) dimensions of attitudinal evaluations as well as overall attitude (ATT1). Subjective norm (SN) and perceived behavioural control (PBC) were each measured by three indicators, in which the respondents rated statements concerning making purchases in music download stores by using a five-point Likert scale ranging from strong disagreement to strong agreement. The normative indicators were designed to capture both the descriptive (SN1 and SN2) and injunctive (SN3) dimensions of normative evaluations, whereas the control indicators were designed to capture both the capability or capacity (PBC1 and PBC2) as well as controllability or autonomy (PBC2 and PBC3) dimensions of control evaluations. Intention (INT) was measured in a similar manner to that of subjective norm and perceived behavioural control but by using only two indicators (INT1 and INT2). The exact wordings of the indicators are reported in the research article[1].

The estimation results of the basic TPB model in terms of the size and statistical significance of the effects between the constructs as well as the proportion of explained variance (R^2) in intention are reported in Figure 14. The effect sizes are reported as unstandardised because all the constructs were measured by indicators with the same scale range. This also eased the reporting of the potential gender and age differences in the remainder of the research article. As can be seen, attitude, subjective norm, and perceived behavioural control were

[1] Note that Table 2 in RA5 erroneously reports the sematic differential scale of ATT1 as reversed. All the items used the same semantic differential scale, in which the negative adjective was scored as one and the positive adjective was scored as five.

all found to have positive and statistically significant effects on intention and to explain about 52.4% of its variance. The effect of attitude was found to be by far the strongest, followed by subjective norm and perceived behavioural control. The model was also found to have a good fit with the data as well as an adequate reliability and validity at both indicator and construct levels.

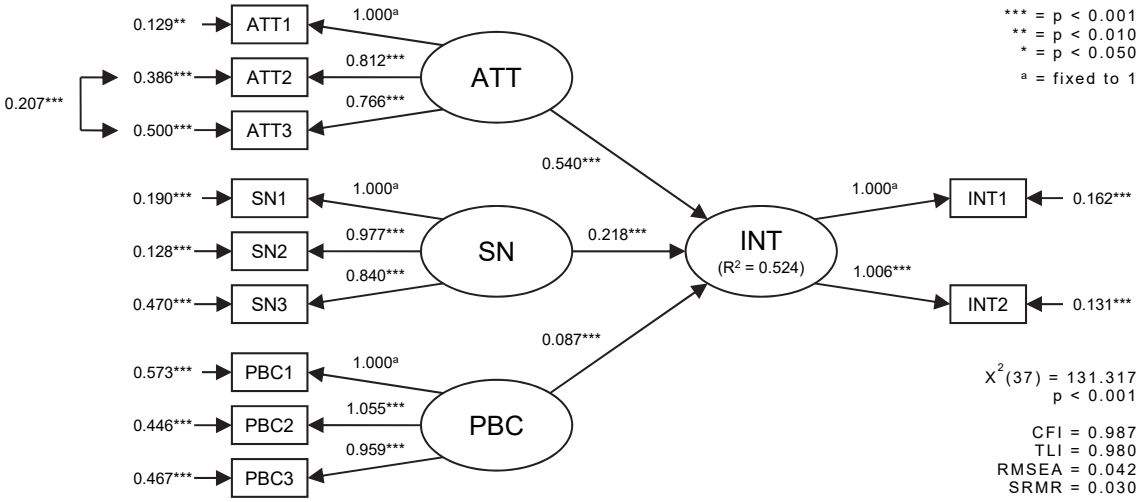

FIGURE 14 Estimation results of the basic TPB model

The potential gender and age differences in the constructs and their interrelationships were examined by using MGA, in which the whole sample of 1,418 respondents was first divided into two gender groups representing men (N = 596) and women (N = 822) as well as into three approximately equally sized age groups representing respondents aged under 30 years (N = 522), 30–44 years (N = 497), and 45 years or over (N = 399). After this, the testing procedure proposed by Steenkamp and Baumgartner (1998) was employed in order to examine whether a sufficient level of measurement invariance could be established across the groups. As this was found to be the case, the structural invariance across the groups was examined in terms of the unstandardised construct mean scores and the unstandardised regression coefficients of the effects between the constructs. Several statistically significant gender and age differences were found in the construct mean scores. In terms of gender, women were found to have a more positive subjective norm towards but a weaker perceived behavioural control over making purchases in music download stores. In contrast, no differences were found in attitude or intention[2]. In terms of age, intention[3] and attitude were found to be stronger and more positive in the age group of 30–44

2 Note that the α_{INT} column of Table 6 in RA5 erroneously reports the gender difference in the intercept instead of in the mean score of the intention construct. In reality, there was no statistically significant difference between men and women in the mean score. This is error is corrected in Table 23 of the extension of RA5.

3 Note that the α_{INT} column of Table 8 in RA5 erroneously reports the age difference in the intercept instead of in the mean score of the intention construct. In reality, there was a statistically significant difference between the age group of 30–44 years and the two other age groups. This error is corrected in Table 23 of the extension of RA5.

years in comparison to the two other age groups, whereas subjective norm was found to be more negative in the age group of under 30 years and perceived behavioural control was found to be weaker in the age group of 45 years or over. In addition, in the age group of 45 years or over, the effect of subjective norm on intention was found to be weaker than in the other two age groups and statistically not significant. However, no notable gender or age differences were found in the performance of the model in terms of the proportion of explained variance in intention. So, in summary, one can conclude that especially younger men do not seem perceive social pressure towards making purchases in music download stores. In fact, the perceived social pressure may even be against such behaviour. In turn, especially older women do not seem to perceive that they have control over performing the behaviour, which could be caused by their lower levels of technical competence. However, due to the relatively weak effects of both subjective norm and perceived behavioural control, these differences were not found to weaken their intention to make purchases in music download stores. In contrast, due to the their more positive attitude as well as relatively positive subjective norm and strong perceived behavioural control, the age group of 30–44 years was found to have a stronger intention to make purchases in music download stores. In this sense, these consumers would seem to act as the ideal target segment for music download stores.

Although the proposed basic TPB model performs well in terms of explaining why consumers make purchases in music download stores, it can be considered to have two main limitations. First, although the four core TPB constructs of the model capture the attitude, subjective norm, perceived behavioural control, and intention in the context of making purchases in music download stores, these constructs themselves are not by any means specific to this context. On the contrary, they can be applied and have been applied to explain human behaviour in a variety of contexts. Thus, in accordance with the objectives of this thesis, there is a need to improve the context-specificity of the model. One way to do this, as already discussed in Chapter 3.3, is to concentrate on the behavioural, normative, and control beliefs that act as antecedents of attitude, subjective norm, and perceived behavioural control. Of these, especially behavioural beliefs can be considered interesting because attitude has typically been found, and was also found in this case, to be the strongest antecedent of intention. Second, the model also concentrates on explaining only purchase intention and does not examine how well it actualises into purchase behaviour.

5.6 Findings of the extension of RA5

> RQ3: What are the main context-specific enablers for consumers to make purchases in music download stores?

This extension of RA5 provides even more in-depth answers to RQ3 by making two sequential extensions to the basic TPB model that was proposed in RA5.

First, it extends the left side of the basic TPB model by eliciting the behavioural beliefs that act as antecedents of the attitude towards making purchases in music download stores, which, in turn, was found to act as the strongest antecedent of purchase intention in RA5. Second, it extends the right side of the basic TPB the model by examining the actualisation of purchase intention into purchase behaviour. These two extensions are discussed in more detail in the following three sub-chapters.

5.6.1 Elicitation of behavioural beliefs and their effects on attitude

Before extending the basic TPB model with the behavioural beliefs that act as antecedents of the attitude towards making purchases in music download stores, one must obviously first find out what these behavioural beliefs actually are by eliciting them. In accordance with the guidelines given by Fishbein and Ajzen (2010), this elicitation of the behavioural beliefs concentrated on the so-called modal salient behavioural beliefs, which refer to the beliefs about the outcomes of performing a behaviour that the people in the research population most frequently have readily accessible in their mind or memory. These behavioural beliefs are typically considered to be the most influential attitudinal antecedents, and their number usually varies from about five to nine per person. However, their number in the research population may obviously be higher because different people may hold different beliefs.

As already discussed in Chapter 4.2, the elicitation was conducted during the first survey study in May 2010 by using the procedure proposed by Fishbein and Ajzen (2010), in which the respondents were first asked three open-ended questions concerning the advantages, disadvantages, and other things or outcomes that they associated with them making purchases in music download stores during the next three months. The responses to these questions were then analysed in three phases. In the first phase, the responses to the last question concerning the other things or outcomes were analysed and appended to the responses to the first two questions if they were seen as referring to some specific advantage or disadvantage. This resulted in a response set of 69 responses referring to the advantages and 69 responses referring to the disadvantages of making purchases in music download stores. Many of these responses also referred to not only one advantage or disadvantage but multiple ones. In the second phase, this response set was analysed in an iterative manner in order to classify the responses into one or more categories based on the similarity of the advantages and disadvantages that were referred in them. These categories represent the elicited behavioural beliefs. Of them, 15 were positive behavioural beliefs about the advantages of making purchases in music download stores, whereas 19 were negative behavioural beliefs about the disadvantages of making purchases in music download stores. In the third phase, in order to assess inter-rater reliability, another researcher was asked to repeat the classification by using the same response set and categories. The potential disagreements in the classifications were resolved mutually by the two raters in order to produce a final classification that represented their consensus view.

TABLE 10 Elicited positive behavioural beliefs

Advantage of making purchases in music download stores	**N**	**%**	**κ**
It results in saving time and effort.	38	55.1	0.883
It is compatible with my music consumption practices or lifestyle.	29	42.0	0.910
It offers greater freedom of selection due to the possibility to purchase both albums and tracks.	24	34.8	1.000
It results in saving money.	21	30.4	0.966
The stores are easy to use.	12	17.4	0.892
It offers access to a good selection of music.	9	13.0	1.000
The music can be sampled before purchasing it.	6	8.7	1.000
It results in saving physical space.	5	7.2	1.000
The stores offer good and personalised service (e.g., music recommendations).	4	5.8	1.000
It offers a way to acquire music anytime and anywhere.	4	5.8	0.881
It is a legal way to acquire music.	4	5.8	1.000
It is good for the artists.	4	5.8	1.000
It is good for the environment.	3	4.3	1.000
The purchased music is less easily perishable.	3	4.3	1.000
The purchased music has good audio quality.	2	2.9	0.660

TABLE 11 Elicited negative behavioural beliefs

Disadvantage of making purchases in music download stores	**N**	**%**	**κ**
The purchased music has technical restrictions.	27	39.1	0.969
The purchased music is more easily perishable.	20	29.0	0.964
It results in squandering money.	14	20.3	0.905
The purchased music has bad audio quality.	12	17.4	1.000
It is not compatible with my music consumption practices or lifestyle.	11	15.9	0.832
It is difficult.	11	15.9	0.818
It does not offer the same feeling.	6	8.7	0.901
The stores offer a bad selection of music.	5	7.2	1.000
It is risky to shop online.	5	7.2	1.000
It is too easy.	5	7.2	1.000
It is bad for the industry or society.	4	5.8	1.000
It is bad for the artists.	3	4.3	1.000
The purchased music is difficult to manage.	3	4.3	1.000
One would purchase only the tracks and not the album due to the greater freedom of selection.	3	4.3	1.000
It limits the scope of the listened music.	2	2.9	1.000
The purchased music requires digital storage space.	2	2.9	1.000
The purchased music cannot be resold.	1	1.4	1.000
It is an illegal way to acquire music.	1	1.4	1.000
The stores offer bad service.	1	1.4	1.000

The results of the elicitation are reported in Table 10 for the positive behavioural beliefs and in Table 11 for the negative behavioural beliefs. Both the tables report the absolute (N) and relative (%) frequencies of the responses that referred to that particular behavioural belief as well as the values of the Cohen's (1960) kappa coefficient (κ), which was used as a measure of inter-rater reliability. In the case of the least frequently referred to positive behavioural belief, the value of the kappa coefficient suggested substantial agreement, whereas in the case of all the other behavioural beliefs, almost perfect agreement was suggested (Landis & Koch 1977). At the aggregate level, the values of the kappa coefficient were 0.957 for all the positive behavioural beliefs, 0.954 for all the negative behavioural beliefs, and 0.956 for all the behavioural beliefs, which all suggested almost perfect agreement (Landis & Koch 1977).

In addition to the elicited 15 positive behavioural beliefs and the 19 negative behavioural beliefs, there were also 20 responses that referred to the absence of physical discs or records or their accompanying physical accessories, such as record sleeves and liner notes, as a disadvantage of making purchases in music download stores. However, rather than being seen as subjective negative behavioural beliefs on their own, these responses were considered to refer to objective characteristics of online distributed digital music that are likely to act as antecedents of other behavioural beliefs.

Of these 34 elicited behavioural beliefs, the six most frequently referred to positive beliefs from Table 10 and the six most frequently referred to negative beliefs from Table 11, which were each referred to in more than ten percent of the responses, were selected to be added as behavioural belief constructs into the basic TPB model as antecedents of the attitude towards making purchases in music download stores. These behavioural beliefs also contained three pairs of conflicting beliefs about monetary issues (i.e., making purchases in music download stores results in saving vs. squandering money), compatibility issues (i.e., making purchases in music download stores is vs. is not compatible with my music consumption practices or lifestyle), and usability issues (i.e., making purchases in music download stores is easy vs. difficult). In order to reduce conceptual overlap, these three pairs were each combined into a single construct. The resulting three constructs were all worded to have a positive valence because these monetary, compatibility, and usability issues were all more frequently referred to as an advantage rather than as a disadvantage of making purchases in music download stores. Thus, a total of nine behavioural belief constructs were added to the basic TPB model as antecedents of attitude. These constructs are defined followingly:

- *Perceived monetary savings (MS):* The belief that making purchases in music download stores results in saving money.
- *Perceived time and effort savings (TES):* The belief that making purchases in music download stores results in saving time and effort.
- *Perceived width of selection (WOS):* The belief that music download stores offer a wide selection from which the purchased music can be chosen from.

- *Perceived freedom of selection (FOS):* The belief that the purchased music can be selected more freely from music download stores, for example, because one can also purchase individual tracks instead of whole albums.
- *Perceived bad audio quality (BAQ):* The belief that the music purchased from music download stores has bad or otherwise questionable audio quality.
- *Perceived technical restrictiveness (TR):* The belief that the music purchased from music download stores contains technical restrictions that limit, for example, its usage and sharing.
- *Perceived technical perishability (TP):* The belief that the music purchased from music download stores is easy to lose or easily stops working because of technical issues.
- *Perceived ease of use (EOU):* The belief that making purchases in or otherwise using music download stores is easy.
- *Perceived practical compatibility (PC):* The belief that making purchases in music download stores is compatible with one's existing music consumption practices and lifestyle.

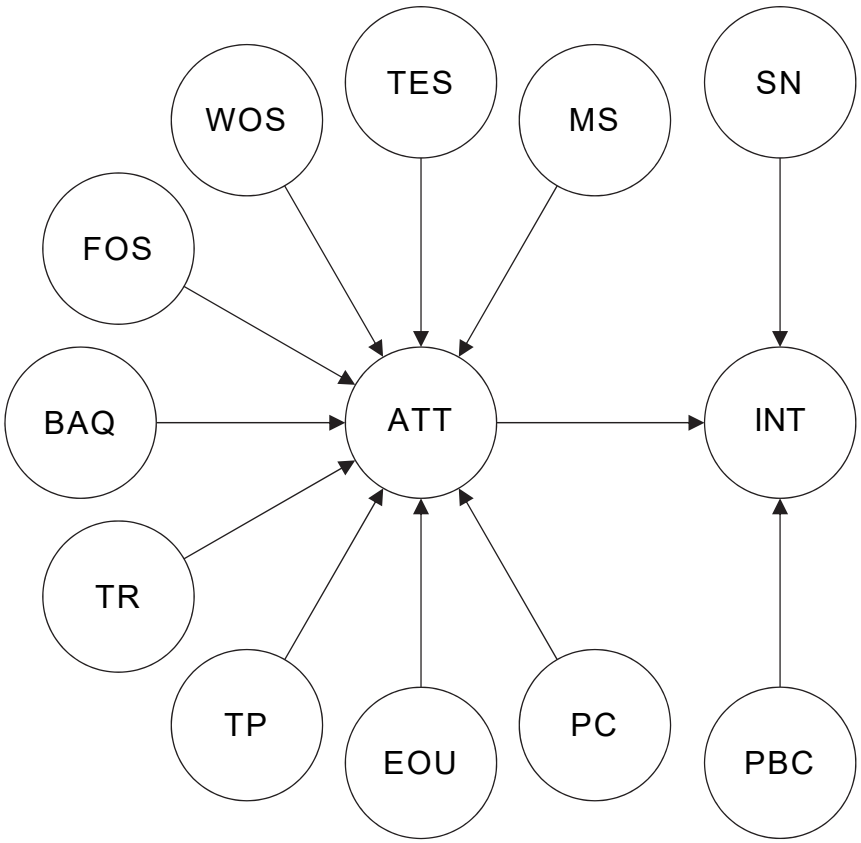

FIGURE 15 Extended TPB model (first extension)

Of them, the six constructs with a positive valence (i.e., monetary savings, time and effort savings, width of selection, freedom of selection, ease of use, as well as practical compatibility) were hypothesised to have a positive effect on attitude. In contrast, the three constructs with a negative valence (i.e., bad audio

quality, technical restrictiveness, as well as technical perishability) were hypothesised to have a negative effect on attitude. The resulting extended TPB model is illustrated is Figure 15.

As suggested by Fishbein and Ajzen (2010), the nine behavioural belief constructs were measured by using so-called multiplicative composite indicators in which the respondents rated statements concerning the outcomes of making purchases in music download stores with two five-point scales. The first scale measured belief strength and ranged from *not probable* (scored as one) to *very probable* (scored as five). The second scale measured outcome evaluation and ranged from *not important* (scored as one) to *very important* (scored as five). If both the ratings were given, the two scores were multiplied together in order to calculate the composite score. If one or both of the scores were not given, this resulted in a missing value. Finally, in order to prevent potential convergence problems in model estimation that may result from different scale ranges, the composite scores were re-scaled to range from one to five so that the indicators measuring the nine behavioural belief constructs and the four core TPB constructs all used the same scale range.

The use of multiplicative composite indicators to measure the behavioural belief constructs can be seen to have both advantages and disadvantages. On one hand, their use is likely to result in more accurate measurements in comparison to the measurements that are conducted in the context of many IS theories, such as TAM, UTAUT, and UTAUT2, which concentrate on measuring only belief strength by using a traditional five-point Likert scale and omit the measurement of outcome evaluation. On the other hand, their use leads to longer and more complex questionnaires that, in turn, may result in lower response rates and respondent fatigue. This is especially true if the number of measured constructs is high. Therefore, in order to counter these risks, we followed the example by Pavlou and Fygenson (2006), among others, and measured each behavioural belief construct reflectively with only two indicators. This obviously limits the options in terms of model modifications, such as dropping indicators with questionable psychometric properties, but still results in an identifiable model that can be estimated.

Because of the context-specificity of the behavioural belief constructs, no existing operationalisations for most of them could be found from prior literature. Only the indicators measuring the ease of use and practical compatibility constructs could be adapted from the prior studies by Davis (1989), Davis et al. (1989) as well as Karahanna, Agarwal, and Angst (2006). The indicators measuring the other seven constructs were developed based on the response set that was used for eliciting the behavioural beliefs. The exact wordings of all the 18 indictors measuring the behavioural belief constructs (translated from Finnish to English) are reported in Table 12. Note that all the indicators were worded to have a positive valence, including also the indicators measuring the bad audio quality, technical restrictiveness, and technical perishability constructs, which had a negative valence. Because of this, their belief strength scores were reversed before calculating the composite scores.

TABLE 12 Wordings of the indicators measuring the behavioural belief constructs

Item	Wording
MS1	They offer me a monetarily affordable alternative for acquiring music.
MS2	I can save money by using them to acquire music.
TES1	They offer me a quick and easy alternative for acquiring music.
TES2	I can save time and effort by using them to acquire music.
WOS1	Their offered selection of music is good and comprehensive.
WOS2	There are no significant shortcomings in their offered selection of music.
FOS1	By using them, I can select the music I purchase more freely and accurately.
FOS2	By using them, I can also purchase the individual tracks that I want instead of whole albums.
BAQ1	Their offered music has good audio quality.
BAQ2	Their offered music has not been compressed or reduced too much.
TR1	Their offered music is free from technologies that would restrict how I can listen to and use it.
TR2	Their offered music is free from technologies that would restrict how I can copy and transfer it.
TP1	There is no significant risk that I would lose the music purchased from them and would have to re-purchase it.
TP2	There is no significant risk that the music purchased from them would stop working and I would have to re-purchase it.
EOU1	Using them is easy.
EOU2	Using them is easy to learn.
PC1	Using them to acquire music is compatible with my music consumption practices.
PC2	Using them to acquire music is compatible with my lifestyle.

TABLE 13 Indicator statistics of the core TPB constructs[4]

Item	Mean	SD	Missing
INT1	1.756	1.214	15.3%
INT2	1.742	1.217	16.7%
ATT1	2.713	1.256	8.6%
ATT2	2.770	1.152	11.6%
ATT3	2.677	1.158	11.1%
SN1	2.577	1.315	23.0%
SN2	2.319	1.264	22.9%
SN3	2.795	1.254	29.3%
PBC1	3.917	1.398	5.7%
PBC2	3.941	1.412	5.0%
PBC3	4.061	1.315	5.6%

[4] Note that the means reported in Table 13 differ slightly from the means reported in RA5 because the former were calculated with IBM SPSS Statistics 24 software by omitting the missing values, whereas the latter were estimated with the Mplus 6 software when estimating the model.

TABLE 14 Indicator statistics of the behavioural belief constructs

Item	Belief strength score			Outcome evaluation score			Composite score		
	Mean	SD	Missing	Mean	SD	Missing	Mean	SD	Missing
MS1	3.125	1.245	17.3%	3.556	1.369	13.4%	2.781	1.126	19.3%
MS2	3.098	1.282	16.9%	3.563	1.357	13.3%	2.786	1.172	19.1%
TES1	3.587	1.231	11.4%	3.569	1.361	11.4%	3.103	1.238	13.7%
TES2	3.493	1.254	12.8%	3.458	1.367	12.2%	2.984	1.241	15.2%
WOS1	3.337	1.179	22.1%	4.163	1.135	15.1%	3.198	1.089	24.0%
WOS2	3.103	1.187	25.2%	3.980	1.151	17.5%	2.934	1.041	26.7%
FOS1	3.784	1.228	12.7%	3.652	1.328	11.6%	3.298	1.274	14.9%
FOS2	4.132	1.192	11.6%	3.619	1.460	10.9%	3.478	1.350	13.9%
BAQ1[a]	2.573	1.103	22.3%	4.262	1.108	15.9%	2.593	0.834	24.0%
BAQ2[a]	2.859	1.143	32.5%	4.055	1.186	22.7%	2.720	0.936	34.0%
TR1[a]	3.361	1.258	26.1%	3.963	1.271	20.9%	3.027	1.130	28.4%
TR2[a]	3.591	1.240	26.5%	3.822	1.328	20.2%	3.090	1.157	28.4%
TP1[a]	3.133	1.244	24.2%	4.143	1.175	17.3%	2.951	1.066	25.7%
TP2[a]	2.980	1.253	25.5%	4.174	1.170	18.4%	2.856	1.042	27.2%
EOU1	3.553	1.081	16.6%	3.976	1.194	13.4%	3.249	1.060	18.8%
EOU2	3.765	1.032	15.8%	3.924	1.187	13.7%	3.365	1.067	18.4%
PC1	2.751	1.371	15.4%	2.837	1.398	16.0%	2.339	1.213	19.0%
PC2	2.807	1.381	13.9%	3.117	1.401	14.5%	2.486	1.225	16.7%

[a] = Reversed belief strength score

Similar to testing the basic TPB model in RA5, the data for testing the extended TPB model was collected during the main phase of the second survey study in June 2010. Thus, both RA5 and this extension use the same sample of 1,418 respondents. The descriptive statistics and representativeness of this sample have already been reported and discussed in detail in RA5 and Chapter 4.2. The descriptive statistics of the indicators in terms of the means and standard deviations (SD) of their scores as well as the percentages of missing values are reported in Table 13 for the indicators measuring the four core TPB constructs and in Table 14 for the indicators measuring the nine behavioural belief constructs. For the indicators measuring the behavioural belief constructs, the aforementioned statistics are reported separately for the belief strength scores, outcome evaluation scores, and composite scores.

As can be seen, the indicator scores of the core TPB constructs suggested a relatively weak intention to make purchases in music download stores as well as moderately positive attitude and subjective norm, but a relatively strong perceived behavioural control. The missing value percentages were highest in the case of the indicators measuring the subjective norm construct, suggesting that normative evaluations may not be particularly relevant when thinking about making purchases in music download stores. In turn, the indicator scores of the behavioural belief constructs suggested that most behavioural beliefs were evaluated to be relatively important, but there was some variation in how prob-

able they were evaluated to be. Mainly due to this variation, the composite scores were highest in the case of the indicators measuring the freedom of selection and ease of use constructs and lowest in the case of the indicators measuring the practical compatibility and bad audio quality constructs. The missing value percentages were highest in the case of the indicators measuring the width of selection, bad audio quality, technical restrictiveness, and technical perishability constructs, which was expected because these can be considered the most difficult ones to rate, especially for respondents who have little or no prior experience of making purchases in music download stores.

Similar to RA5, the collected data was analysed with the IBM SPSS Statistics 24 and Mplus 7.11 (Muthén & Muthén 2019) software, of which the former was used for preliminary analyses and the latter for CB-SEM. Because of the non-normal value distributions of some of the indicator variables, model estimation was conducted by using MLR, whereas missing values in the indicator variables were handled by using FIML. The estimation results of the extended TPB model in terms of the size and statistical significance of the effects between the constructs as well as the proportion of explained variance (R^2) in attitude and intention are reported in Figure 16. The effect sizes are reported as unstandardised because all the constructs were measured by indicators with the same scale range. This also eases the reporting of the potential gender and age differences in the following sub-chapter.

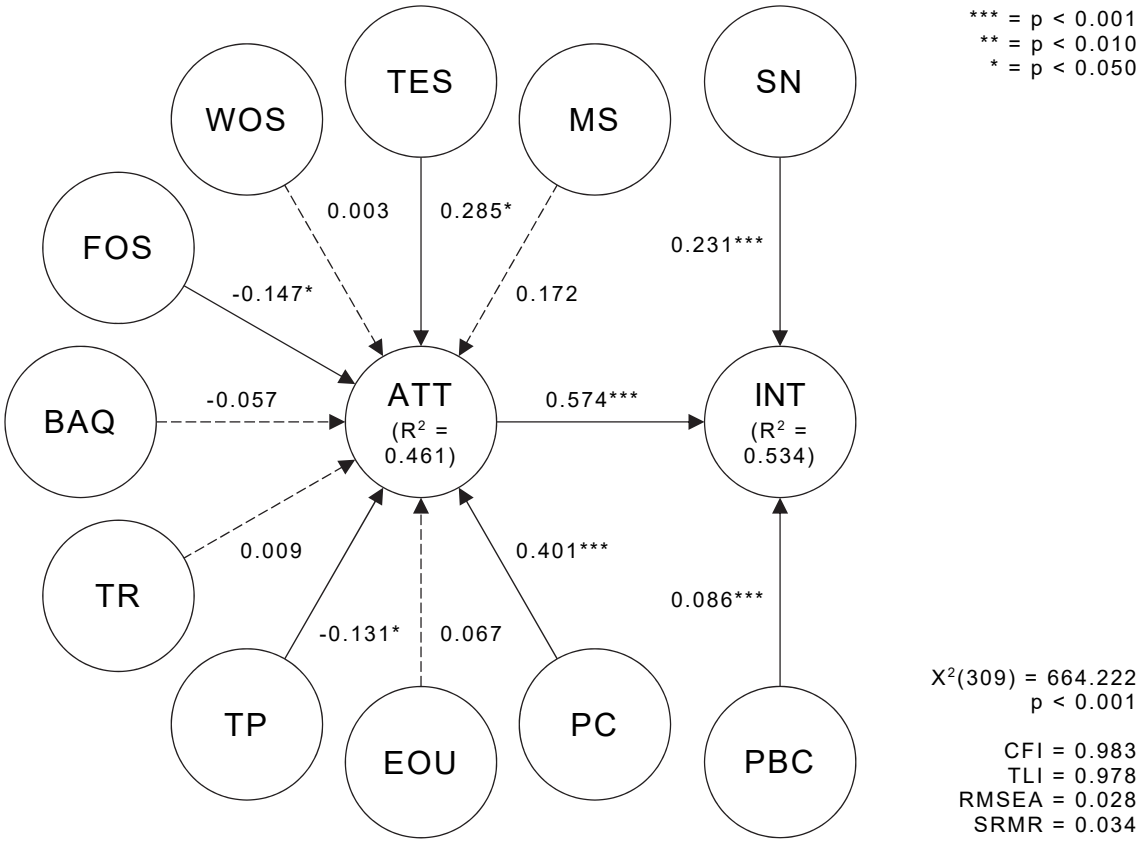

FIGURE 16 Estimation results of the extended TPB model (first extension)

As expected, the effects of attitude, subjective norm, and perceived behavioural control on intention remained practically identical to those of the basic TPB model reported in RA5, and they were also found to explain about the same proportion of the variance in intention, which was about 53.4%. In turn, the behavioural belief constructs were found to explain about 46.1% of the variance in attitude despite the fact that only four of the nine constructs were found to have a statistically significant effect. Of these, practical compatibility was found to have by far the strongest effect, followed by time and effort savings, freedom of selection, and technical perishability. As hypothesised, the effects of practical compatibility and monetary savings were found to be positive, whereas the effect of technical perishability was found to be negative. In contrast, contrary to what was hypothesised, the effect of freedom of selection was found to be negative. The explanation for this finding may relate to a behavioural belief that was referred to by three respondents during the first survey study in May 2010. These respondents actually considered the greater freedom of selection offered by music download stores to be a disadvantage rather than an advantage of making purchases in them because it often results in purchasing only individual tracks instead of whole albums. This caused negative reactions among them because they perceived albums as works of art that should preferably be purchased and listened to as a whole rather than in small pierces.

In addition to estimating the model, it was also evaluated in terms of its goodness-of-fit as well as its reliability and validity at the construct and indicator levels. Similar to RA5, this was done by following the guidelines by Gefen et al. (2000) and especially their more recent revision by Gefen et al. (2011). Goodness-of-fit was evaluated by using the χ^2 test of model fit and four fit indices that have been recommended in recent methodological literature (Hu & Bentler 1999; Hooper, Coughlan & Mullen 2008): 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). Together, they evaluate the model fit comprehensively from both relative (CFI and TLI) and absolute (RMSEA and SRMR) perspectives (Hooper et al. 2008). The result of the χ^2 test and values of the four fit indices are reported in Figure 16. As can be seen, the result of the χ^2 test rejected the null hypothesis of the model fitting the data. However, instead of actual misfit, this may have been caused by the tendency of the χ^2 test to underestimate the model fit in the case of large samples or complex models (Bentler & Bonett 1980), especially in the case of multivariate non-normality (Hooper et al. 2008). In contrast, the four fit indices all met the commonly accepted cut-off criteria for a satisfactory model fit (CFI > 0.95, TLI > 0.95, RMSEA < 0.06, and SRMR < 0.08) suggested by Hu and Bentler (1999) as well as Gefen et al. (2011). Thus, all in all, the model could be considered to have a satisfactory fit with the data.

Indicator reliabilities and validities were evaluated by using the standardised loadings of the indicators, which are reported in Table 15. In a typical case, where each indicator loads on only one construct, it is commonly expected that the standardised loading (λ) of each indicator should be statistically significant

and greater than or equal to 0.707 (Fornell & Larcker 1981). This is equal to the standardised residual ($1 - \lambda^2$) of each indicator being less than or equal to 0.5, meaning that at least half of the variance in each indicator is explained by the construct on which it loads. As can be seen, all the indicators met this criterion.

TABLE 15 Indicator loadings of the extended TPB model (first extension)

Item	Loading (unstand.)	Loading (stand.)
INT1	1.000[a]	0.943***
INT2	1.003***	0.951***
ATT1	1.000[a]	0.929***
ATT2	0.856***	0.864***
ATT3	0.813***	0.817***
SN1	1.000[a]	0.943***
SN2	0.977***	0.959***
SN3	0.838***	0.834***
PBC1	1.000[a]	0.845***
PBC2	1.053***	0.882***
PBC3	0.953***	0.854***

Item	Loading (unstand.)	Loading (stand.)
MS1	1.000[a]	0.884***
MS2	1.015***	0.866***
TES1	1.000[a]	0.895***
TES2	0.965***	0.862***
WOS1	1.000[a]	0.910***
WOS2	0.842***	0.801***
FOS1	1.000[a]	0.894***
FOS2	1.007***	0.849***
BAQ1	1.000[a]	0.786***
BAQ2	1.297***	0.924***

Item	Loading (unstand.)	Loading (stand.)
TR1	1.000[a]	0.933***
TR2	1.006***	0.917***
TP1	1.000[a]	0.919***
TP2	0.967***	0.909***
EOU1	1.000[a]	0.928***
EOU2	0.960***	0.882***
PC1	1.000[a]	0.879***
PC2	1.002***	0.898***

*** = $p < 0.001$
** = $p < 0.010$
* = $p < 0.050$

Construct reliabilities were evaluated by using composite reliabilities (CR), also known as Dillon-Goldstein's (1984) rho or Jöreskog's rho (Werts, Linn & Jöreskog 1974), which are reported in the first column of Table 16. It is commonly expected that the CR of each construct should be greater than or equal to 0.7 in order for it to exhibit satisfactory reliability (Nunnally & Bernstein 1994). As can be seen, all the constructs met this criterion.

TABLE 16 Construct statistics of the extended TPB model (first extension)

	CR	AVE	INT	ATT	SN	PBC	MS	TES	WOS	FOS	BAQ	TR	TP	EOU	PC
INT	0.946	0.897	0.947												
ATT	0.904	0.759	0.681	0.871											
SN	0.938	0.835	0.409	0.245	0.914										
PBC	0.895	0.740	0.255	0.234	0.095	0.860									
MS	0.867	0.766	0.450	0.566	0.334	0.301	0.875								
TES	0.871	0.772	0.466	0.593	0.295	0.402	0.849	0.879							
WOS	0.847	0.735	0.348	0.405	0.315	0.277	0.668	0.628	0.857						
FOS	0.864	0.760	0.358	0.435	0.290	0.273	0.688	0.774	0.675	0.872					
BAQ	0.847	0.736	-0.119	-0.148	-0.185	0.179	-0.113	-0.028	-0.128	-0.108	0.858				
TR	0.922	0.856	-0.044	-0.051	-0.178	0.350	0.003	0.104	-0.032	0.071	0.555	0.925			
TP	0.910	0.835	-0.107	-0.156	-0.131	0.214	-0.037	0.042	-0.024	0.042	0.637	0.634	0.914		
EOU	0.901	0.820	0.365	0.439	0.246	0.437	0.637	0.681	0.708	0.607	0.028	0.112	0.040	0.905	
PC	0.882	0.790	0.483	0.619	0.331	0.321	0.644	0.720	0.491	0.618	-0.114	0.008	-0.088	0.515	0.889

The evaluation of construct validities in terms of convergent and discriminant validity was done by using the two criteria suggested by Fornell and Larcker (1981). These are both are based on the average variance extracted (AVE) of a construct, which is the average proportion of variance that a construct explains in its indicators. In order to exhibit satisfactory convergent validity, the first criterion requires each construct should have an AVE greater than or equal to 0.5, meaning that, on average, each construct should explain at least half of the variance in its indicators. The AVE of each construct is reported in the second column of Table 16. As can be seen, all the constructs met this criterion.

In order to exhibit satisfactory discriminant validity, the second criterion requires that each construct should have a square root of AVE greater than or equal to its absolute correlation with the other constructs, meaning that, on average, each construct should share at least an equal proportion of variance with its indicators in comparison to what it shares with the other constructs in the model. The square root of AVE of each construct (on-diagonal cells) and the correlations between the constructs (off-diagonal cells) are reported in the remaining columns of Table 16. As can be seen, this criterion was also met by all the constructs, although especially the monetary savings as well as time and effort savings constructs were found to correlate very strongly.

Because of this strong correlation, multicollinearity analysis was also conducted by running a linear regression analysis with collinearity statistics for the estimated construct scores. Here, the variance inflation factor (VIF) statistic of the time and effort savings construct was found to be greater than ten, thus indicating a multicollinearity issue (Hair, Black, Babin & Anderson 2018). In order to solve this issue, the model was modified by combining the monetary savings as well as time and effort savings constructs into a new construct, labelled as resource savings (RS), which was measured by the four indicators of the two original constructs (i.e., MS1 as RS1, MS2 as RS2, TES1 as RS3, and TES2 as RS4). In other words, this construct represents the behavioural belief that making purchases in music download stores results in saving money, time and effort. Other options for solving the issue would have been to drop one of the two constructs or to model them as first-order constructs measuring a second-order construct. Of these, dropping one of the constructs was not seen as a reasonable option because both the savings dimensions seemed to be highly relevant for the respondents. In turn, no need was seen to measure the new construct indirectly through an additional layer of constructs because the four indicators of the two original constructs could also be used as direct measures of the new construct. In addition, the selected solution resulted in a more stable construct in terms of measuring it with four instead of two indicators.

The estimation results of the modified extended TPB model are reported in Figure 17. As can be seen, the size and statistical significance of all the effects between the constructs as well as the proportion of explained variance (R^2) in the intention and attitude constructs remained practically identical to those of the unmodified extended TPB model. The only obvious exception was the new resource savings construct, which was found to have both a statistically signifi-

cant and a positive effect on attitude as well as to be the construct with the strongest effect on attitude. There was also practically no change in the goodness-of-fit of the modified extended TPB model in comparison to the unmodified extended TPB model, and no issues were found in its indicator reliabilities and validities when they were evaluated by using the standardised loadings of the indicators reported in Table 17.

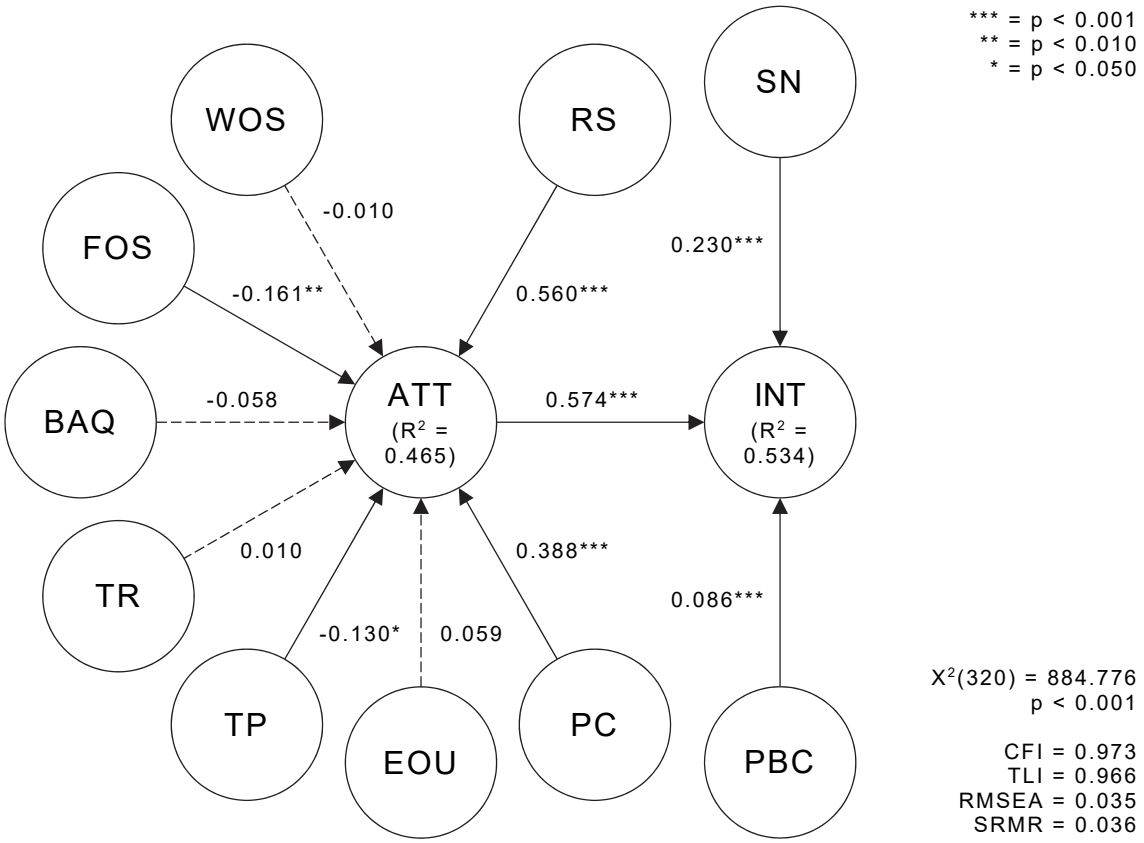

FIGURE 17 Estimation results of the modified extended TPB model (first extension)

TABLE 17 Indicator loadings of the modified extended TPB model (first extension)

Item	Loading (unstand.)	Loading (stand.)
INT1	1.000[a]	0.943***
INT2	1.003***	0.951***
ATT1	1.000[a]	0.929***
ATT2	0.856***	0.863***
ATT3	0.813***	0.817***
SN1	1.000[a]	0.943***
SN2	0.976***	0.959***
SN3	0.838***	0.834***
PBC1	1.000[a]	0.846***
PBC2	1.051***	0.881***
PBC3	0.952***	0.854***

Item	Loading (unstand.)	Loading (stand.)
RS1	1.000[a]	0.813***
RS2	1.020***	0.799***
RS3	1.176***	0.868***
RS4	1.140***	0.840***
WOS1	1.000[a]	0.910***
WOS2	0.842***	0.801***
FOS1	1.000[a]	0.892***
FOS2	1.012***	0.852***
BAQ1	1.000[a]	0.785***
BAQ2	1.300***	0.925***

Item	Loading (unstand.)	Loading (stand.)
TR1	1.000[a]	0.934***
TR2	1.005***	0.917***
TP1	1.000[a]	0.919***
TP2	0.966***	0.909***
EOU1	1.000[a]	0.928***
EOU2	0.960***	0.882***
PC1	1.000[a]	0.881***
PC2	0.999***	0.897***

*** = p < 0.001
** = p < 0.010
* = p < 0.050

No issues were also found in the construct reliabilities when they were evaluated by using the CRs reported in the first column of Table 18 or in the construct validities in terms convergent and discriminant validity when evaluated by using the AVEs, the square roots of AVEs, and the correlations between the constructs reported in the remaining columns of Table 18. In addition, the VIF statistic of each construct was now found to be less than ten, thus indicating no serious concern of a multicollinearity issue in terms of standards that have been proposed in prior literature (Hair et al. 2018).

TABLE 18 Construct statistics of the modified extended TPB model (first extension)

	CR	AVE	INT	ATT	SN	PBC	RS	WOS	FOS	BAQ	TR	TP	EOU	PC
INT	0.946	0.897	0.947											
ATT	0.904	0.758	0.681	0.871										
SN	0.938	0.835	0.410	0.248	0.914									
PBC	0.895	0.740	0.256	0.235	0.097	0.860								
RS	0.899	0.690	0.484	0.612	0.331	0.381	0.830							
WOS	0.847	0.735	0.347	0.405	0.317	0.276	0.680	0.857						
FOS	0.864	0.761	0.358	0.434	0.291	0.274	0.779	0.675	0.872					
BAQ	0.847	0.736	-0.119	-0.148	-0.185	0.179	-0.066	-0.128	-0.106	0.858				
TR	0.923	0.857	-0.044	-0.051	-0.177	0.350	0.067	-0.031	0.073	0.555	0.926			
TP	0.910	0.835	-0.106	-0.156	-0.130	0.214	0.010	-0.023	0.043	0.637	0.633	0.914		
EOU	0.901	0.820	0.364	0.438	0.247	0.437	0.697	0.707	0.608	0.027	0.112	0.041	0.905	
PC	0.883	0.790	0.482	0.618	0.331	0.321	0.725	0.490	0.619	-0.113	0.008	-0.088	0.515	0.889

Finally, the estimated model was also evaluated in terms of CMV and CMB. CMV and its risk of resulting in CMB in the model estimates was already addressed during the survey design by applying several of the procedural remedies suggested by Podsakoff, MacKenzie, Lee, and Podsakoff (2003), such as using different scales (i.e., a Likert scale, a semantic differential scale, a composite scale consisting of the measurements of both belief strength and outcome evaluation, as well as a binary scale) when measuring the constructs, randomising the order of the indicators in the survey questionnaires, as well as separating the measurement of purchase behaviour from the measurements of the other constructs in terms of time. Here, the focus is on whether some further statistical remedies suggested by Podsakoff et al. (2003) are required. The evaluation was based on two separate tests suggested by Podsakoff et al. (2003). First, the Harman's single-factor test was employed by estimating a method-only model in which all the indicators loaded only on a separate method construct. This model was found to have a very bad fit with the data ($\chi^2(376) = 12{,}165.379$, $p < 0.001$, CFI = 0.442, TLI = 0.397, RMSEA = 0.149, and SRMR = 0.154), thus suggesting no severe CMV in the indicators.

Second, the unmeasured latent method construct (ULMC) test was employed by following the procedure proposed by Richardson, Simmering, and Sturman (2009). The results of the model comparisons associated with this test

are reported in Table 19. When conducting the model comparisons, the statistical significance of the potential deterioration in the model fit was determined by using the χ^2 test of difference, in which the $\Delta\chi^2$ statistic was corrected with the Satorra-Bentler (2001) scaling correction factor (SCF) due to the use of MLR in model estimation. First, the fit of the aforementioned method-only model was compared to that of a trait-only model, in which each indicator loaded only on the construct it was intended to measure. This comparison suggested that the trait-only model fitted the data better than did the method-only model ($\Delta\chi^2(66) = 8{,}575.394$, $p < 0.001$), meaning that the variance in the indicators could be attributed not only to the measurement method but also to the constructs that the indicators were intended to measure (Richardson et al. 2009). Second, the fit of the trait-only model was compared to that of the trait and method model, in which each indicator loaded both on the construct it was intended to measure and on a separate method construct. This comparison suggested that the trait and method model fitted the data better than did the trait-only model ($\Delta\chi^2(29) = 253.934$, $p < 0.001$), meaning that there was indeed CMV in the indicators (Richardson et al. 2009). Third, the fit of the trait and method model was compared to that of the restricted trait and method model, in which the correlations between the constructs were restricted to those obtained from the trait-only model. This comparison suggested that the added restrictions resulted in no deterioration in the model fit ($\Delta\chi^2(66) = 32.867$, $p = 1.000$), meaning that the CMV that was found in the indicators was not found to result in CMB in the model estimates. In summary, neither CMV nor CMB were found to be an issue in terms of the extended TPB model.

TABLE 19 Tests of CMV and CMB

Model	CFI	TLI	RMSEA	SRMR	χ^2	df	SCF	$\Delta\chi^2$	Δdf	p
Method-only	0.442	0.397	0.149	0.154	12,165.379	376	1.2078	–	–	–
Trait-only	0.979	0.973	0.032	0.028	749.172	310	1.1210	8,575.394	66	< 0.001
Trait and method	0.992	0.989	0.020	0.016	444.154	281	1.0926	253.934	29	< 0.001
Restricted trait and method	0.994	0.993	0.016	0.028	470.615	347	1.1161	32.867	66	1.000

5.6.2 Gender and age differences in the behavioural beliefs and their effects

In addition to model estimation and evaluation, the potential gender and age differences in the constructs and their interrelationships were also examined in terms of the unstandardised construct mean scores and the unstandardised regression coefficients of the effects between the constructs. Similar to RA5, this was done by MGA, in which the whole sample of 1,418 respondents was first divided into two gender groups representing men (N = 596) and women (N = 822) as well as into three approximately equally sized age groups representing respondents aged under 30 years (N = 522), 30–44 years (N = 497), and 45 years or over (N = 399). After this, the testing procedure proposed by Steenkamp and Baumgartner (1998) was employed in order to examine whether a sufficient level of measurement invariance could be established across the groups in order

to allow the testing of structural invariance across them. More specifically, testing the invariance of unstandardised construct mean scores requires the existence of configural, metric, and scalar invariance, whereas testing the invariance of unstandardised regression coefficients requires the existence of configural and metric invariance. The testing is based on comparisons of multiple nested models, in which increasingly strict constraints on parameter equality are added across the groups and the fit of the constrained model is compared to the fit of the unconstrained model.

When testing for configural invariance, only the factor structure is constrained to be equal across the groups. Metric invariance builds on configural invariance by also constraining the factor loadings to be equal across the groups, whereas scalar invariance builds on metric invariance by also constraining the indicator intercepts to be equal across the groups. If the addition of these constraints results in no statistically significant deterioration in the model fit, the particular hypothesis on full measurement invariance is accepted. If this is not the case, it is rejected. In this 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 statistically not significant. The statistical significance of the potential deterioration in the model fit was determined by using the χ^2 test of difference, in which the $\Delta\chi^2$ statistic was corrected with the Satorra-Bentler (2001) scaling correction factor (SCF) due to the use of MLR in model estimation. However, the changes in the fit indices of the model were also considered.

Finally, structural invariance can be tested. The size and statistical significance of the differences in the construct mean scores across the groups are estimated when estimating the full or final partial scalar invariance model. Here, one of the groups always acts as a reference group in which the construct mean scores are constrained to zero and to which the construct mean scores of the other groups are compared. In turn, the invariance of the regression coefficients can be tested in a similar manner to that of measurement invariance by constraining them to be equal across the groups and then once again examining whether this results in a statistically significant deterioration in the model fit. If it does, then partial invariance, instead of full invariance, can also be tested by relaxing the added constraints one by one.

The results of the invariance tests are reported in Table 20 for gender and in Table 21 for age. In the case of the partial invariance models, the relaxed parameter and the group in which that parameter was relaxed is reported in parenthesis. As can be seen, in the case of both gender and age, configural invariance could be established across the groups because the full configural invariance model fitted the data very well. Similarly, in the case of both gender and age, full metric invariance, but only partial scalar invariance, could be established across the groups. In the case of gender, the indicators with a non-invariant intercept were found to be PBC2 and RS2. In the case of age, the indicators with a non-invariant intercept were found to be SN3 and ATT2 in the age group of under 30 years, RS2 in the age group of 45 years or over, as well as RS4

in all three age groups. The size and statistical significance of these non-invariant intercepts in each of the groups are reported in Table 22, with men and the age group of under 30 years acting as the reference groups.

TABLE 20 Tests of measurement invariance for gender differences

Invariance model	CFI	TLI	RMSEA	SRMR	χ^2	df	SCF	$\Delta\chi^2$	Δdf	p
Full configural	0.972	0.964	0.036	0.039	1,237.207	640	1.0942	–	–	–
Full metric	0.972	0.965	0.036	0.040	1,264.151	657	1.0892	25.707	17	0.080
Full scalar	0.969	0.962	0.037	0.040	1,340.314	674	1.0871	79.669	17	< 0.001
Partial scalar (PBC2)	0.971	0.965	0.036	0.040	1,298.429	673	1.0874	34.533	16	0.005
Partial scalar (RS2)	0.971	0.965	0.036	0.040	1,286.370	672	1.0876	21.761	15	0.114
Full regression	0.971	0.966	0.036	0.042	1,301.697	683	1.0894	15.852	11	0.147

TABLE 21 Tests of measurement invariance for age differences

Invariance model	CFI	TLI	RMSEA	SRMR	χ^2	df	SCF	$\Delta\chi^2$	Δdf	p
Full configural	0.967	0.959	0.039	0.042	1,658.544	960	1.0766	–	–	–
Full metric	0.968	0.961	0.038	0.043	1,677.857	994	1.0749	17.470	34	0.992
Full scalar	0.965	0.959	0.039	0.044	1,765.377	1,028	1.0734	88.803	34	< 0.001
Partial scalar (SN3 in –29 y)	0.966	0.960	0.039	0.043	1,752.880	1,027	1.0733	75.931	33	< 0.001
Partial scalar (RS4 in –29 y)	0.967	0.960	0.038	0.043	1,740.960	1,026	1.0733	63.544	32	0.001
Partial scalar (RS2 in 45– y)	0.967	0.961	0.038	0.043	1,732.867	1,025	1.0731	55.162	31	0.005
Partial scalar (RS4 in 45– y)	0.967	0.961	0.038	0.043	1,724.981	1,024	1.0730	46.905	30	0.025
Partial scalar (ATT2 in –29 y)	0.967	0.961	0.038	0.043	1,720.186	1,023	1.0731	41.925	29	0.057
Full regression	0.967	0.961	0.038	0.049	1,756.647	1,045	1.0773	36.543	22	0.026
Part. regr. (SN →INT in 45– y)	0.968	0.962	0.037	0.045	1,732.465	1,044	1.0769	15.657	21	0.789

TABLE 22 Non-invariant intercepts and regressions as well as R^2 in the groups

	Men[a]	Women	Under 30 years[a]	30–44 years	45 years or over
Indicator intercepts					
PBC2	4.377***	4.063***	–	–	–
RS2	2.546***	2.715***	–	–	–
SN3	–	–	2.479***	2.285***	2.285***
RS4	–	–	2.884***	3.012***	3.189***
RS2	–	–	2.752***	2.752***	2.949***
ATT2	–	–	2.732***	2.654***	2.654***
Regression coefficients					
SN → INT	–	–	0.303***	0.303***	0.065
R^2					
INT	0.533	0.537	0.533	0.526	0.542
ATT	0.467	0.465	0.438	0.441	0.553

*** = p < 0.001, ** = p < 0.01, * = p < 0.05, [a] = reference group

For example, as can be seen, in the case of gender, men were found to agree more with the statement associated with PBC2 despite their underlying perceived behavioural control, whereas women were found to score higher in terms of RS2 despite their underlying behavioural beliefs about resource savings. However, although only partial scalar invariance could be established across the groups, the established level of measurement invariance could still be considered sufficient for examining the invariance of the construct mean scores because each construct in each group was measured by at least one non-marker indicator that had both an invariant loading and an invariant intercept across the groups (Steenkamp & Baumgartner 1998). In the case of all the constructs, its first indicator acted as the marker indicator.

TABLE 23 Gender and age differences in the construct mean scores

Construct	Women (vs. men)	30–44 years (vs. under 30 years)	45 years or over (vs. under 30 years)	45 years or over (vs. 30–44 years)
INT	-0.021	0.294***	-0.069	-0.363***
ATT	0.093	0.249**	-0.080	-0.329***
SN	0.334***	0.632***	0.678***	0.046
PBC	-0.479***	-0.078	-0.849***	-0.771***
RS	0.150**	0.079	-0.381***	-0.460***
WOS	0.259***	0.226**	-0.204*	-0.430***
FOS	0.448***	0.140	-0.207*	-0.346***
BAQ	-0.265***	-0.105*	-0.286***	-0.181**
TR	-0.409***	-0.336***	-0.673***	-0.337***
TP	-0.128*	-0.200**	-0.487***	-0.287***
EOU	0.168**	0.089	-0.289***	-0.377***
PC	0.111	-0.113	-0.447***	-0.333***

*** = p < 0.001, ** = p < 0.01, * = p < 0.05

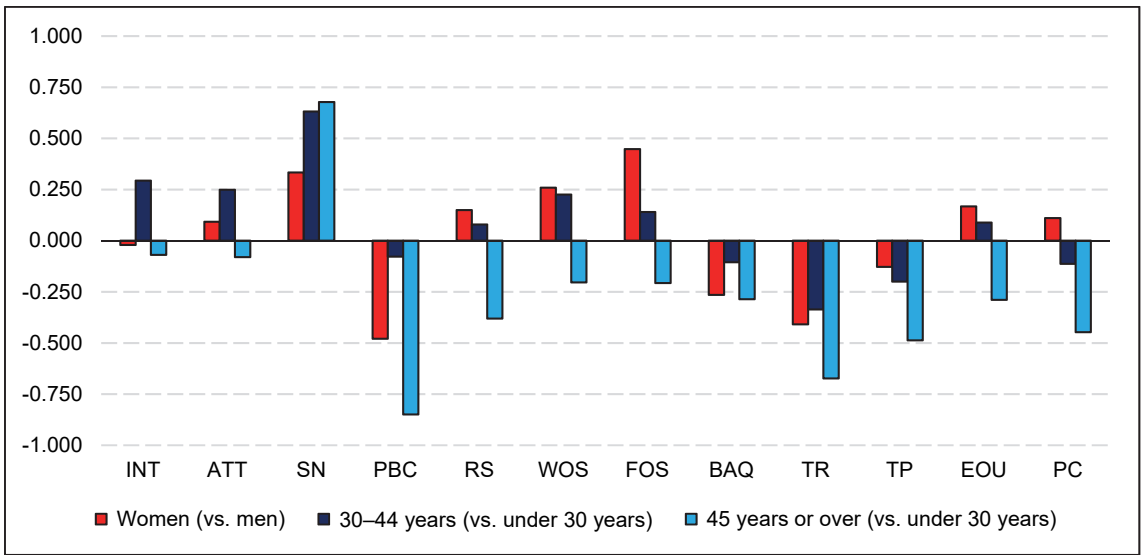

FIGURE 18 Gender and age differences in the construct mean scores

The size and statistical significance of the differences in the construct mean scores across the groups are reported in Table 23. These differences are also illustrated graphically in Figure 18. In the case of gender, men acted as the reference group, whereas in the case of age, the age group of under 30 years acted as the reference group. However, the last column of Table 23 also reports the size and statistical significance of the differences between the two oldest age groups obtained by using the age group of 30–44 years as the reference group. As can be seen, several statistically significant differences across the groups were found. The differences concerning intention, attitude, subjective norm, and perceived behavioural control remained practically identical to those reported in RA5. That is, intention and attitude were found to be stronger and more positive in the age group of 30–44 years in comparison to the two other age groups. In turn, subjective norm was found to be more positive among women as well as in the age groups of 30–44 years and 45 years or over, whereas perceived behavioural control was found to be weaker among women and in the age group of 45 years or over. In terms of the gender differences in behavioural beliefs, women were found to have higher construct mean scores in the case of resource savings, width of selection, freedom of selection, and ease of use and lower construct mean scores in the case of bad audio quality, technical restrictiveness, and technical perishability. In terms of the age differences in behavioural beliefs, the age group of 45 years or over was found to have lower construct mean scores in comparison to the two other age groups in the case of all the constructs. In turn, the construct mean scores of the age group of 30–44 years were found to be higher in the case of width of selection and lower in the case of bad audio quality, technical restrictiveness, and technical perishability in comparison to the age group of under 30 years.

In summary, in terms of gender, one can conclude that although women were found to have more positive behavioural beliefs about making purchases in music download stores, these differences did not seem to be large enough to result in differences in their attitude. In addition, their effects on attitude may also have been offset by each other. For example, the differences in the behavioural beliefs about resource savings and practical compatibility, which had the strongest positive effects on attitude, were both found to be relatively small, whereas the largest difference was found in the behavioural beliefs about freedom of selection, which had a negative effect on attitude. Similarly, although women were found to have a more positive subjective norm, its effect on intention was, to some extent, offset by their weaker perceived behavioural control, thus resulting in no differences between women and men in terms of their intention to make purchases in music download stores.

In turn, in terms of age, one can conclude that the age group of over 45 years was found to have the most negative behavioural beliefs about resource savings, width of selection, freedom of selection, ease of use, and practical compatibility, but the least negative behavioural beliefs about bad audio quality, technical restrictiveness, and technical perishability. Perhaps at least partly because of these inconsistencies, no difference in attitude was found between this

age group and the age group of under 30 years. In contrast, the age group of 30–44 years was found to be very similar to the age group of under 30 years, except for having more positive behavioural beliefs about width of selection as well as less negative behavioural beliefs about bad audio quality, technical restrictiveness, and technical perishability. In line with these findings, this age group was also found to have the most positive attitude towards making purchases in music download stores. Together with more positive subjective norm in comparison to the age group of under 30 years, this also seemed to result in the age group of 30–44 years having the strongest intention to make purchases in music download stores. In the age group of 45 years or over, subjective norm was also found to be more positive in comparison to the age group of under 30 years, but its effect on intention was, to some extent, offset by a weaker perceived behavioural control in comparison to the two other age groups, especially when considering the weaker effect of subjective norm on intention in this age group. Thus, no difference was found in the intention to make purchases in music download stores between this age group and the age group of under 30 years.

Finally, as can be seen from Table 20 for gender and from Table 21 for age, full regression invariance was found to exist between men and women, whereas only partial regression invariance was found to exist across the three age groups. The regression coefficient that was found to be non-invariant concerned the effect of subjective norm on intention, which was found to be much weaker and statistically not significant in the age group of 45 years or over. This same finding was made also in RA5. The size and statistical significance of this non-invariant regression coefficient in the three age groups are reported in Table 22, along with the proportion of explained variance (R^2) in attitude and intention among men and women as well as in the three age groups. Note that the reported proportions of explained variance are not necessarily exactly equal despite the invariance of the unstandardised regression coefficients, because the construct variances may be non-invariant. However, there did not seem to be any considerable differences between them, except that the in the age group of 45 years or older, the proportion of explained variance in attitude was found to be about ten percentage points higher in comparison to the two other age groups. In other words, among the oldest consumers, there seem to be fewer external factors not captured by the model that affect their attitude towards making purchases in music download stores.

5.6.3 Effect of purchase intention on purchase behaviour

In addition to explaining just purchase intention, it is also interesting and important to examine how well the extended TPB model performs in terms of explaining actual purchase behaviour. For this purpose, the model was further extended by using the data collected during the follow-up phase of the second survey study in October 2010. As already mentioned in Chapter 4.2, the questionnaire of this survey consisted of only one item, in which the respondents were inquired about whether they had made purchases in music download stores during the three-month period following the completion of the main

phase of the second survey study in June 2010. This single item was added to the model as an observed binary variable (PUR), which was hypothesised to be positively affected by behavioural intention. In accordance with the more recent revisions of TPB, the effect was also hypothesised to be moderated by perceived behavioural control, so that the effect becomes stronger as the perceptions of behavioural control become stronger and the effect becomes weaker as the perceptions of behavioural control become weaker. In addition, in accordance with the guidelines given by Aiken and West (1991), a hypothesised positive effect of perceived behavioural control on purchase behaviour was added to the model because, when testing the interaction effect of two variables, the model must contain the main effects of both these two variables. The resulting extended TPB model is illustrated in Figure 19.

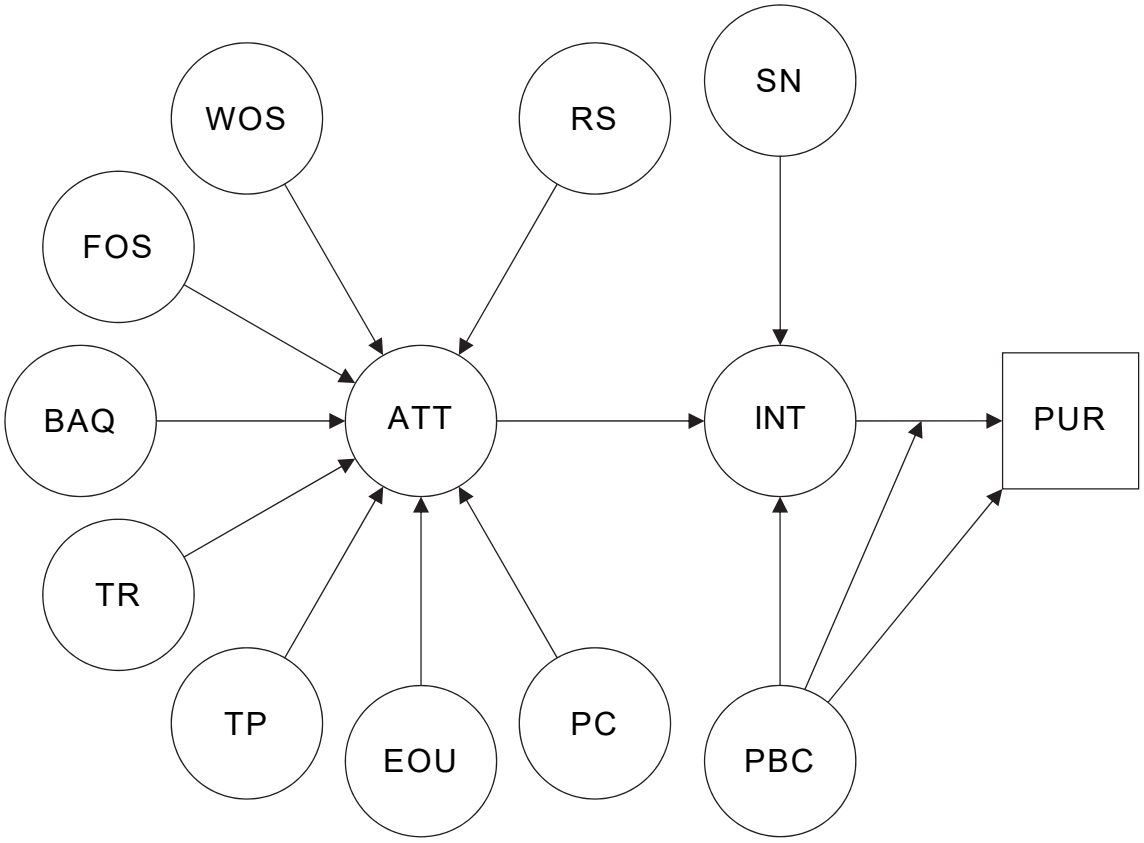

FIGURE 19 Extended TPB model (second extension)

The estimation of the interaction effect in the model was conducted by using the latent moderated structural equations (LMS) approach suggested by Klein and Moosbrugger (2000), which enables the entire model to be estimated in a single step instead of multiple steps. In the estimation results of the extended TPB model, the main effects of purchase intention (1.239, $p < 0.001$) and perceived behavioural control (0.920, $p = 0.049$) on purchase behaviour were both found to be positive and statistically significant, whereas the moderation effect of perceived behavioural control was found to be negative and statistically not significant (-0.193, $p = 0.499$). Therefore, the model was modified by dropping the

moderation effect but maintaining the main effects of both purchase intention and perceived behavioural control on purchase behaviour.

The estimation results of this modified extended TPB model are reported in Figure 20. As can be seen, in this model, both purchase intention and perceived behavioural control were found to have a positive and statistically significant effect on purchase behaviour and to explain about 47.5% of its variance. Note that, because the purchase behaviour variable was modelled as a binary outcome variable, the effects of purchase intention and perceived behavioural control on purchase behaviour are reported as logistic (logit) regression coefficients, and the proportion of explained variance (R^2) in purchase behaviour is reported as the proportion of explained variance of the continuous latent response variable underlying the binary outcome variable (McKelvey & Zavoina 1975). The logistic regression coefficients correspond to odds ratios of about $e^{1.087} = 2.966$ for purchase intention and $e^{0.800} = 2.226$ for perceived behavioural control. This means that, on average and *ceteris paribus*, an increase of one unit in purchase intention results in the odds of an individual making a purchase becoming about threefold, whereas an increase of one unit in perceived behavioural control results in the odds of an individual making a purchase becoming a bit more than twofold. The size and statistical significance of all the other effects in the model remained practically identical to those of the extended TPB model without the added purchase behaviour variable.

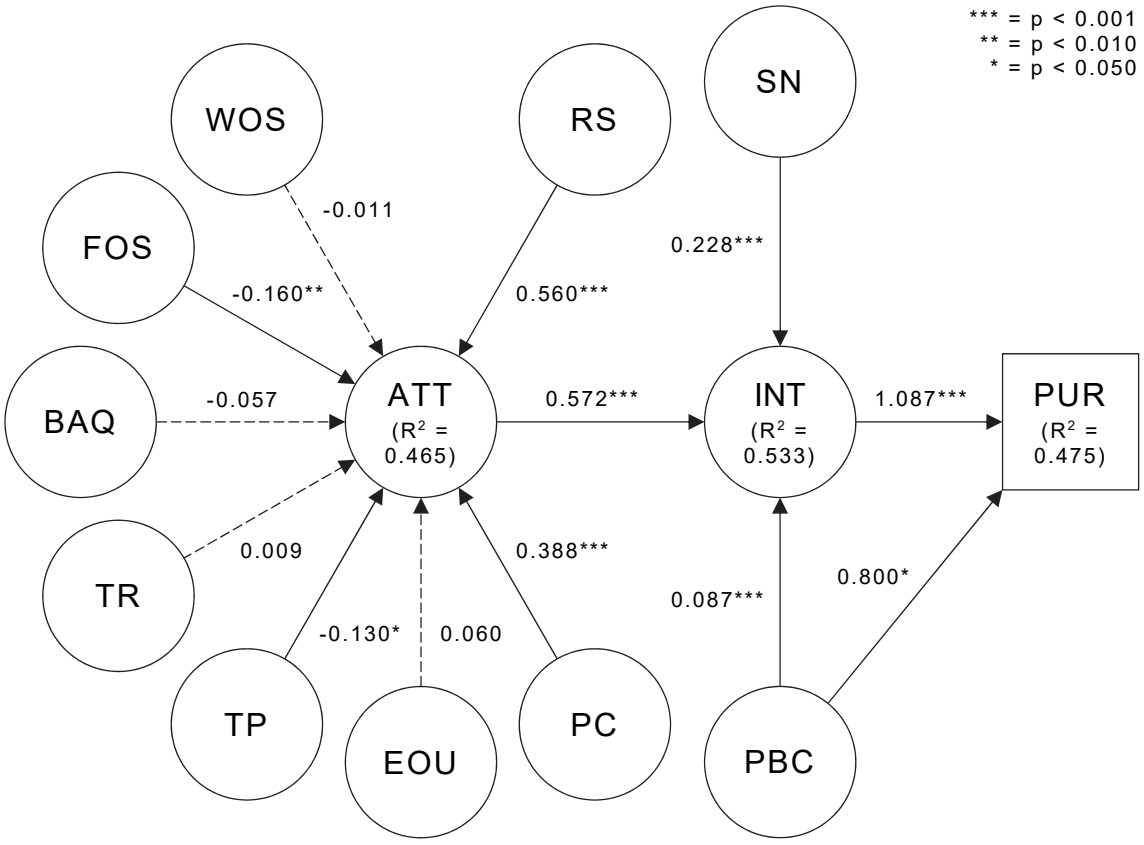

FIGURE 20 Estimation results of the modified extended TPB model (second extension)

Because neither the previously used χ^2 test of model fit nor the four fit indices for evaluating the goodness-of-fit of a model are available for models with categorical outcome variables, the fit of the model with the data was evaluated only at the level of the added purchase behaviour variable by comparing the observed responses to the expected responses estimated by the model. These were found to be very close to each other (i.e., 12.3% of observed purchasers and 87.7% of observed non-purchasers vs. 11.4% of expected purchasers and 88.6% of expected non-purchasers), and no statistically significant differences between them were suggested by the Pearson's χ^2 test ($\chi^2(1) = 1.128$, $p = 0.288$). Therefore, when also taking into account the fact that the extended model without the added purchase behaviour variable was found to have a good fit with the data and that the two models were otherwise identical, the goodness-of-fit of the extended model with the added purchase behaviour variable could also be considered satisfactory. In addition, the reliability and validity of the model at the indicator and construct levels could also be considered satisfactory because the standardised indicator loadings and the construct correlations of the two models were practically identical, and the correlations of the added purchase behaviour variable with the other constructs remained less than 0.6.

In summary, one can conclude that the proposed extended TPB model performs very well in terms of explaining not only the attitude towards making purchases in music download stores and purchase intention but also actual purchase behaviour. Although the model deviates from the more recent revisions of TPB by modelling perceived behavioural control as having a main effect on purchase behaviour instead of moderating the effect of purchase intention on purchase behaviour, this kind of a deviation is not uncommon (Fishbein & Ajzen 2010). On the contrary, in most prior TPB studies, perceived behavioural control has not been found to moderate the effect of behavioural intention on actual behaviour, resulting in it being more commonly modelled as a direct behavioural determinant. As discussed in more detail by Fishbein and Ajzen (2010), this is especially common when there is a relatively unequal distribution of the positive and negative intentions to perform the behaviour in the research population. This would seem to be the case also in terms of making purchases in music download stores because many respondents reported having relatively weak purchase intentions.

5.6.4 Discussion of the findings

Due to the use of TPB as the theoretical foundation of the proposed model for explaining consumer purchase behaviour in music download stores, many of the findings of this extension can be compared to those of some prior studies that have also applied TPB to explain consumer behaviour. Only one such study has concentrated on the context of music download stores (Dilmperi et al. 2017), whereas more studies have concentrated on the contexts of music subscription services (Kwong & Park 2008; Dörr et al. 2013; Lin et al. 2013; Wagner & Hess 2013) and online shopping in general (e.g., George 2004; Pavlou & Fygenson 2006; Lin 2007). The findings of the study by Dilmperi et al. (2017)

differ somewhat from those of this extension. For example, although their findings and the findings of this extension suggest that both attitude and subjective norm act as antecedents of purchase intention in music download stores, they found both attitude and subjective norm to act as practically equally strong antecedents, whereas this extension found attitude to clearly act as the strongest antecedent. In the context of music subscription services, similar findings concerning the more pronounced role of attitude as an antecedent of pay intention for subscriptions has been suggested by Lin et al. (2013) as well as Wagner and Hess (2013), whereas Kwong and Park (2008) as well as Dörr et al. (2013) have suggested that subjective norm acts as a stronger antecedent of pay intention for subscriptions. However, in the context of both music download stores and music subscription services, perceived behavioural control has typically been found to act as a relatively weak antecedent of intention, which was also confirmed by the findings of this extension.

In turn, when comparing the findings of this extension to those of prior studies on online shopping in general, the main exception seems to concern the effect of subjective norm on purchase intention, which has typically been found as statistically not significant (e.g., George 2004; Pavlou & Fygenson 2006; Lin 2007). In other words, it seems that in comparison to online shopping in general, making purchases in music download stores is more strongly influenced also by perceived social pressure. Potential explanations for this interesting and important can be presented from the perspective of both *injunctive norms* and *descriptive norms*, of which the former refer to the perceptions of whether the performance of a particular behaviour is considered acceptable by important others and the latter refer to the perceptions of whether these important others themselves perform the behaviour (Fishbein & Ajzen 2010).

From the perspective of injunctive norms, one explanation may be the intense public discussion about the ethical and moral aspects of online distributed digital music, not only in terms of illegal music piracy but also in terms of the fair remuneration of artists by the legal stores and services. This may have promoted the ethical and moral sensitivity of consumers concerning their music acquisition decisions, making them more concerned about issues like whether the use of a specific music acquisition source can be considered acceptable behaviour. In contrast, from the perspective of descriptive norms, another explanation may be the strong symbolic consumption aspect of music consumption (e.g., Larsen, Lawson & Todd 2009, 2010). That is, by deciding what music we listen to, we are able to convey cultural meanings to other individuals, thus shaping our own identity and image. In addition to the consumed music itself, this aspect is likely to extend also to our decisions about where we acquire the listened-to music, thus making it important to consider, for example, whether a specific acquisition source is or is not used by a specific social group or subculture that one either wants to identify with or to differentiate from. These kinds of considerations have been found to be especially important for adolescents (e.g., North & Hargreaves 1999), which would also explain why the pronounced role of subjective norm was found to be present only in the two

youngest age groups of under 30 years and 30–44 years, whereas in the oldest age group of 45 years or over, subjective norm was not found to have a statistically significant effect on purchase intention.

In contrast, the findings of this extension concerning the eight behavioural belief constructs are much more difficult to compare to those of prior studies because these constructs have been used much more rarely. However, in the context of online shopping in general, perceived ease of use and perceived compatibility have both been found to positively affect the attitude towards using online stores and, consequently, their use intention and use behaviour (e.g., Chen et al. 2002; Vijayasarathy 2004; Lin 2007). Here, the effect of perceived compatibility has typically been very strong, whereas the effect of perceived ease of use has remained relatively weak. A weak, although a statistically significant, effect of perceived ease of use on the attitude towards online shopping has also been suggested in a meta-analytic review by Ingham, Cadieux, and Berrada (2015). The findings of this extension are very much in line with these aforementioned findings, with the exception that ease of use was not found to have a statistically significant effect on the attitude towards making purchases in music download stores. This practically non-existent effect of perceived ease of use is also supported by some prior studies in the context of music download stores, in which perceived ease of use has typically been found to have neither a direct effect on purchase intention (Bounagui & Nel 2009; Nel et al. 2009) nor an indirect effect via perceived value (Chu & Lu 2007). The only exceptions to this are the two studies by Suki (2011a, 2011b), in which both a direct effect and an indirect effect via perceived value were found.

Perceived compatibility, in turn, has not been used as a behavioural antecedent in any of the prior studies in the context of music download stores. In terms of perceived compatibility, it is also important to note its multidimensional nature. For example, Tornatzky and Klein (1982) differentiate between two distinct dimensions of combability: normative or cognitive compatibility, which refers to the compatibility with what people feel or think about an innovation, and practical or operational compatibility, which refers to compatibility with what people do. Karahanna et al. (2006) elaborate this differentiation further in the context of technology acceptance in organisations and suggest four distinct dimensions of compatibility: compatibility with preferred working style and compatibility with existing work practices, which are associated with the aforementioned practical or operational compatibility, as well as compatibility with values and compatibility with prior experiences, which are associated with the aforementioned normative or cognitive compatibility. Of these, based on the elicited behavioural beliefs about making purchases in music download stores, the compatibility construct of the models proposed in this extension concentrates particularly on the dimension of practical or operational compatibility, which is reflected in the labelling of the construct as practical compatibility. This is also the dimension that most prior studies on online shopping in general (e.g., Chen et al. 2002; Vijayasarathy 2004; Lin 2007) have used as the basis of the perceived compatibility constructs in their proposed models.

In addition, the monetary savings resulting from potentially lower product prices and transaction costs, the time and effort savings resulting from greater convenience in terms of being able to conduct the transactions practically anywhere and anytime, as well as the increased product variety in terms both width and depth have all been highlighted as the main benefits of online shopping in general already in some of the very earliest studies on the topic (e.g., Alba et al. 1997; Burke 1997; Jarvenpaa & Todd 1997; Wolfinbarger & Gilly 2001). In some more recent studies (e.g., To, Liao & Lin 2007), they have also been found to be the most influential antecedents of the utilitarian motivations for search intention and purchase intention in online stores. The findings of this extension partly support these prior findings, although only resource savings in terms of money, time, and effort were found to positively affect the attitude towards making purchases in music download stores and, consequently, purchase intention and purchase behaviour. Of course, in the context of making purchases in music download stores, it must also be noted that the benefits in terms resource savings and product variety are likely to be even greater because the purchased products can typically be delivered directly to one's device with almost no time delay and because the marginal costs for the stores in terms of adding an additional product to their selection drop to practically zero from a purely storage point of view. Of course, from a contractual point of view, there may be licencing and other costs that limit the size of the selection.

5.7 Findings of RA6

> RQ4: What are the main context-specific inhibitors for consumers not to make purchases in music download stores?

RA6 concentrates on providing more in-depth answers to RQ4 from a positivist and quantitative perspective by examining the reasons why consumers have not made purchases in music download stores. It is based on the data collected from 1,034 Finnish consumers during the main phase of the second survey study in June 2010. These were all respondents who had reported never having made purchases in music download stores. In the survey questionnaire, the respondents were inquired about the reasons for this by showing them a list of 16 reasons and asking them to select one of the reasons as their primary reason as well as any number of secondary reasons. This list was based on the analysis of the data collected during the interview study in September 2009. In case no suitable reason was found, the list also contained the option "other reasons". When selecting this option, the respondents were able to freely report any other reasons in a text box located under the list. This data was analysed in three phases with the PASW Statistics 18 software. In the first phase, a basic frequency analysis was conducted in order to find out how frequently each reason was referred to as a primary or secondary reason for not having made purchases in music download stores. In the second phase, the potential gender and age de-

pendencies in these references were analysed by using contingency tables, the Pearson's χ^2-tests of independence and the Cramér's V coefficients. In the third phase, a preliminary segmentation of the respondents was conducted based on their referred primary reason, and the profiles of these segments were examined in terms of the referred secondary reasons.

In terms of the most frequently referred reasons for not having made purchases in music download stores, three reasons were referred to as the primary reason far more frequently than were the other reasons, altogether by about two thirds of the respondents. These reasons were a *preference for physical products* (referred to by about 25% of the respondents), *not purchasing music in general* (referred to by about 22% of the respondents), and *being used to acquiring their music elsewhere* (referred to by about 20% of the respondents). All the other reasons were each referred to by less than 10% of the respondents. *Being used to acquiring their music elsewhere* (referred to by about 26% of the respondents) and a *preference for physical products* (referred to by about 18% of the respondents) were also the two reasons that were most frequently referred to as secondary reasons for not having made purchases in music download stores. However, there were also eight other reasons that were each referred to by more than 10% of the respondents. Perhaps surprisingly, *not purchasing music in general* was not one of these reasons, being referred to by only about 7% of the respondents.

In terms of the references to primary reasons, no gender dependencies were found, but an age dependency was found in the references to *not purchasing music in general*, which was found to be referred to more frequently by younger respondents, and *not shopping online in general*, which was found to be referred to more frequently by older respondents. In terms of the gender and age dependencies in the references to secondary reasons, men and younger respondents were found to refer more frequently to reasons related to store features, particularly *usage or copying restrictions in the music*, *not being able to redownload the music if needed*, *bad music selection*, *bad audio quality*, and *the music being too expensive*. In contrast, women and older respondents were found to refer more frequently to reasons related to personal facilitators, particularly *not having the required know-how*, *not having the required hardware, software, or connectivity*, and *not being sure about the legality of the stores or the music they are selling*. These findings are largely in line with prior studies (e.g., Venkatesh & Morris 2000; Venkatesh, Morris & Ackerman 2000; Morris & Venkatesh 2000) as well as with theories like UTAUT and UTAUT2, in which women and older individuals have typically been found emphasise factors related to ease and effort (i.e., how easy or effortless it is to use the technology), whereas men and younger individuals have typically been found to emphasise factors related usefulness and performance (i.e., what is gained by using the technology).

Finally, a preliminary segmentation of the respondents who have not made purchases in music download stores was conducted by placing them into 16 groups based on their referred primary reason. However, of them, only three groups with references to the three most frequently referred primary reasons were examined more closely. The remaining groups were considered too small

for any statistical analyses. Table 24 reports the profiles of these groups in terms of the percentage of respondents referring to a particular secondary reason.

TABLE 24 Preliminary segmentation of non-purchasers

Secondary reason	Primary reason		
	Preference for physical products	**Not purchasing music in general**	**Used to acquiring elsewhere**
Used to acquiring elsewhere	30.7%	23.0%	–
Preference for physical products	–	15.3%	30.0%
No re-downloading	31.8%	13.3%	15.0%
Too difficult or effortful	22.1%	17.8%	19.6%
No know-how	26.1%	10.9%	26.5%
Usage or copying restrictions	30.8%	21.2%	14.4%
Too expensive	24.1%	25.5%	17.7%
Not sure about legality	27.6%	13.0%	24.4%
Bad selection	32.0%	18.4%	16.8%
Not shopping online in general	21.6%	34.2%	13.5%
Security or privacy risks	27.1%	10.4%	16.7%
No HW, SW, or connectivity	18.9%	15.6%	24.4%
No means of payment	22.3%	19.1%	17.0%
Not purchasing music in general	16.4%	–	24.7%
Bad audio quality	29.7%	10.8%	18.9%
Bad for artists or others	24.2%	6.5%	17.7%
Total	**385.4%**	**255.0%**	**297.3%**

First, in the group where *being used to acquiring their music elsewhere* was referred to as the primary reason, the respondents quite frequently referred to the other two most frequently referred primary reasons as secondary reasons. This was not surprising when considering that this reason was quite inconclusive in terms that it did not specify what these other acquisition sources actually were. Thus, if the respondents wanted to specify them, they had to refer to some other reasons as secondary reasons. Of them, a *preference for physical products* was most likely referred to if the other acquisition sources were traditional offline or online record stores that still sell music as physical products. In contrast, *not purchasing music in general* was most likely referred to if the other acquisition sources were free offline or online sources from which the music could be acquired without actually purchasing and paying for it. In addition, the respondents in this group quite frequently made references to reasons related to personal facilitators, particularly *not having the required know-how*, *not having the required hardware, software, or connectivity*, and *not being sure about the legality of music download stores or the music they are selling*. This would seem to suggest that many of these respondents were not particularly technologically savvy,

which may have further contributed to them sticking to their existing music acquisition and consumption practices, especially in terms of resorting to traditional offline or online record stores.

Second, in the group where a *preference for physical products* was referred to as the primary reason, the number of reasons referred to as secondary reasons was the highest of the three examined groups. This suggests that also in this group, the respondents felt the need to further specify their reasons for preferring physical products through references to secondary reasons. The most frequently referred reasons related to store features, particularly *bad music selection*, *not being able to re-download the music if needed*, *usage or copying restrictions in the music*, *bad audio quality*, and *information security or privacy risks*. However, references were also quite frequently made to reasons related to personal facilitators, particularly *not being sure about the legality of music download stores or the music they are selling* and *not having the required know-how*. In contrast, *not purchasing music in general* was referred to quite infrequently, thus suggesting that many of the respondents in this group actively made music purchases, most probably in traditional offline or online record stores.

Third, in the group where *not purchasing music in general* was referred to as the primary reason, the number of reasons referred to as secondary reasons was the lowest of the three examined groups. This suggests that this reason was the most conclusive of the three in terms of requiring fewer supplementary references to secondary reasons. However, if these references were made, they were most frequently made to *not shopping online in general* and *the music being too expensive*, whereas a *preference for physical products* was referred to quite infrequently. This high interest in monetary issues but low preference for physical products would seem to suggest that if these respondents did listen to and acquire music, although without actually purchasing and paying for it, this would most likely be done from free online sources. These sources are also likely to include file-sharing services or other sources with questionable legality because few respondents seemed to be concerned about ethical, moral, and legal issues, as evidenced by infrequent references to *the stores being bad for artist or other actors working with music* and *not being sure about the legality of music download stores or the music they are selling*. In contrast, most respondents seemed to have the required personal facilitators and risk tolerance for using such sources, as evidenced by the infrequent references to *not having the required know-how* and *information security or privacy risks*.

5.8 Findings of the extension of RA6

> RQ4: What are the main context-specific inhibitors for consumers not to make purchases in music download stores?

This extension of RA6 concentrates on providing even more in-depth answers to RQ4 by refining the segmentation of consumers who have not made pur-

chases in music download stores. This is done by basing it not only on the referred primary reason but on all the referred reasons, irrespective of whether they were referred to as primary or secondary reasons. Similar to RA6, the extension examines the list of 16 reasons for not having made purchases in music download stores, which was based on the analysis of the data collected during the interview study in September 2009. These reasons are listed in Table 25. At a more general level, the reasons can be classified into four thematic categories: reasons related to (1) existing practices and preferences, (2) store features, (3) personal facilitators, and (4) personal values. Three of these categories are quite closely associated with one of the eight drivers of innovation resistance suggested by Kleijnen et al. (2009), with existing practices and preferences being associated with existing usage patterns, store features being associated with economic and functional risks, and personal values being associated with traditions and norms. For personal facilitators, no corresponding association could be found. In the following, each of the four categories and the reasons classified under it are discussed in more detail.

TABLE 25 Reasons for not making purchases in music download stores

Existing practices and preferences
R1: I do not shop online in general.
R2: I do not purchase music in general.
R3: I prefer to get a physical product (e.g., a CD with its accessories).
R4: I am used to acquiring my music elsewhere.
Store features
R5: The music sold in download stores is too expensive.
R6: The music sold in download stores has too many restrictions for its usage or copying.
R7: The music sold in download stores has bad audio quality.
R8: The music selection of download stores is bad or does not match my needs.
R9: The music purchased from download stores may not be re-downloaded if needed.
R10: Purchasing music from download stores poses too many security or privacy risks.
R11: Purchasing music from download stores is too difficult or effortful.
Personal facilitators
R12: I do not have the required know-how.
R13: I do not have the required hardware, software, or connectivity.
R14: I do not have the required means of payment (e.g., a credit card).
R15: I am not sure about the legality of download stores or the music they are selling.
Personal values
R16: Download stores are bad for artists or other actors working with music.

The first category consists of four reasons that concern the existing practices and preferences of consumers in terms of online shopping and acquiring music. First, some consumers may not shop online in general. This obviously causes

them also not to shop in music download stores, which are a specific type of online store. Second, for some consumers, their reason for not shopping in music download stores may be the fact that they do not purchase music in general, for example, because they do not listen to music at all or they are acquiring their music from some alternative sources from which they can get it for free without actually purchasing and paying for it. Some examples of such sources are traditional radio stations and different types of online sources, such as free online music subscription services and often legally questionable file-sharing services. Third, for some consumers, their reason for resisting making purchases in music download stores may also be the fact that they still prefer to get a physical product when acquiring their music and, therefore, prefer to purchase their music from traditional offline or online record stores. The physical product does not necessarily include only the carrier medium, such as a disc or record that contains the music content, but also the various accompanying accessories, such as record sleeves and liner notes.

Fourth, somewhat related to two previous reasons, another reason for resisting making purchases in music download stores may also be the fact that consumers have simply become accustomed to acquiring their music elsewhere, such from the aforementioned other types of online sources or from traditional offline or online record stores. The respondents were not asked directly what these other sources are because doing this might have resulted in biased responses or even scared some respondents and cause them to stop responding to the survey altogether, especially if these other sources had a somewhat questionable legal status. However, they can be typically inferred indirectly from the other reasons that either are or are not referred to by the respondents. For example, if a respondent also refers to a *preference for physical products* but does not refer to *not purchasing music in general* as his or her reason for not having made purchases in music download stores, this implies that the sources from which that respondent acquires his or her music are likely to be traditional offline or online record stores that still sell music as physical products. In contrast, if a respondent also refers to *not purchasing music in general* but does not refer to a *preference for physical products* as his or her reason for not having made purchases in music download stores, this implies that the sources from which that respondent acquires his or her music are likely to be some other types of online sources from which the music can be acquired without actually purchasing it.

The second category consists of seven reasons that concern the features of music download stores as well as the albums and tracks that they are selling. First, some consumers may find the albums and tracks sold in music download stores to be too expensive, especially when considering their immaterial nature, and, therefore, resist making purchases in them. Second, for some consumers, the reasons for resistance may relate to concerns that the albums and tracks sold in music download stores contain too many restrictions for their usage or copying, for example, in terms of incompatible file formats or DRM. Third and fourth, the concerns of some consumers may concentrate more on the questionable audio quality of the albums and tracks sold in music download stores or on

questionable music selection in terms of not finding the albums and tracks one likes or is looking for. Fifth and sixth, the concerns of other consumers may concentrate more on not being sure whether the purchased music can be re-downloaded without any additional costs if it is somehow lost or it stops working, or on the more general security or privacy risks related to using music download stores, such as the potential theft of credit card information as a result of making purchases in them. Seventh, some consumer may simply find the whole purchasing process to be too difficult or effortful and, therefore, resist making purchases in music download stores, instead opting to acquire their music from other sources that they find easier and more effortless to use.

The third category consists of four reasons that concern the lack of personal facilitators required by consumers to make purchases in music download stores. First, some consumers may not have the required know-how to use music download stores, which obviously prevents making any purchases in them, at least without proper assistance. Second and third, making purchases in music download stores may also be prevented by the lack of suitable hardware, software, or Internet connectivity required for using the stores or the lack of a suitable means of payment, such as a credit card, required for completing the purchase transaction. Fourth, because the mainstream media often highlights the threats of digital piracy to the recorded music industry and other content industries, some consumers, especially those that are not very familiar with online distributed digital music in general, may also become unsure about the legality of music download stores and the albums and tracks that they are selling, causing once again resistance to making purchases in them.

Finally, the fourth category consists of only one reason, which concerns the conflicts between making purchases in music download stores and one's personal values, especially those that emerge from the conception that music download stores are not good for artists or other actors working with music, for example, because they are not being fairly remunerated for their work.

Similar to RA6, this extension is based on the data collected during the main phase of the second survey study in June 2010, more specifically from those respondents who reported never having made purchases in music download stores. In the survey questionnaire, as already mentioned above, these respondents were inquired about the reasons for this by showing them a list of 16 reasons and asking them to select one of the reasons as their primary reason as well as any number of secondary reasons. In case no suitable reason was found, the list also contained the option "other reasons". When selecting this option, the respondents were able to freely report any other reasons in a text box located under the list. These reasons were later analysed one by one. If they matched a reason already on the list, a reference to that reason was added for the respondent in question. If they did not match any of the reasons already on the list, the missing reason was appended to the list and a reference to that reason was added for the respondent in question.

As already reported in RA2 and Chapter 4.2, of the 1,447 respondents, 1,039 reported that they had never made purchases in music download stores.

However, of those respondents, 153 had selected no primary reason or more than one primary reason, which was possible due to technical limitations in the survey software, and had to be dropped from further analyses. Thus, the sample size studied in this extension was 886 respondents. The descriptive statistics of this sample in comparison to the sample of all respondents are reported in Table 26. As can be seen, the gender, age, income, and socioeconomic status distributions of the sample remained very similar to the sample of all respondents. Note that this extension is based on a slightly different sample than RA6. For RA6, the non-purchasers were selected from the sample of 1,610 respondents who had reported whether they had ever made purchases in music download stores but who had not necessarily completed the whole survey[5]. In contrast, for this extension, the non-purchasers were selected from the sample of 1,447 respondents who had completed the whole survey. This latter sample is the same sample that RA2, RA3, as well as RA5 and its extension are based on.

TABLE 26 Sample statistics of all respondents (N = 1,447) and non-purchasers (N = 886)

	All respondents (N = 1,447)		**Non-purchasers (N = 886)**	
	N	**%**	**N**	**%**
Gender				
Man	612	42.3	359	40.5
Woman	835	57.7	527	59.5
Age				
Under 30 years	529	36.6	332	37.5
30–44 years	509	35.2	283	31.9
45 years or over	409	28.3	271	30.6
Income				
Under €15,000	487	33.7	323	36.5
€15,000–€29,999	387	26.7	234	26.4
€30,000 or over	385	26.6	216	24.4
Missing	188	13.0	113	12.8
Socioeconomic status				
Student	343	23.7	232	26.2
Employed	793	54.8	465	52.5
Unemployed	126	8.7	77	8.7
Pensioner	86	5.9	58	6.5
Other	86	5.9	50	5.6
Missing	13	0.9	4	0.5

[5] Note that Section 3.1 in RA6 erroneously claims that the research article was based on a sample of 1,447 respondents. Therefore, Tables 1 and 2 in RA6 are also erroneous. However, these errors do not affect the rest of the research article.

The sample was analysed in three phases, which are discussed in more detail in the following three sub-chapters. In order to promote compatibility with other research articles and their extensions as well as to confirm that the aforementioned different sample size did not have a considerable effect on the results reported in RA6, the two first phases partially repeat some of the analyses of RA6 by using the IBM SPSS Statistics 24 software. However, in order to provide better compatibility with the third phase, these analyses concentrate not only on the referred primary and secondary reasons separately, as in RA6, but also on all the reasons referred to by a respondent without separating whether he or she referred to them as the primary reason or as secondary reasons.

5.8.1 Frequency analysis

In the first phase, a basic frequency analysis was conducted in order to find out how frequently each reason for not having made purchases in music download stores was referred to, first concentrating on the primary and secondary reasons and then on all the reasons. The results of this analysis in terms of the absolute (N) and relative (%) frequencies are reported in Table 27, first for the primary and secondary reasons and then for all the reasons.

TABLE 27 Absolute and relative frequencies of the referred reasons

Reason	Primary		Secondary		All	
	N	%	N	%	N	%
R4: Used to acquiring elsewhere	175	19.8	242	27.4	417	47.3
R3: Preference for physical products	228	25.9	166	18.8	394	44.7
R2: Not purchasing music in general	207	23.5	61	6.9	268	30.4
R6: Usage or copying restrictions	38	4.3	131	14.9	169	19.2
R9: No re-downloading	5	0.6	163	18.5	168	19.0
R1: Not shopping online in general	78	8.8	88	10.0	166	18.8
R11: Too difficult or effortful	20	2.3	144	16.3	164	18.6
R12: No know-how	41	4.6	118	13.4	159	18.0
R5: Too expensive	29	3.3	128	14.5	157	17.8
R8: Bad selection	15	1.7	109	12.4	124	14.1
R15: Not sure about legality	5	0.6	102	11.6	107	12.1
R14: No means of payment	10	1.1	80	9.1	90	10.2
R10: Security or privacy risks	6	0.7	80	9.1	86	9.8
R13: No HW, SW, or connectivity	13	1.5	73	8.3	86	9.8
R7: Bad audio quality	6	0.7	69	7.8	75	8.5
R16: Bad for artists or others	6	0.7	53	6.0	59	6.7
R17: Ideological issues	0	0.0	4	0.5	4	0.5
Total	**882**	**100.0**	**1,811**	**205.3**	**2,693**	**305.3**

As can be seen, the percentages of respondents who had referred to a particular reason as a primary or secondary reason remained approximately same as in RA6, thus confirming its results. In terms of all the reasons, each respondent referred, on average, to about three reasons. The two most frequently referred reasons, both referred to by almost half of the respondents, were that the respondents *were used to acquiring their music elsewhere* and that they had a *preference for physical products*. The third most frequently referred reason, referred to by almost a third of the respondents, was that the respondents were *not purchasing music in general*. These were followed by reasons related to *usage or copying restrictions in the music*, *not shopping online in general*, *not being able to re-download the music if needed*, *the music purchasing being too difficult or effortful*, *the music being too expensive*, and *not having the required know-how*, which were each referred to by a little less than 20% of the respondents. In addition, reasons related to *bad music selection*, *not being sure about the legality of the stores or the music they are selling*, and *not having the required means of payment* were still each referred to by more than 10% of the respondents, whereas reasons related to *information security or privacy risks*, *not having the required hardware, software, or connectivity*, *bad audio quality*, and *the stores being bad for artist or other actors working with music* were each referred to by less than 10% of them. One additional reason was also identified based on the freely reported reasons of the respondents. This reason was related to ideological issues for not making purchases in music download stores, such as the wish of the respondents to rebel against the whole business model of the music industry. However, because this reason was referred to by only a few respondents and no respondent referred to it as the primary reason, it was excluded from all further analyses.

5.8.2 Analysis of gender and age dependencies

In the second phase, the sample was first divided into two gender groups representing men and women as well as into three age groups representing respondents aged under 30 years, 30–44 years, and 45 years or over. After this, the statistical significance and strength of the gender and age dependencies in the references to the reasons for not having made purchases in music download stores was analysed by using contingency tables, the Pearson's χ^2 tests of independence, and the Cramér's V coefficients. Similar to the previous phase, the analysis concentrated first on the primary and secondary reasons and then on all the reasons. The results of these analyses are reported in Tables 28 and 29 for the primary reasons, in Tables 30 and 31 for the secondary reasons, and in Tables 32 and 33 for all the reasons. However, in the case of the primary reasons, the analyses are limited to the eight reasons that were referred to as the primary reason by more than 2% of the respondents. For the remaining reasons, the number of respondents referring to them as the primary reason was considered too small for any statistical analyses.

All in all, the gender and age dependencies in the references to primary and secondary reasons remained practically identical to those reported in RA6. The only two exceptions were that a gender dependency in the references to

primary reasons was now also found in *being used to acquiring their music elsewhere*, which was found to be referred to more frequently by women, whereas an age dependency in the references to secondary reasons was now also found in *the stores being bad for artists or other actors working with music*, which was found to be referred to more frequently by older respondents. In addition, it should be noted that Tables 6, 7, 8, and 9 of RA6 report only the dependencies that were found to be statistically significant at the level of $p < 0.01$ and sufficiently strong (Cramér's $V > 0.1$). Thus, they do not report some of the dependencies that were found to be statistically significant at the more commonly used level of $p < 0.05$, which is also used in this extension. In the case of the references to primary reasons, these non-reported dependencies are gender and age dependencies in *usage or copying restrictions in the music*, which was found to be referred to more frequently by men and younger respondents, as well as gender and age dependencies in *not having the required know-how*, which was found to be referred to more frequently by women and older respondents. In the case of the references to secondary reasons, the non-reported dependencies are gender and age dependencies in *not having the required means of payment*, which was found to be referred to more frequently by women and younger respondents, as well as a gender dependency in *the music being too expensive*, which was found to be referred to more frequently by men.

In turn, the gender dependencies found in the references to all the reasons were almost identical to those found in the references to secondary reasons, with the exception that no statistically significant gender dependency was found in *not having the required means of payment*. In other words, men were found to refer more frequently to *usage or copying restrictions in the music*, *not being able to re-download the music if needed*, *the music being too expensive*, *bad music selection*, and *bad audio quality*. In contrast, women were found to refer more frequently to *not shopping online in general*, *not having the required know-how*, *not being sure about the legality of the stores or the music they are selling*, and *not having the required hardware, software, or connectivity*. In terms of the Cramér's V coefficients, the strongest dependencies were found in reasons related to *usage or copying restrictions in the music*, *not having the required know-how*, and *bad audio quality*.

Similarly, the age dependencies found in the references to all the reasons were practically identical to those found in the references to secondary reasons, with the exception that statistically significant age dependencies were also found in *not purchasing music in general*, which was found to be referred to more frequently by younger respondents, and *not shopping online in general*, which was found to be referred to more frequently by older respondents. These two age dependencies were also found in the references to primary reasons. In other words, younger respondents were found to refer more frequently to *not purchasing music in general*, *usage or copying restrictions in the music*, *not being able to re-download the music if needed*, *the music being too expensive*, *bad music selection*, and *not having the required means of payment*. In contrast, older respondents were found to refer more frequently to *not shopping online in general*, *not having the required know-how*, *not being sure about legality of the stores or the music they are*

selling, *not having the required hardware, software, or connectivity*, and *the stores being bad for artists or other actors working with music*. In terms of the Cramér's V coefficients, the strongest age dependencies were found in reasons related to *not having the required know-how*, *not being sure about the legality of the stores or the music they are selling*, *usage or copying restrictions in the music*, and *not being able to redownload the music if needed*.

In summary, the dependencies found in the references to primary and secondary reasons can be considered to confirm the results of RA6. In addition, the references to all the reasons confirm one of the main findings of RA6, which is that in terms of the reasons for not having made purchases in music download stores, men and younger respondents seem to more frequently refer to reasons related to store features, whereas women and older respondents seem to more frequently refer to reasons related to personal facilitators, with the exception of the reason related to not having the required means of payment, which was referred to more frequently by younger respondents. In addition, in terms of existing practices and preferences, women and older respondents seem to refer more frequently to not shopping online in general, whereas younger respondents seem to refer more frequently to not purchasing music in general as their reasons for not having made purchases in music download stores.

TABLE 28 Gender dependencies in the primary reasons

Primary reason	Frequency by gender (%)		Result of the χ^2 test			Cramér's V
	Men	Women	χ^2	df	p	
R3: Preference for physical products	29.0	23.7	3.073	1	0.080	0.059
R2: Not purchasing music in general	25.9	21.8	2.000	1	0.157	0.048
R4: Used to acquiring elsewhere	16.2	22.4	5.170	1	0.023	0.077
R1: Not shopping online in general	7.2	9.9	1.925	1	0.165	0.047
R12: No know-how	1.4	6.9	14.479	1	< 0.001	0.128
R6: Usage or copying restrictions	7.8	1.9	17.897	1	< 0.001	0.142
R5: Too expensive	3.6	3.1	0.211	1	0.646	0.015
R11: Too difficult or effortful	1.9	2.5	0.276	1	0.599	0.018

TABLE 29 Age dependencies in the primary reasons

Primary reason	Frequency by age (%)			Result of the χ^2 test			Cramér's V
	–29 y	30–44 y	45– y	χ^2	df	p	
R3: Preference for physical products	24.2	28.0	25.7	1.183	2	0.554	0.037
R2: Not purchasing music in general	30.8	20.9	17.1	17.040	2	< 0.001	0.139
R4: Used to acquiring elsewhere	16.6	22.0	21.6	3.480	2	0.175	0.063
R1: Not shopping online in general	5.7	8.2	13.4	10.996	2	0.004	0.112
R12: No know-how	2.4	5.0	7.1	7.321	2	0.026	0.091
R6: Usage or copying restrictions	6.6	4.6	1.1	11.104	2	0.004	0.112
R5: Too expensive	4.5	3.2	1.9	3.346	2	0.188	0.062
R11: Too difficult or effortful	1.5	1.8	3.7	3.719	2	0.156	0.065

TABLE 30 Gender dependencies in the secondary reasons

Secondary reason	Frequency by gender (%)		Result of the χ^2 test			Cramér's V
	Men	Women	χ^2	df	p	
R4: Used to acquiring elsewhere	28.7	26.6	0.478	1	0.490	0.023
R3: Preference for physical products	18.4	19.1	0.075	1	0.784	0.009
R9: No re-downloading	25.1	14.0	17.447	1	< 0.001	0.141
R11: Too difficult or effortful	16.2	16.4	0.013	1	0.910	0.004
R6: Usage or copying restrictions	23.7	8.8	37.277	1	< 0.001	0.206
R5: Too expensive	18.4	11.9	7.316	1	0.007	0.091
R12: No know-how	5.0	19.1	36.554	1	< 0.001	0.204
R8: Bad selection	16.7	9.4	10.601	1	0.001	0.110
R15: Not sure about legality	7.0	14.7	12.531	1	< 0.001	0.119
R1: Not shopping online in general	8.1	11.3	2.432	1	0.119	0.053
R10: Security or privacy risks	8.9	9.2	0.018	1	0.893	0.005
R14: No means of payment	6.4	10.9	5.208	1	0.022	0.077
R13: No HW, SW, or connectivity	3.3	11.7	19.415	1	< 0.001	0.148
R7: Bad audio quality	13.6	3.8	28.496	1	< 0.001	0.180
R2: Not purchasing music in general	7.0	6.9	0.002	1	0.963	0.002
R16: Bad for artists or others	5.8	6.1	0.027	1	0.869	0.006

TABLE 31 Age dependencies in the secondary reasons

Secondary reason	Frequency by age (%)			Result of the χ^2 test			Cramér's V
	–29 y	30–44 y	45– y	χ^2	df	p	
R4: Used to acquiring elsewhere	31.4	24.8	25.3	4.235	2	0.120	0.069
R3: Preference for physical products	17.2	17.7	21.9	2.480	2	0.289	0.053
R9: No re-downloading	27.2	16.3	10.0	30.277	2	< 0.001	0.185
R11: Too difficult or effortful	17.2	13.5	18.2	2.575	2	0.276	0.054
R6: Usage or copying restrictions	21.5	12.8	8.9	19.845	2	< 0.001	0.150
R5: Too expensive	21.1	12.4	8.6	20.459	2	< 0.001	0.152
R12: No know-how	6.3	11.0	24.5	44.410	2	< 0.001	0.224
R8: Bad selection	16.3	11.7	8.2	9.234	2	0.010	0.102
R15: Not sure about legality	6.3	9.2	20.4	31.083	2	< 0.001	0.188
R1: Not shopping online in general	10.0	7.4	12.6	4.133	2	0.127	0.068
R10: Security or privacy risks	7.6	8.5	11.5	2.995	2	0.224	0.058
R14: No means of payment	12.7	7.1	6.7	8.438	2	0.015	0.098
R13: No HW, SW, or connectivity	4.5	7.8	13.4	15.438	2	< 0.001	0.132
R7: Bad audio quality	8.8	7.8	6.7	0.882	2	0.643	0.032
R2: Not purchasing music in general	8.5	5.7	6.3	2.049	2	0.359	0.048
R16: Bad for artists or others	5.4	3.9	8.9	6.452	2	0.040	0.086

TABLE 32 Gender dependencies in all the reasons

Reason	Frequency by gender (%)		Result of the χ^2 test			Cramér's V
	Men	Women	χ^2	df	p	
R4: Used to acquiring elsewhere	44.8	48.9	1.437	1	0.231	0.040
R3: Preference for physical products	47.4	42.8	1.763	1	0.184	0.045
R2: Not purchasing music in general	32.9	28.7	1.765	1	0.184	0.045
R6: Usage or copying restrictions	31.5	10.7	59.281	1	< 0.001	0.259
R9: No re-downloading	25.6	14.5	16.995	1	< 0.001	0.139
R1: Not shopping online in general	15.3	21.2	4.856	1	0.028	0.074
R11: Too difficult or effortful	18.1	18.9	0.095	1	0.757	0.010
R12: No know-how	6.4	26.0	55.324	1	< 0.001	0.250
R5: Too expensive	22.0	14.9	7.317	1	0.007	0.091
R8: Bad selection	17.8	11.5	7.116	1	0.008	0.090
R15: Not sure about legality	7.5	15.3	12.073	1	< 0.001	0.117
R14: No means of payment	7.8	11.9	3.821	1	0.051	0.066
R10: Security or privacy risks	9.2	10.1	0.214	1	0.643	0.016
R13: No HW, SW, or connectivity	4.2	13.6	21.363	1	< 0.001	0.156
R7: Bad audio quality	15.3	3.8	36.161	1	< 0.001	0.202
R16: Bad for artists or others	6.4	6.9	0.077	1	0.781	0.009

TABLE 33 Age dependencies in all the reasons

Reason	Frequency by age (%)			Result of the χ^2 test			Cramér's V
	–29 y	30–44 y	45– y	χ^2	df	p	
R4: Used to acquiring elsewhere	48.0	46.8	46.8	0.122	2	0.941	0.012
R3: Preference for physical products	41.4	45.7	47.6	2.497	2	0.287	0.053
R2: Not purchasing music in general	39.3	26.6	23.4	20.450	2	< 0.001	0.152
R6: Usage or copying restrictions	28.1	17.4	10.0	32.099	2	< 0.001	0.191
R9: No re-downloading	27.8	17.4	10.0	31.098	2	< 0.001	0.188
R1: Not shopping online in general	15.7	15.6	26.0	13.139	2	0.001	0.122
R11: Too difficult or effortful	18.7	15.2	21.9	4.071	2	0.131	0.068
R12: No know-how	8.8	16.0	31.6	53.576	2	< 0.001	0.246
R5: Too expensive	25.7	15.6	10.4	25.020	2	< 0.001	0.168
R8: Bad selection	18.7	12.4	10.0	10.215	2	0.006	0.108
R15: Not sure about legality	6.3	9.9	21.6	34.122	2	< 0.001	0.197
R14: No means of payment	14.5	7.4	7.8	10.698	2	0.005	0.110
R10: Security or privacy risks	8.2	9.2	12.3	2.982	2	0.225	0.058
R13: No HW, SW, or connectivity	5.1	9.2	16.0	19.982	2	< 0.001	0.151
R7: Bad audio quality	10.0	8.5	6.7	2.050	2	0.359	0.048
R16: Bad for artists or others	5.7	4.6	10.0	7.261	2	0.026	0.091

5.8.3 Latent class analysis

In the third phase, LCA was conducted by using the Mplus 7.11 (Muthén & Muthén 2019) software in order to find out whether the respondents could be categorised into two or more latent classes based on their references to the reasons for not having made purchases in music download stores. In this phase, because the target was to refine the preliminary segmentation reported in RA6 by basing it not only on the referred primary reasons but all the reasons, the separation between primary and secondary reasons was no longer relevant.

As the number of latent classes could not be decided in advance on a theoretical basis, their number was determined through an empirical exploration by estimating multiple models with a varying number of latent classes and then comparing their goodness-of-fit in order to find the model that had the best fit with the data. As suggested by Nylund, Asparouhov, and Muthén (2007), this was done mainly by using three likelihood-ratio tests: the Vuong-Lo-Mendell-Rubin (VLMR) likelihood ratio test by Vuong (1989), the adjusted Lo-Mendell-Rubin (ALMR) likelihood ratio test by Lo, Mendell, and Rubin (2001), as well as the parametric bootstrapped likelihood ratio test (BLRT) by McLachlan and Peel (2000). In each of these tests, the fit of the model with k latent classes is compared to the fit of the model with k – 1 latent classes by using their log-likelihood value and their number of parameters. If the test supports the null hypothesis that the increase in the number of latent classes from k – 1 to k results in no improvement in the model fit, then k – 1 is seen as a sufficient number of latent classes. In contrast, if the null hypothesis is not supported, then k – 1 is not seen as a sufficient number of latent classes, and the testing typically continues by using the model with k + 1 latent classes.

In addition, the information criteria and entropy of the models were examined. The examination of information criteria was limited to the sample-size adjusted Bayesian information criterion (ABIC) by Sclove (1987), which has been found to perform at least equally well as the more traditional information criteria like the Akaike information criterion (AIC) by Akaike (1974) or the Bayesian information criterion (BIC) by Schwarz (1978) in terms of determining the number of latent classes in the case of LCA with categorical variables (Yang 2006; Nylund et al. 2007). Like these more traditional information criteria, ABIC measures the trade-off between the fit and the complexity of the model, with smaller values suggesting a better fitting and more parsimonious model. In turn, the entropy statistic by Celeux and Soromenho (1996) measures the classification uncertainty of the model in terms of classifying the respondents to the latent classes. Its value is typically standardised to range from zero to one, in which higher values suggest a more certain classification and good separation between the latent classes. Thus, models with a lower ABIC and higher entropy are typically preferred over models with a higher ABIC and lower entropy.

Table 34 reports the aforementioned fit statistics for models with the number of latent classes varying from two to seven as well as their log-likelihood (LL) value, number of free parameters, and the Satorra-Bentler (2001) scaling

correction factor (SCF) due to the use of MLR in model estimation. As can be seen, the VLMR and ALMR likelihood ratio tests both suggested that the model with seven latent classes resulted in no statistically significant improvement in the model fit in comparison to the model with six latent classes, meaning that six would be a sufficient number of latent classes. In contrast, the result of the BLRT suggested that the model with seven latent classes still resulted in a statistically significant improvement in the model fit in comparison to the model with six latent classes, meaning that six latent classes would not be sufficient. Because of these conflicting results, the ABIC and entropy of the models were also examined. Here, the model with six latent classes was found to have both the smallest ABIC and the largest entropy. Therefore, and also due to the finding by Nylund et al. (2007) that the ALMR likelihood ratio test typically tends to overestimate rather than underestimate the number of latent classes, the model with six latent classes was considered to have the best fit with the data.

TABLE 34 Fit statistics of the latent class models

Model	LL	Parameters	SCF	ABIC	Entropy	VLMR	ALMR	BLRT
2 LCs	-6,028.780	33	1.1638	12,176.571	0.762	0.002	0.002	< 0.001
3 LCs	-5,884.254	50	1.1285	11,948.828	0.796	0.010	0.011	< 0.001
4 LCs	-5,783.148	67	1.0719	11,807.925	0.763	0.005	0.005	< 0.001
5 LCs	-5,728.977	84	1.0739	11,760.892	0.832	0.039	0.040	< 0.001
6 LCs	-5,682.663	101	1.0685	11,729.573	0.842	0.041	0.042	< 0.001
7 LCs	-5,655.825	118	1.0727	11,737.206	0.815	0.070	0.071	< 0.001

TABLE 35 Results of the latent class analysis

Reason	LC 1	LC 2	LC 3	LC 4	LC 5	LC 6
R1: Not shopping online in general	0.232***	0.122*	0.035	0.204***	0.313***	1.000[b]
R2: Not purchasing music in general	0.529***	0.055	0.247***	0.148***	0.143**	1.000[b]
R3: Preference for physical products	0.107	1.000[b]	0.488***	0.473***	0.586***	1.000[b]
R4: Used to acquiring elsewhere	0.528***	0.438***	0.352***	0.458***	0.502***	1.000[b]
R5: Too expensive	0.122***	0.073**	0.457***	0.064*	0.235***	1.000[b]
R6: Usage or copying restrictions	0.042*	0.005	0.865***	0.000[a]	0.230**	1.000[b]
R7: Bad audio quality	0.000[a]	0.044*	0.309***	0.000[a]	0.177**	1.000[b]
R8: Bad music selection	0.062***	0.081*	0.365***	0.018	0.293***	1.000[b]
R9: No re-downloading	0.042**	0.102*	0.644***	0.047	0.331***	1.000[b]
R10: Security or privacy risks	0.009	0.032	0.138***	0.026	0.523***	1.000[b]
R11: Too difficult or effortful	0.114***	0.072**	0.250***	0.332***	0.338***	1.000[b]
R12: No know-how	0.020	0.000[a]	0.000[a]	1.000[b]	0.345**	1.000[b]
R13: No HW, SW, or connectivity	0.050***	0.055*	0.000[a]	0.344***	0.147*	1.000[b]
R14: No means of payment	0.066***	0.055**	0.073**	0.166***	0.236***	1.000[b]
R15: Not sure about legality	0.038**	0.037	0.019	0.238***	0.557***	1.000[b]
R16: Bad for artists or others	0.012	0.045*	0.034	0.055	0.321***	1.000[b]

*** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$, [a] = fixed to 0, [b] = fixed to 1

TABLE 36 Profiles of the latent classes

	LC 1	LC 2	LC 3	LC 4	LC 5	LC 6	Total
Size							
Absolute (N)	345	186	141	124	80	6	882
Relative (%)	39.1	21.1	16.0	14.1	9.1	0.7	100.0
Gender (%)							
Men	39.7	40.4	72.3	13.7	32.5	33.3	40.7
Women	60.3	59.7	27.7	86.3	67.5	66.7	59.3
Age (%)							
Under 30 years	39.7	32.8	61.7	17.7	28.8	16.7	37.5
30–44 years	32.2	37.1	29.8	30.6	27.5	0.0	32.0
45 years or over	28.1	30.1	8.5	51.6	43.8	83.3	30.5
Age (years)							
Mean	36.1	37.7	29.9	42.9	40.4	46.2	36.9
SD	13.5	12.3	9.1	12.3	14.4	12.0	13.1
Purchasing physical records (%)							
Monthly	2.9	25.3	23.4	5.6	13.8	0.0	12.2
Yearly	42.3	62.9	44.7	63.7	53.8	33.3	51.0
Rarer or never	54.2	11.8	31.2	30.6	32.5	66.7	36.4
No response	0.6	0.0	0.7	0.0	0.0	0.0	0.3
Downloading from free sources (%)							
Weekly	5.5	4.8	15.6	0.0	0.0	0.0	5.7
Monthly	10.7	7.5	20.6	0.0	8.8	0.0	9.9
Rarer or never	75.4	84.4	57.4	96.0	87.5	100.0	78.6
No response	8.4	3.2	6.4	4.0	3.8	0.0	5.9
Listening from traditional radio (%)							
Daily	51.3	54.3	34.8	62.1	50.0	50.0	50.7
Weekly	26.7	27.4	22.7	26.6	27.5	16.7	26.2
Rarer or never	21.4	17.7	42.6	11.3	22.5	33.3	22.8
No response	0.6	0.5	0.0	0.0	0.0	0.0	0.3
Streaming from free sources (%)							
Daily	22.9	19.9	39.0	10.5	17.5	0.0	22.4
Weekly	27.8	34.9	38.3	29.0	26.3	33.3	31.1
Rarer or never	45.8	45.2	22.0	59.7	53.8	66.7	44.7
No response	3.5	0.0	0.7	0.8	2.5	0.0	1.8
Subscribing to paid music services (%)							
Presently subscribed	1.4	3.8	7.1	1.6	2.5	0.0	2.9
Previously subscribed	1.4	0.0	4.3	0.8	1.3	0.0	1.5
Never subscribed	97.1	96.2	88.7	97.6	96.3	100.0	95.6

In LCA, model estimation results in two separate sets of probabilities. First, at the item level, there are the conditional probabilities that indicate how likely a certain respondent is to refer to a particular reason if he or she is a member of a

particular latent class. The size and statistical significance of these probabilities for the model with six latent classes are reported in Table 35. Note that in some latent classes, there are also probabilities that have been fixed to zero or one, meaning that the respondents who were modelled as members of those latent classes never or always referred to those reasons.

Second, at the individual level, there are the posterior probabilities that indicate how likely a particular respondent is to be a member of a particular latent class. These probabilities can be used to determine the most likely latent class membership of each respondent and to calculate the size of each latent class and distributions in terms of gender, age, or other variables. Based on the most likely latent class memberships, Table 36 reports the profile of each latent class in terms of its absolute and relative size, its gender and age distributions, the mean age of its members, as well as its music acquisition distributions in terms of purchasing physical records, downloading music from free online sources, listening to music from traditional radio stations, streaming music from free online sources, and subscribing to paid online music services.

Based on the aforementioned results, the six latent classes, in the order from the largest to the smallest, are given the following interpretations:

1. "Non-purchasers" (N = 345, 39.1%): The largest of the six latent classes consisted of respondents who were likely to refer to *not purchasing music in general* and *being used to acquiring their music elsewhere* but unlikely to refer to any other reasons for not having made purchases in music download stores. These reasons also included a *preference for physical products*, which was likely to be referred to by the respondents in all the other latent classes. In other words, the main reason of these respondents for not having made purchases in music download stores seemed not to be related to store features, their personal facilitators, their personal values, or their preference for physical products but simply to fact that they were not purchasing music in general. This concerned not only music download stores but also traditional offline or online record stores, as the respondents in this latent class were the most infrequent purchasers of physical records. Instead, they frequently acquired their music from free online sources and listened to traditional radio stations. The gender and age distributions and the mean age of the respondents in this latent class were practically identical to those of the whole sample.

2. "Physicality-preferrers" (N = 186, 21.1%): The second largest of the six latent classes consisted of respondents who always referred to a *preference for physical products* and who were also likely to refer to *being used to acquiring their music elsewhere* as their reasons for not having made purchases in music download stores. In contrast, as in the previous latent class, references to any other reasons were unlikely. In other words, the main reason of these respondents for not having made purchases in music download stores seemed once again not to be related to store features, their personal

facilitators, or their personal values but simply to the fact that they preferred to get a physical product. In contrast to the respondents in the previous latent class, the respondents in this latent class frequently purchased music from traditional offline or online record stores. They also frequently acquired their music from free online sources and listened to traditional radio stations, which all suggests that they had a relatively high interest in music. The gender and age distributions of the respondents in this latent class were once again practically identical to those of the whole sample, although slightly more skewed towards older respondents in comparison to the previous latent class.

3. "Techno-enthusiasts" (N = 141, 16.0%): The third largest of the six latent classes consisted of respondents who were likely to refer to reasons related to store features for not having made purchases in music download stores, especially *copying or usage restrictions in the music* and *not being able to re-download the music if needed* but also *the music being too expensive*, *bad music selection*, and *bad audio quality*. In addition, a *preference for physical products* and *being used to acquiring their music elsewhere* were referred to quite likely, whereas *not shopping online in general* as well as reasons related to personal facilitators and personal values were referred to practically never. In other words, these respondents seemed to be technology savvy individuals with a relatively high interest in online shopping and the required personal facilitators for conducting their online activities, but who simply saw the technological and business features of music download stores to be insufficient to persuade them to make purchases in them. Instead, they seemed to acquire their music mainly from other online sources, being the most frequent users of free online sources and the most active users of paid music subscription services but the most infrequent listeners to traditional radio stations. Interestingly, the respondents in this latent class also quite frequently purchased music from traditional offline or online record stores, perhaps because ripping the music from the purchased physical products gave them the highest level of technological freedom and flexibility. For example, they were able to have complete control over the audio quality of the ripped albums and tracks. The gender and age distributions of the respondents in this latent class were clearly skewed towards men and younger respondents, thus being in line with the results of the previous analysis of gender and age dependencies.

4. "Non-competents" (N = 124, 14.1%): The fourth largest of the six latent classes consisted of respondents who always referred to *not having the required know-how* and who were also quite likely to refer to *not having the required hardware, software, or connectivity* and *the music purchasing being too difficult or effortful* as their reasons for not having made purchases in music download stores. They were also likely to refer to a *preference for physical products* and *being used to acquiring their music elsewhere*, whereas references

to all the other reasons were unlikely. In other words, for the respondents in this latent class, the main reason for not having made purchases in music download stores seemed to be their lack of required competence and, also partly, their lack of required technical resources. Probably due to these same reasons, these respondents also most infrequently acquired their music from free online sources. Instead, they frequently purchased music from traditional offline or online record stores and were also the most frequent listeners to traditional radio stations. The gender and age distributions and the mean age of the respondents in this latent class were clearly skewed towards women and older respondents, thus once again being in line with the results of the previous analysis of gender and age dependencies.

5. "Risk-avoiders" (N = 80, 9.1%): The fifth largest of the six latent classes consisted of respondents who were likely to refer especially to *not being sure about the legality of the stores or the music they are selling* and *information security or privacy risks*, but also to *not having the required know-how*, *the music purchasing being too difficult or effortful*, *not being able to re-download the music if needed*, *the stores being bad for artists or other actors working with music*, and *not shopping online in general* as their reasons for not having made purchases in music download stores. In addition, references to a *preference for physical products* and *being used to acquiring their music elsewhere* were likely. In other words, the main reasons of these respondents for not having made purchases in music download stores seemed to be their tendency to avoid risks. Some of these risks seemed to be specific to music download stores, such as the risk of their business not being legal, the risk of making mistakes when purchasing the music, or the risk of not being able to re-download the purchased music if one somehow loses it or it stops working. However, some of the risks also seemed to be more general information security or privacy risks that prevented them from shopping online altogether. In order to avoid these risks, the respondents in this latent class still quite frequently purchased music from traditional offline or online record stores, and they were also quite frequent listeners to traditional radio stations. In contrast, free online sources were used relatively infrequently, most probably due to their perceived risks. The gender and age distributions and the mean age of the respondents in this latent class were skewed towards women and older respondents, but not as much as they were in the previous latent class.

6. "Outliers" (N = 6, 0.7%): The smallest of the six latent classes consisted of only a few respondents who had referred to all the listed reasons for not having made purchases in music download stores. In other words, these respondents seemed to be outliers whose existing practices and preferences or personal values severely conflicted with making purchases in music download stores, who had very negative views of store features and

their personal facilitators, or who simply had not responded to the survey properly due to respondent fatigue or other reasons.

5.8.4 Discussion of the findings

Because the reasons for not making purchases in music download stores have not been explicitly examined in prior studies, it is difficult to find a close point of reference for the findings of this extension. The closest point of reference would seem to be the study by Kunze and Mai (2007), which examined perceived risks and risk-relief strategies in the context of both music download stores and music subscription services. Many of the perceived risks identified in their study were similar to the reasons examined in this extension (e.g., "ability to freely make copies of downloaded music", "sound quality of the downloadable files", "broad range of artists from different labels", and "security of personal information"). Of them, the ones related to technical store features (of which the aforementioned are some examples) were found to be the most influential. This finding can be seen to partly support the finding of this extension that the factors related to store features are, especially for men and younger consumers, influential reasons for not making purchases in music download stores. However, because their study concentrated on perceived risks among both adopters and non-adopters, rather than on the reasons for innovation resistance among the non-adopters, the list of perceived risks in their study did not contain, for example, any factors related to existing practices and preferences, which were found in this extension to be the most influential reasons for not making purchases in music download stores.

Some other relatively close points of reference are the studies by Swinyard and Smith (2003) as well as Iglesias-Pradas, Pascual-Miguel, Hernández-García, and Chaparro-Peláez (2013), which concentrated on the reasons for not shopping online in general and identified several consumer segments based on these reasons. The study by Swinyard and Smith (2003) identified four segments: the fearful browsers (10.6% online market share of online households), the shopping avoiders (15.6% online market share of online households), the technology muddlers (19.5% online market share of online households), and the fun seekers (12.0% online market share of online households). When these segments are compared to those identified in this extension, the fearful browsers, who were found to have a relatively high level of computer literacy but also the highest level of risk avoidance, can be seen to resemble the risk-avoiders, whereas the technology muddlers, who were found to have the lowest level of computer literacy and computer use, can be seen to resemble the non-competents. In turn, the shopping avoiders, who prefer to personally see the products before purchasing them, can be seen to resemble, at least on some level, the physicality-preferrers. Finally, some resemblance can also be seen between the techno-enthusiasts and the fun seekers, who were found to have the highest level of computer use. However, their level of computer literacy was found to be relatively low because they mainly used the Internet for entertainment. For the non-purchasers, no corresponding segment could be found, which was not surpris-

ing because in the context of online shopping in general, one cannot simply make a decision to not purchase any products or services either offline or online.

Similarly, the study by Iglesias-Pradas et al. (2013) identified four segments: the sceptical or distrustful (47.3% of the non-shoppers), the infrastructure-conditioned (18.7% of the non-shoppers), the product-conditioned (15.7% of the non-shoppers), and the others (18.3% of the non-shoppers). When these segments are once again compared to those identified in this extension, the sceptical or distrustful, who have a high level of risk avoidance and prefer to personally see the products before purchasing them, can be seen to resemble both the risk-avoiders and the physicality-preferrers, whereas the infrastructure-conditioned, who lack the resources to shop online, can be seen to resemble the non-competents. In turn, the product-conditioned, who pay more attention to product and store features, such as product selection, product prices, and shipping costs, can be seen to resemble the techno-enthusiasts. The others consisted of consumers who only expressed their general ignorance about online shopping or who gave no reason at all for not shopping online. Thus, it is difficult to make any comparisons concerning them.

In summary, it seems that many of the reasons that cause consumers not to make purchases in music download stores are similar to those that cause them not to shop online in general. However, there are also some unique reasons, which were revealed by the more context-specific perspective of this extension. For example, in terms of store features, many consumers were worried about the usage or copying restrictions in the music or that they would not be able to re-download the music if needed. One important reason that also seems to be unique to this specific context is that consumers may not be purchasing music in general, which obviously relates to the availability of many free acquisition sources from which many consumers have become accustomed to acquiring their music, such as traditional radio stations as well as various legal and illegal online sources. In other words, unlike in the context of online shopping in general, music download stores do not have to compete only against other commercial alternatives but also against these free alternatives.

5.9 Contributions to the research articles and their extensions

This final sub-chapter discusses the contribution of the thesis author to the six research articles and their two extensions. In terms of RA1, the thesis author was responsible for conducting and reporting the results of the literature reviews from the business and consumer perspectives, and he also assisted in authoring the introduction and implications sections of the research article as well as in developing the research model. In terms of RA4, the thesis author was one of the two researchers jointly responsible for conducting the interview study used for collecting the data but solely responsible for authoring the introductory and theoretical sections of the research article, analysing the data, as well as reporting and discussing the research results. In terms of the remaining re-

search articles RA2, RA3, RA5, and RA6, as well as the extensions of RA5 and RA6, the thesis author was responsible for conducting the two survey studies used for collecting the data. In terms of RA2, RA3, and RA5, as well as the extensions of RA5 and RA6, he was also responsible for authoring the introductory and theoretical sections of the research articles and extensions, analysing the data, as well as reporting and discussing the research results. In RA6, the first author was responsible for authoring the introductory and theoretical sections of the research article, analysing the data, as well as reporting and discussing the research results. However, the thesis author assisted especially in conducting the statistical analyses.

6 DISCUSSION AND CONCLUSION

This chapter first summarises the answers to the research questions of the thesis based on the research articles and their extensions as well as discusses in more detail the contributions of the research articles, their extensions, and the whole thesis from both theoretical and practical perspectives. This is followed by a brief discussion of the main limitations of the thesis and potential paths for future research as well as a conclusive summary in both English and Finnish.

6.1 Answers to the research questions

This thesis aimed to answer the following four research questions concerning consumer purchase behaviour in music download stores (see Chapter 1.3):

RQ1 How widely adopted is making purchases in music download stores among consumers?

RQ2 How much are consumers willing to pay for the albums and tracks purchased from music download stores?

RQ3 What are the main context-specific enablers for consumers to make purchases in music download stores?

RQ4 What are the main context-specific inhibitors for consumers not to make purchases in music download stores?

The answers to these four research questions, based on the six research articles and their two extensions, which were discussed in more detail in Chapter 5, are briefly summarised in this sub-chapter. As for RQ1, the exact adoption levels of music download stores at the time of conducting the empirical research activities for the thesis have been reported in RA2 for different consumer segments in

terms of gender, age, income, and consumer involvement in music. As for RQ2, the exact percentages of unwilling payers and WTP of willing payers for both albums and tracks have been reported in RA3 for different consumer segments in terms of gender, age, and income.

As for RQ3, the main context-specific enablers for consumers to make purchases in music download stores have been reported in RA5 and its extension in the form of the proposed basic and extended TPB models for explaining consumer purchase behaviour in music download stores. In these models, the main enabler of purchase intention was found to be the attitude towards making purchases in music download stores, for which the main enablers, in turn, were found to be the behavioural beliefs about resource savings and practical compatibility. Purchase intention, together with perceived behavioural control, in turn, were found to act as the main enablers of purchase behaviour. A bit surprisingly, subjective norm was not found to act as a particularly strong enabler of purchase intention, especially among older consumers aged 45 years or over, although it was found to play a somewhat more important part than what it has been found to play in many prior studies on online shopping in general.

As for RQ4, the main context-specific inhibitors for consumers not to make purchases in music download stores have been reported in RA6 and its extension. The three main inhibitors were found to be that consumers were used to acquiring their music elsewhere, that they had a preference for physical products when acquiring their music, and that they were not purchasing music in general. However, references to these reasons differed in terms of gender and age as well as in the five identified segments of consumers who resist making purchases in music download stores: the non-purchasers, the physicality-preferrers, the techno-enthusiasts, the non-competents, and the risk-avoiders. For example, whereas reasons related to store features were referred to more frequently by men and younger consumers, reasons related to personal facilitators were referred to more frequently by women and older consumers. In addition, in terms of existing practices and preferences, women and older consumers referred more frequently to not shopping online in general, whereas younger consumers referred more frequently to not purchasing music in general as their reasons for not having made purchases in music download stores.

6.2 Theoretical contributions

The theoretical contributions can be discussed at the level of the specific research articles and their extensions or at the more general level of the whole thesis. The former theoretical contributions have already been discussed in detail in Chapter 5, and they are once more summarised in Table 37. In turn, the latter theoretical contributions can be considered from three different perspectives: the context of digital music, the context of digital products in general, and the context of IS research in general. These perspectives are discussed in more detail in the following three sub-chapters.

TABLE 37 Theoretical contributions of the research articles and their extensions

RA	Main theoretical contributions
RA1	Provides a comprehensive review of prior literature concerning online distributed digital products and digital content markets. Identifies a research gap concerning especially the consumer perspective.
RA2	Reveals several differences in the adoption levels of music download stores and paid music subscription services in terms of gender, age, income, and consumer involvement in music. Suggests some potential explanations for these differences.
RA3	Reveals several differences in the UWTP and WTP for the albums and tracks sold in music download stores in terms of gender, age, and income. Reflects these differences to those found in prior research.
RA4	Illustrates the divergence in the behaviours as well as in the behavioural enablers and inhibitors of modern recorded music consumers through a holistic exploration of their acquisition and consumption behaviour.
RA5 + ext.	Proposes a basic and extended model for explaining consumer purchase behaviour in music download stores. Examines the potential gender and age differences in their constructs as well as in the effects between the constructs.
RA6 + ext.	Reveals the most frequently referred reasons for not making purchases in music download stores. Examines the potential gender and age differences in these references. Identifies five segments of consumers who resist making purchases in music download stores.

6.2.1 Contributions to the context of digital music

First, because its research articles and their extensions concentrated mainly on examining consumer purchase behaviour in music download stores, the thesis makes its most obvious theoretical contributions to the context of digital music that is purchased from music download stores. In this respect, the most important contributors are RA5 and RA6 as well as their extensions, which propose a model for explaining consumer purchase behaviour in music download stores and a taxonomy of consumers who resist making purchases in music download stores. This model and taxonomy can be considered two entirely new theories for explaining consumer purchase behaviour in music download stores because both of them contain the four components that are suggested by Gregor (2006) to be common to all theories: (1) a means of representation, (2) constructs, (3) statements of relationships, and (4) a scope. For example, the model proposed in the extension of RA5 (1) is represented by both a graphical illustration and a more detailed textual description, (2–3) states how the five core TPB constructs and the eight behavioural belief constructs relate to each other as well as how these constructs and their interrelationships differ in terms of gender and age, and (4) is limited to the scope of making purchases in music download stores. Similarly, the taxonomy proposed in the extension of RA6 (1) is represented by tabular and textual descriptions of its five latent classes, (2–3) states how consumers are categorised into these five latent classes based on their reasons for not having made purchases in music download stores, and (4) is limited to the scope of not having made purchases in music download stores.

In addition to these four common components, the model proposed in the extension of RA5 also contains three other components that are contingent on the type of the theory: causal explanations, testable hypotheses, and prescriptive statements, of which the latter will be discussed in more detail in Chapter 6.3. The taxonomy proposed in the extension of RA6 does not contain these components, which is why the two theories can be seen as different types of theories in terms of their goals. One way to view these goals is through the taxonomy of IS theories suggested by Gregor (2006), which identifies five different types of theories: (I) theories for analysing, (II) theories for explaining, (III) theories for predicting, (IV) theories for explaining and predicting, and (V) theories for design and action. Of these, the model proposed in the extension of RA5 can be considered a type IV theory because it not only provides explanations for the phenomenon in question by telling "what is, how, why, when, and where" but also makes it possible to make predictions about it by telling "what will be". For example, by being able to measure the behavioural beliefs of consumers, one is also able to make predictions about their attitude towards making purchases in music download stores. In turn, by being able to measure their attitude, subjective norm, and perceived behavioural control, one is able to make predictions about their purchase intention and purchase behaviour. In contrast, the taxonomy proposed in the extension of RA6 can be considered a type I theory because it only analyses and describes the phenomenon in question by telling "what is", as opposed to providing explanations or predictions.

These two theories can be seen to serve well the objective of this thesis, which was to examine consumer behaviour in the context of digital products from a perspective that is both more context-specific and dualistic in terms of focusing on both the enablers and inhibitors of IS acceptance and use. The more context-specific nature of the two theories in comparison to those that have been proposed in prior literature is visible especially in the eight behavioural beliefs about making purchases in music download stores, which were elicited in the extension of RA5, as well as in the 16 reasons for resisting making purchases in music download stores, which were reported in RA6 and its extension. Of course, there is some variation in the level of context-specificity of these different constructs. This variation illustrated in Table 38, which classifies the constructs into three categories based on their level of context-specificity.

In the first category, there are the most general constructs that have been found to affect user behaviour in a variety of IS contexts in IS theories like TAM, UTAUT, and UTAUT2 as well as their numerous extensions (e.g., Chen et al. 2002; Gefen et al. 2003; Pavlou 2003). These constructs are mainly associated with factors like the perceived ease of use, practical compatibility, and facilitating conditions in terms of having the required know-how and other resources for using the system. In the second category, there are the more context-specific constructs that do not necessarily affect user behaviour in all IS contexts but have been found to affect it in the context of online shopping in general (e.g., Chang, Cheung & Lai 2005; Cheung, Chan & Limayem 2005; Zhou, Dai & Zhang 2007). These constructs are associated with factors like existing shopping

practices and preferences, the prices, selection, and quality of the products sold in the stores, the security or privacy risks of shopping online, and having the required means of payment. In the third category, there are the constructs that are the most context-specific and applicable only to the context of digital products in general or digital music in particular and not to any other IS contexts, not even to the context of online shopping in general. These constructs are associated with factors like the preference for physical rather than digital products, not having the practice of purchasing music in general, the greater freedom of selection resulting from the ability to purchase also individual tracks instead of whole albums, the potential technical restrictions for using or copying the purchased products, as well as the potential perishability risks resulting from the intangibility of the products. In addition, being used to acquiring one's music from other sources was classified into this category because these other sources were often found to be free offline or online sources, whose existence is a very context-specific feature of the recorded music market. Especially the constructs in this last category can be seen to differentiate this thesis from prior studies in terms of the level of context-specificity.

TABLE 38 Context-specificity of the behavioural beliefs and reasons for resistance

Context-specificity	**Behavioural beliefs**	**Reasons for resistance**
Specific to the context of IS use in general	Ease of use Practical compatibility	R11: Too difficult or effortful R12: No know-how R13: No HW, SW, or connectivity
Specific to the context of online shopping in general	Resource savings Width of selection Bad audio quality	R1: Not shopping online in general R5: Too expensive R7: Bad audio quality R8: Bad music selection R10: Security or privacy risks R14: No means of payment
Specific to the context of digital music and digital products	Freedom of selection Technical restrictions Technical perishability	R2: Not purchasing music in general R3: Preference for physical products R4: Used to acquiring elsewhere R6: Usage or copying restrictions R9: No re-downloading R15: Not sure about legality R16: Bad for artists or others

The more context-specific nature of the behavioural belief constructs in the last two categories is also demonstrated by the fact that these constructs can be considered decompositions of some of the more general constructs that have been proposed as antecedents of making purchases in music download stores in prior studies. One example of such a construct is the perceived usefulness construct, which has been modelled both as a direct antecedent of purchase intention (Bounagui & Nel 2009; Nel et al. 2009; Suki 2011a) and as its indirect antecedent via customer value (Chu & Lu 2007; Suki 2011b), and whose operationalisations have typically captured not only one but several of the behavioural be-

lief constructs that were elicited in the extension of RA5. For example, in the study by Chu and Lu (2007), the indicators that were used to measure the perceived usefulness construct captured time and effort savings (e.g., "I can acquire music information more easily through the online music web sites"), width of selection (e.g., "The online music web sites provide a variety of music"), and freedom of selection (e.g., "I can better decide which music I want to listen to than in the past") alike. Despite this multi-dimensionality, the aforementioned operationalisations have defined the perceived usefulness construct to be measured reflectively rather than formatively. This not only results in potential measurement problems (e.g., Petter, Straub & Rai 2007) but also makes it impossible to determine whether there are differences in the effects of its individual dimensions on purchase intention and purchase behaviour.

The decomposition of the perceived usefulness construct into multiple behavioural belief constructs in the extension of RA5 solves these problems and suggests that, although perceived usefulness has typically been found to act as an important antecedent of making purchases in music download stores (Chu & Lu 2007; Bounagui & Nel 2009; Nel et al. 2009; Suki 2011a, 2011b), its most important dimensions seem to be related to resource savings and freedom of selection. Moreover, whereas resource savings were clearly found to act as a positive attitudinal antecedent, freedom of selection was actually found to act as a negative attitudinal antecedent. Alternatively, the behavioural belief constructs in the last two categories can also be considered decompositions of the relative (dis)advantage construct of IDT, which shares a very similar theoretical foundation with the perceived usefulness construct of TAM (Venkatesh et al. 2003). When additionally considering the very similar theoretical foundations of the behavioural belief constructs in the first category with the complexity and compatibility constructs of IDT, the model proposed for explaining consumer purchase behaviour in music download stores in the extension of RA5 can also be seen to resemble very closely the original DTPB by Taylor and Todd (1995a, 1995b), in which the behavioural beliefs that act as attitudinal antecedents are decomposed into the three aforementioned types of perceptions: relative (dis)advantages, complexity, and compatibility.

In turn, the dualistic examination of both the enablers and inhibitors of IS acceptance use is best demonstrated by the adoption of two very different theoretical lenses in RA5 and its extension as well as in RA6 and its extension. Of them, RA5 and its extension concentrated on explaining consumer purchase behaviour in music download stores mainly from the enabler perspective, whereas RA6 and its extension concentrated on explaining the same phenomenon mainly from the inhibitor perspective. Of course, there is also some conceptual overlap between the two research articles and their extensions in terms of the two perspectives. For example, of the behavioural beliefs that were elicited in the extension of RA5, bad audio quality, technical restrictions, and technical perishability are perhaps more likely to have asymmetric, rather than symmetric, effects on the attitude towards making purchases in music download stores, which would make them inhibitors rather than enablers by definition. In other

words, although the perceptions of bad audio quality, technical restrictions, and technical perishability may result in some consumers having a negative attitude towards making purchases in music download stores, the absence of these perceptions does not necessarily result in a positive attitude. However, such conceptual overlap cannot be considered alarming in terms of the objective of examining consumer purchase behaviour in music download stores comprehensively from both enabler and inhibitor perspectives.

Thanks to the adoption of the two different theoretical lenses, the thesis is able to discover several new behavioural antecedents that have been omitted in prior studies concentrating only on the enablers and that would have most likely been omitted in this thesis also if only this one theoretical lens instead of the two theoretical lenses had been adopted. For example, in the extension of RA5, consumer purchase behaviour in music download stores was found to be affected by a relatively small set of behavioural beliefs, which mainly concentrated on the potential of the stores to provide consumers savings in terms of money, time, and effort as well as on the perceived compatibility of using the stores with their existing music consumption practices and lifestyle. However, when the examination was extended to cover also the inhibitors in RA6 and its extension, an additional set of behavioural antecedents was revealed, such as not having the required know-how, not having the required hardware, software, or connectivity, not having the required means of payment, not being sure about the legality of the stores or the music they are selling, and considering that the stores are bad for artists or other actors working with music.

More interestingly, some behavioural antecedents that were found to have no effect on consumer purchase behaviour in the extension of RA5 were found to affect it in RA6 and its extension. For example, in the extension of RA5, the perceptions of technical restrictions and ease of use were found to have practically no effect on the attitude towards making purchases in the stores and, consequently, on purchase intention and purchase behaviour. In contrast, in RA6 and its extension, copy or use restrictions in the purchased music and music purchasing being too difficult or effortful were referred to by relatively many consumers as their reasons for not having made purchases in the stores. Although these findings may at first seem somewhat conflicting, they can be explained by the more asymmetric effects of inhibitors. For example, many consumers may consider factors like the ability to use or copy the purchased music without excessive technical restrictions or the ease of using of the stores to be standard features of modern music download stores. Therefore, for many consumers, these factors are likely to have very little, if any, effect on their attitude towards using the stores as long as their perceptions of these factors remain above a certain threshold. However, if their perceptions of the factors fall below this threshold, many consumers may suddenly adopt an extremely negative attitude towards using the stores, causing these factors to become insurmountable barriers to making purchases in music download stores.

In addition to the aforementioned more context-specific and dualistic examination, the thesis also concentrated on examining the potential gender and

age differences in consumer purchase behaviour in music download stores. All in all, the role of gender and age in influencing IS acceptance and use remains a somewhat controversial issue. For example, although IS theories like UTAUT and UTAUT2 have emphasised their role, prior studies on online shopping behaviour (e.g., Hernández, Jiménez & Martín 2011) have found the role of gender and age, as well as the role of income, to be relatively uninfluential, especially in the case of more experienced online shoppers. Similarly, prior studies on consumer purchase behaviour in music download stores have reported conflicting findings about the role of gender and age in influencing purchase intention. For example, the studies by Nel et al. (2009) and Suki (2011a) both suggest that perceived enjoyment or playfulness acts as a stronger antecedent in the case men. The study by Suki (2011a) also suggests the same for perceived ease of use and perceived price, whereas the study by Nel et al. (2009) found no support for this. In addition, whereas the study by Nel et al. (2009) found perceived usefulness to act as a statistically significant antecedent in the case of both men and women, the study by Suki (2011a) made this finding only in the case of women.

In order to clarify these controversies, this thesis examined the potential gender and age differences in consumer purchase behaviour in music download stores from not only one but from multiple perspectives. First, RA2 concentrated on gender and age differences in adoption levels, finding that men and consumers aged 25–44 years are the most apt adopters of music download stores. Second, RA3 concentrated on gender and age differences in UWTP and WTP, finding that women have a higher WTP for both albums and tracks as well as that the UWTP for both albums and tracks and the WTP for tracks increase more or less linearly with age. These findings seem to both confirm and conflict with some of the findings made in prior studies (e.g., Fetscherin & Lattemann 2007; Sandulli & Martín-Barbero 2007; Sinha & Mandel 2008; Chiang & Assane 2009), as it is discussed in more detail in RA3.

Third, RA5 and its extension concentrated on gender and age differences in the proposed models for explaining consumer purchase behaviour in music download stores by examining them both in terms of the effects between its constructs and in the constructs themselves. In terms of the effects between the constructs, gender was found to moderate none of the effects, whereas age was found moderate only the effect of subjective norm on purchase intention, which was found to be statistically significant in the two youngest age groups of under 30 years and 30–44 years but not in the oldest age group of 45 years or over. The potential explanations for this finding were discussed in more detail in the extension of RA5. Thus, although based on slightly different models, the findings do not seem to support the findings made in the study by Suki (2011a), which, for example, suggest both a gender and an age moderation in the effect of perceived ease of use on purchase intention. In contrast, in terms of the constructs themselves, multiple gender and age differences were found in their mean scores. These differences have not been examined in prior studies on consumer purchase behaviour in music download stores, and they would seem to explain some of the differences that were found in the adoption levels. For ex-

ample, consumers aged 30–44 years were found to score higher in terms of their subjective norm in comparison to consumers aged under 30 years, in terms of their perceived behavioural control in comparison to consumers aged 45 years or over, and in terms of their attitude in comparison to both the other two age groups. As a result, their purchase intention was also found to be higher in comparison to the other two age groups, which would, in turn, explain why the highest adoption levels were observed among consumers aged 25–44 years.

Finally, fourth, RA6 and its extension concentrated on gender and age differences in references to the reasons for not having made purchases in music download stores as well as between the five segments of consumers who have resisted making purchases in music download stores: the non-purchasers, the physicality-preferrers, the techno-enthusiasts, the non-competents, and the risk-avoiders. These differences have also not been examined in prior studies on consumer purchase behaviour in music download stores, and they were discussed in more detail in RA6 and its extension. To summarise, men and younger respondents were found to refer more frequently to factors related to store features, whereas women and older respondents were found to refer more frequently to factors related to personal facilitators as their reasons for not having made purchases in music download stores. In addition, in terms of existing practices and preferences, women and older respondents were found to refer more frequently to not shopping online in general, whereas younger respondents were found to refer more frequently to not purchasing music in general as their reasons for not having made purchases in music download stores.

Through the aforementioned more context-specific and dualistic examination, which also incorporates the examination of potential gender and age differences, the thesis is able to promote both the breadth and the depth of the present theoretical understanding of consumer purchase behaviour in music download stores. This promoted theoretical understanding can be seen to manifest itself in three new rich theoretical insights.

First, the findings of thesis highlight the role of existing practices and preferences as a critical antecedent of consumer purchase behaviour in music download stores. In the context of consumer purchase behaviour in music download stores, the existing practices and preferences of consumers have thus far received very little attention. For example, as can be seen from Table 2, none of the prior models that have been proposed for explaining consumer purchase behaviour in music download stores have incorporated the compatibility with existing practices or preferences as an antecedent of purchase intention or purchase behaviour. This can be seen as a serious shortcoming because, in the context of online shopping in general, compatibility with one's existing shopping practices and lifestyle has often been found to be either the strongest (e.g., Chen et al. 2002; Vijayasarathy 2004) or at least one of the strongest (e.g., Lin 2007) antecedents of the attitude towards online shopping. The findings of the extension of RA5 confirm this finding also in the context of consumer purchase behaviour in music download stores, although in the proposed model, the behavioural beliefs about resource savings were actually found to act as a stronger

attitudinal antecedent than were the behavioural beliefs about compatibility with one's existing music consumption practices and lifestyle. However, in addition to these two constructs, the behavioural beliefs about freedom of selection were found to act as a negative attitudinal antecedent. As already discussed in the extension of RA5, one potential explanation for this finding could be that many consumers would rather continue purchasing their music as whole albums instead of purchasing it as individual tracks, meaning that existing practices and preferences actually play an important part also behind freedom of selection. Thus, when this additional cross-over effect (Taylor & Todd 1995a) is taken into consideration, existing practices and preferences may very well be the most critical attitudinal antecedent also in the context of consumer purchase behaviour in music download stores.

When the examination is extended to cover also inhibitors and not just enablers, the role of existing practices and preferences as the most critical antecedent of consumer purchase behaviour in music download stores becomes even more evident. For example, in RA6 and its extension, factors related to existing practices and preferences were found to be the most frequently referred reasons for not making purchases in music download stores among all consumers, and they were also found to be the most frequently referred reasons among non-purchasers and physicality-preferrers, which were the two largest segments of consumers who have resisted making purchases in music download stores. Together, the findings of RA4 as well as RA5 and RA6 with their extensions also suggest that a critical dimension of existing practices and preferences is not only one's existing practices concerning music consumption and lifestyle but also one's existing practices concerning music acquisition as well as one's existing preferences concerning the physicality versus digitality of the acquired and consumed products. These different dimensions are all closely intertwined, and whereas the first two dimensions are more rationally oriented, the last dimension also has a very strong emotional orientation. That is, many consumers do not necessarily have any rational reason for their preference for physical over digital products, but they just want to touch the products and hold the products in their hands because it somehow feels better. A similar finding has also been made in several prior studies, such as those by McCourt (2005), Styvén (Styvén 2007a, 2007b; Ek Styvén 2010), as well as Burkart (2008).

In addition, the dualistic perspective of enablers and inhibitors employed in the thesis suggests that existing practices and preferences can be seen to have a dualistic role as antecedents of consumer purchase behaviour in music download stores. That is, on one hand, if making purchases in music download stores conforms to them, they can act as a strong driver of store adoption. On the other hand, if making purchases in music download stores conflicts with them, they can work as a strong deterrent of store adoption. In some cases, existing practices and preferences may also be so strong that they become more or less automatic. In other words, they may become *IS habits*, which refers to system use that does not result from deliberate, rational intention but rather from non-deliberate, automatically inculcated responses learned by the users (Limayem &

Hirt 2003; Limayem, Hirt & Cheung 2007). In prior IS studies, the habitual use of an incumbent system has been found to cause resistance to the acceptance of a new system (e.g., Kim & Kankanhalli 2009; Polites & Karahanna 2012). Similarly, the existing habits concerning music acquisition and consumption, or concerning the use of physical versus digital products more generally, may be seen to result in a so-called *status quo bias* (Samuelson & Zeckhauser 1988), which causes consumers to strongly favour their existing practices and preferences over changing them as well as introduces inertia in their decision-making. In addition to the general IS context, habits have also been found to act as an influential behavioural antecedent in the context of online shopping in general (e.g., Gefen 2003; Khalifa & Liu 2007; Chiu, Hsu, Lai & Chang 2012), especially in terms of re-purchase intention and behaviour.

Second, the findings of the thesis highlight the role of risk perceptions as a critical antecedent of consumer purchase behaviour in music download stores. Although risk perceptions have been incorporated as an antecedent into some of the models proposed in prior studies (Bounagui & Nel 2009; Nel et al. 2009; Lin et al. 2013) and the most influential risks and risk-relief strategies have also been examined in the study by Kunze and Mai (2007), risk perceptions have typically been found to act as very weak antecedents of consumer purchase behaviour in music download stores. However, as the findings of this thesis suggest, this may simply be due to the fact that prior studies have examined the wrong types of risk perceptions. In prior studies, the examined risk perceptions have typically been security or privacy risks, which have also often been examined in the context of online shopping in general (e.g., Chang et al. 2005; Cheung et al. 2005; Zhou et al. 2007). In this thesis, the examination concentrated not only on these risk perceptions but on the risk perceptions that derive from the unique characteristics of online distributed digital products, such as their mutability and intangibility. On one hand, these characteristics make it relatively easy and cost-effective to add different types of technical restrictions to their usage and copying in terms DRM. On the other hand, they also seem to make many consumers concerned that they will somehow lose the product or that the product will stop working in the future.

In RA5 and RA6 as well as their extensions, both these factors were found to act as influential antecedents of consumer purchase behaviour in music download stores. For example, the behavioural beliefs about technical perishability, which are related to the aforementioned risk that the product will be somehow lost or that it will stop working in the future, were found to negatively affect the attitude towards making purchases in music download stores. In turn, not being able to re-download the purchased music, which acts as one of the main risk-relievers for this risk, was frequently referred to as a reason for not having made purchases in music download stores. Similarly, technical restrictions in the purchased music were frequently referred to as a reason for not having made purchases in music download stores, although the behavioural beliefs about technical restrictiveness were not, as such, found to affect the attitude towards making purchases in music download stores.

In terms of the dimensions of perceived risk that have been identified in prior literature (e.g., Jacoby & Kaplan 1972; Kaplan, Szybillo & Jacoby 1974), the aforementioned risks are mainly related to performance and financial dimensions because, if the risks are realised, they may prevent a particular album or track from performing properly (or at all) and, consequently, result in financial losses for consumers. However, perishability risks also seem to incorporate strong psychological and emotional dimensions because they seem to cause consumers considerable anxiety and they are often not based on facts but on feelings. For example, in RA4, many of the interviewees admitted that, on a rational level, they knew that the music stored on a CD or vinyl has only a limited life expectancy due to the degeneration of the physical carrier medium, whereas the music stored as digital files on the Internet will probably last practically forever. At the same time, on an emotional level, these same interviewees often added that they still somehow felt safer when they had the disc or record on their bookshelf rather than when the music was stored on a computer or on the Internet, where it could not be seen or touched. This same factor can also be seen to act as an antecedent of the existing preferences for physicality versus digitality among consumers, which were discussed above.

Third, the findings of the thesis highlight the dominance of the utilitarian dimension over the hedonic dimension as an antecedent of consumer purchase behaviour in music download stores. In the context of online stores in general, both the utilitarian dimension, which is associated with the usefulness of online shopping, and the hedonic dimension, which is associated with the fun of online shopping, have been found to be influential antecedents of consumer behaviour (e.g., Childers, Carr, Peck & Carson 2001). They have also been found to have approximately equally strong effects on the attitude towards online shopping and purchase intention (Ingham et al. 2015). Similarly, in the context of making purchases in music download stores, numerous prior studies have suggested that both these two dimensions act as influential antecedents of purchase intention, either directly (Bounagui & Nel 2009; Nel et al. 2009; Suki 2011a) or indirectly via perceived value (Chu & Lu 2007; Suki 2011b), and even that the hedonic dimension typically has stronger effects than does the utilitarian dimension. The findings of this thesis quite clearly conflict with these prior findings by suggesting that whereas the utilitarian dimension indeed seems to play a critical role as an antecedent of consumer purchase behaviour in music download stores, the hedonic dimension does not. For example, in the extension of RA5, the utilitarian-oriented behavioural beliefs about resource savings were found to act as the main antecedent of the attitude towards making purchases in music download stores. Similarly, in RA6 and its extension, the utilitarian-oriented reasons related to store features were found to be very frequently referred to as reasons for not having made purchases in music download stores, especially among men and younger consumers.

In contrast, relatively few hedonic-oriented factors surfaced in RA4 or when eliciting the behavioural beliefs about making purchases in music download stores in the extension of RA5. For example, no respondent reported fun or

a lack of fun to be an advantage or disadvantage of making purchases in music download stores, but there were some respondents who reported as a disadvantage that the purchasing experience or the purchased digital products themselves did not somehow offer them the same feeling that was offered by visiting a local brick-and-mortar record store and actually touching the physical products. This factor is once again closely related to the existing physicality versus digitality preferences of consumers, which was discussed above. In other words, it seems that even if hedonic-oriented factors did not surface as critical antecedents themselves, they still seem to underpin and be closely intertwined with many of the other antecedents, such as the aforementioned existing practices and preferences as well as perishability risks.

Finally, it should be noted that although the discussion in this sub-chapter was limited to digital music that is purchased from music download stores, many consumers also acquire their digital music from music subscription services. However, as it was discussed in Chapter 2.2, music subscription services do not sell digital music to consumers as products but as services through subscriptions. Thus, they fall outside the scope of this thesis, and the potential generalisability of its findings their context is not discussed in more detail. However, it should be noted that some such generalisations may indeed be possible. For example, in terms of the three new rich theoretical insights that were discussed above, one could argue that some, especially those concerning the pronounced role of existing practices and preferences as well as risk perceptions as behavioural antecedents, may very well be applicable also when explaining consumer subscription behaviour to music subscription services. However, instead of concentrating on this kind of generalisability, this thesis concentrates more on the potential generalisability of its findings to digital products more broadly, which will be discussed in more detail in the next sub-chapter.

6.2.2 Contributions to the context of digital products

As discussed in the introduction, the objective of this thesis was not only to examine consumer purchase behaviour in music download stores but also to use this context as a case context for a broader examination of consumer behaviour in the context of digital products. Therefore, in addition to making theoretical contributions to the context of digital music, the thesis can also be seen to make them to the context of digital products in general. The main mechanism for such theoretical contributions is obviously the potential generalisability of its findings to also other types of digital products.

Before discussing this potential generalisability in more detail, it is first important to note that, even within the IS field, there exist several different views on generalisability. The extremity of these views is perhaps best exemplified by the debate between Lee and Baskerville (2003, 2012) as well as Tsang and Williams (Tsang & Williams 2012; Williams & Tsang 2015), which has been summarised and commented on by Seddon and Scheepers (2015). All in all, Lee and Baskerville as well as Tsang and Williams are unable to agree not only on the very definition and the different types of generalisability but also on the

solvability of the so-called *Hume's problem of induction* (or *Hume's truism*), which suggests that inductive inference, such as generalisation, is never fully justified logically (Lee & Baskerville 2003). If this is indeed the case, then it means that no theory can ever be scientifically generalised to a setting where it has not yet been empirically tested and confirmed.

Instead of the quite extremist views adopted by Lee and Baskerville as well as Tsang and Williams, this thesis adopts a more pragmatic view on generalisability that has been proposed by Seddon and Scheepers (2012, 2015), who define *generalisability* as "the researcher's act of arguing, by induction, that there is a reasonable expectation that a knowledge claim already believed to be true in one or more settings is also true in other clearly defined settings". Similarly, the thesis also adopts their position on the Hume's problem of induction, which is that although it may indeed prevent inductive inference, such as generalisation, from ever being fully justified logically, the truth standards of formal logic are not an appropriate benchmark for assessing the truth of human knowledge because all human knowledge is always bounded. That is, nothing that humans claim to know is known for certain and all knowledge claims are subject to revision, meaning that no human knowledge can be considered to meet the truth standard of formal logic. That is why Seddon and Scheepers (2012, 2015) refer to the Hume's problem of induction more as a "red herring" that does not really have much pragmatic relevance to most researchers.

Based on their definition of generalisation and their view on the Hume's problem of induction, Seddon and Scheepers (2012) differentiate between the two main types of generalisability that are most commonly used in IS research. These can also be viewed as the two main logical pathways for justifying generalisation claims in IS research. The first of these two main types of generalisability is *statistical generalisation*. It is often coupled with the positivist research paradigm and, because this research paradigm has traditionally dominated IS research, it has also been the most dominant type of generalisability used in IS research. Statistical generalisability is based on the generalisation of knowledge claims from a specific sample to a more general population through statistical inference. Because the sample in this thesis consists of only one case context, this type of generalisability is obliviously not very well suited for generalising the findings made in this case context to the context of digital products in general. Most proponents of this type of generalisability would even claim that it is never sensible to make any generalisation from a case study because they typically contain a relatively limited number of cases, or that, if such generalisations are indeed made, they always rely on subjective rather than objective judgement. However, neither of these argument holds on closer scrutiny. On one hand, as it is noted by Seddon and Scheepers (2012), practically all generalisations made in IS studies, independent of the type of generalisability, involve at least some level of subjective judgement. The only exception to this would be statistical generalisations made by using true probability sampling, but the use of such sampling has not been common in IS studies, including also those published in the highest ranking IS journals (Seddon & Scheepers 2012). Thus, criti-

cising only case studies about subjective judgements can be considered hypocritical. On the other hand, as it is noted by Lee and Baskerville (2003, 2012), Tsang and Williams (2012), Williams and Tsang (2015), as well as Seddon and Scheepers (2012, 2015), there are also many other types of generalisability, which are not based on statistical inference and, thus, enable generalisations that are made even from single-case studies.

One such type of generalisability is *analytical generalisation*, which is also the second of the two main types of generalisability mentioned by Seddon and Scheepers (2012, 2015). Analytical generalisation is often coupled with the interpretivist research paradigm and, because of this, it has traditionally been less commonly used in IS research, although its use has become more and more common, for example, in case studies. According to Walsham (1995a), in case studies, analytical generalisations may concern concepts, theories, specific implications, or rich insight. All these four types of generalisations can also be seen as possible in terms of the case study conducted in this thesis. For example, the extensions of RA5 and RA6 proposed two new theories for explaining consumer purchase behaviour in music download stores, both of which contained numerous new and context-specific constructs as their constituents. Both these theories, as well as their constructs, may potentially be generalisable also to other types of digital products. If this is possible, then it is likely also possible to generalise the proposed three new rich theoretical insights about consumer purchase behaviour in music download stores, which were discussed in more detail in the previous sub-chapter and concerned the pronounced role of existing practices and preferences, risk perceptions, as well as the utilitarian versus hedonic dimension as behavioural antecedents. Further, it may also be possible to generalise some of the more specific practical implications that will be discussed in more detail in Chapter 6.3.

A critical prerequisite for making analytical generalisations in case studies is obviously the *representativeness* of the selected case or cases, which refers to the requirement that "the cause-and-effect relationships in representative case studies are similar to those in the population from which the case studies were selected or for which generalization claims are made or implied" (Seddon & Scheepers 2012). Thus, when judging the potential generalisability of the findings of this thesis from its specific case context to the context of digital products in general, the key issue is how well the digital music albums and tracks that are purchased from music download stores can be considered to represent various other types of digital products, such as digital video (e.g., films and series) or digital books (e.g., electronic books and audiobooks). This question obviously cannot be answered on purely empirical grounds within the limits of this thesis. However, on more analytical grounds, the representativeness can be considered, for example, by using the technical, business, and consumer perspectives that were used as a basis of the literature review in RA1.

From the technical perspective, digital music can be considered to represent various other types of digital products relatively well. For example, as already discussed in Chapter 2.1, there are certain unique characteristics that can

be considered common to all types of digital products, such as being intangible, being replicable into practically perfect copies with nearly null marginal costs, being highly mutable, as well as having extremely low storage and delivery costs in comparison to their physical counterparts. Thus, those findings of this thesis that can be seen to result from these common unique characteristics can also be assumed to be generalisable to all types of digital products. One example of such findings is the pronounced role of perishability risks as a behavioural antecedent, which can be seen to result very straightforwardly from the intangibility of digital products. Another example is the even more pronounced role of resource savings as a behavioural antecedent. It can be seen to result especially from the extremely low reproduction, storage, and delivery costs of digital products, which many consumers are likely to expect, in turn, to result in lower prices and monetary savings. Of course, there are also some obvious technical differences between digital music and other types of digital products. For example, music albums and tracks typically consist of only audio content (although they may be accompanied by digital replicas of record sleeves and liner notes as well as music videos or making-of videos), whereas films and series contain both audio and video content and electronic books may contain not only textual content but also graphical content. Therefore, the perceived technical quality of these other types of digital products is likely to be a much more multidimensional construct that is not focused only on audio quality.

From the business perspective, one obvious difference between digital music and other types of digital products concerns price. That is, whereas the prices of digital music have traditionally been around €10 per album and €1 per track, the prices of digital videos and digital books are typically somewhat higher, at least in the case of new releases. In the case of these pricier products, perishability risks are likely to act as a stronger behavioural antecedent because the consequences of risk realisation are more considerable. Another obvious difference between digital music and many other types of digital products concerns product bundling. That is, whereas music download stores have enabled music albums to be unbundled into music tracks that can also be purchased individually, this benefit is not relevant to many other types of digital products because no such bundling strategies have ever been used in their sales. In their case, a greater freedom of selection obviously does not act as a relevant behavioural antecedent. Finally, related to the technical perspective, whereas digital music is nowadays typically sold as DRM free, many other types of digital products are still being sold as DRM protected. In their case, technical restrictiveness is still likely to act as a strong behavioural antecedent.

From the consumer perspective, the most obvious differences concern consumption patterns. For example, whereas products like films, series, and books have a relatively short life cycle in terms that they are consumed only once or at most a few times by the same consumer, the life cycle of many music albums and tracks is much longer in terms that the same consumer may consume them tens or even hundreds of times over a very long period of time. This is likely to make perishability risks a stronger behavioural antecedent in the

case of digital music than it is in the case of these other types of digital products because both the probability for and the consequences of a risk realisation are higher. In addition, whereas most consumers use a relatively limited amount of time per day on the consumption of products like films, series, and books, music is often consumed in a much more ubiquitous manner in the background throughout the day while attending to other activities. This is likely to make the perceived compatibility with existing practices and preferences a stronger behavioural antecedent in the case of digital music than it is in the case of these other types of digital products because potential incompatibility issues may either cause considerable inconvenience to consumers or cause them to make considerable changes to their daily lives in order to solve them.

So, in summary, whereas many of the findings of the thesis can be argued to be generalisable to the context of digital products in general, there are some limitations to this generalisability that derive from the differences between digital music and other types of digital products in terms of the aforementioned technical, business, and consumer perspectives. Finally, it should be noted that, even if none of the findings of the thesis would be generalisable from its specific case context to the context of digital products in general, these findings can still be considered potentially valuable in terms of promoting the theoretical understanding in this more general context. For example, as it is emphasised by Flyvbjerg (2006), the context-specific knowledge provided by case studies can be considered extremely critical for human learning. Especially when people aspire to transcend from the level of beginners to experts, the learning process is quite typically based more on context-dependent cases and less on context-independent facts and rules. Therefore, the case study conducted in this thesis may be able to equip researchers with knowledge and experiences that, although not being generalisable, can help them to better understand consumer behaviour in the context of digital products in general. This all can also be seen to relate closely to the concept of *naturalistic generalisation* by Stake and Trumbull (1982), which refers to "conclusions arrived at through personal engagement in life's affairs or by vicarious experience so well constructed that the person feels as if it happened to themselves" (Stake 1995). For example, if a reader of the thick description of a case study finds it to resonate well enough with his or her existing knowledge and experiences, implicit generalisations from the case context of the case study to other contexts may take place "naturally", even if no explicated statistical or analytical generalisation would be possible. However, it is important to note that, in this case, such generalisability is always judged by the reader, not the researcher.

6.2.3 Contributions to the context of IS research

Finally, the thesis can also be considered to make theoretical contributions to the context of IS research in general by addressing several calls that prominent IS scholars have raised over the years. First, through its more context-specific perspective, the thesis addresses the calls for more context-specific IS research. These have been raised by, among others, Orlikowski and Iacono (2001) as well

as Benbasat and Zmud (2003), whose calls for more context-specificity stem from the more thorough consideration of the indigenous nature of the IT artifact that underpins a particular IS phenomenon. This indigenous nature of the IT artifact was thoroughly considered in this thesis in terms of the unique characteristics of music download stores and, especially, of the online distributed digital music that is sold by and purchased from these stores.

Corresponding calls for more context-specificity have also been raised by Grover and Lyytinen (2015) in their more general criticism of the paradigmatic position of the so-called mid-range script in IS research as well as by Benbasat and Barki (2007) in their more specific criticism of the pragmatic position of TAM in IS research, on which Goodhue (2007), Straub and Burton-Jones (2007), as well as Bagozzi (2007) have all agreed. The main point of their criticism is that IS research has relied too much on relatively general reference theories (e.g., TAM) that have been either borrowed from other reference disciplines or taken from other IS contexts and then applied to explain a particular IS phenomenon in its specific context with no or only minor adaptations. This has typically resulted in a paucity of rich understanding of and indigenous insights into those IS phenomena. For example, while TAM has provided us with a valuable general understanding that perceived utility and perceived ease of use act as critical antecedents of IS use in a variety of IS contexts, the nature and antecedents of perceived utility and perceived ease of use in these specific IS contexts have typically remained very poorly understood.

As one remedy to these issues, Benbasat and Barki (2007) have suggested a more thorough examination of perceived utility and perceived ease of use "in order to reach a more comprehensive understanding of what influences adoption and acceptance in different IT use contexts and to provide more useful recommendations for practice". This is exactly what has been done in this thesis, especially in the extension of RA5, although not in terms of the perceived utility and perceived ease of use constructs of TAM but in terms of the attitude construct of TPB. In turn, Grover and Lyytinen (2015) would remedy the issue through more data-driven research or so-called blue ocean theorising. Of these two, this thesis has resorted mainly to the former alternative. Good examples of this are the extension of RA5 as well as RA6 and its extension, in which both the elicitation the behavioural beliefs about making purchases in music download stores and the identification of the reasons for not having made purchases in them were based on the collection and analysis of a relatively large amount of empirical data from Finnish consumers, thus being very data-driven.

In addition to the above, calls for more context-specificity have also been raised by Davison and Martinsons (Davison & Martinsons 2016; Martinsons & Davison 2016), on which Sarker (2016), Urquhart (2016), Cheng, Dimoka, and Pavlou (2016), as well as Fernández (2016) have all agreed, although at the same time reminding of the very delicate balance between particularism and universalism. Finally, Hong, Chan, Thong, Chasalow, and Dhillon (2014) have discussed in detail the benefits of more context-specific theorising and proposed guidelines and a framework of approaches for conducting it. In terms of this

framework, the context-specific theorising in this thesis can be seen to be based on mainly on single-context theory contextualisation. Perhaps the best example of this is the development of the extended TPB model in the extension of RA5. This development did not use the level 1 contextualisation approach of the framework, which involves contextualising general theories by adding or removing core constructs. Instead, the development used the level 2a contextualisation approach of the framework, in which contextual factors (i.e., the behavioural beliefs about making purchases in music download stores) were incorporated as antecedents of the core constructs (i.e., the attitude towards making purchases in music download stores) of general theories (i.e., TPB). This approach can also be seen to strike a good balance between particularism and universalism in terms of resulting in a model that contains both very general constructs in terms of the core TPB constructs as well as very context-specific constructs in terms of the behavioural belief constructs.

Second, through its dualistic perspective of enablers and inhibitors, the thesis also addresses the specific calls by Cenfetelli (2004) as well as Cenfetelli and Schwarz (2011) for IS research that takes into consideration the critical role of both enablers and inhibitors as antecedents of IS acceptance and use. By doing this, the thesis can also be seen to address the more general call by Cheung and Lee (2009) for IS research that considers not only the purely symmetric and linear but also the potentially asymmetric and non-linear nature of many IS phenomena. Of such asymmetricity and non-linearity, the dualistic perspective of enablers and inhibitors can be considered a good example.

Third, by addressing the two aforementioned calls, the thesis can also be seen to address the calls by, among others, Benbasat and Zmud (1999), Davenport and Markus (1999), Chiasson and Davidson (2005), as well as Rosemann and Vessey (2008) for IS research that is more relevant to practice. For example, one of the recommendations by Benbasat and Zmud (1999) for promoting the relevance of IS research to practice highlights the richer incorporation of a specific IS context. Similarly, Cenfetelli (2004) as well as Cenfetelli and Schwarz (2011) argue that the dualistic perspective of enablers and inhibitors results in better prescriptions for practice. For example, in IS design, practitioners need to be aware not only of how to employ good design but also of how to avoid employing bad design because bad design may not only have a negative influence on its own accord but may also jeopardise the positive influence of good design. All in all, the practical relevance of the thesis is demonstrated in more detail in the following chapter, which discusses its practical contributions.

6.3 Practical contributions

The practical contributions can be discussed at the level of the specific research articles and their extensions or at the more general level of the whole thesis. The former practical contributions have already been discussed in detail in Chapter 5, and they are once more summarised in Table 39.

TABLE 39 Practical contributions of the research articles and their extensions

RA	Main practical contributions
RA1	Calls for more research on consumer behaviour in digital content markets, which is likely to have high practical relevance to the managers of music download stores and other actors operating in the digital content market in terms of helping them to better understand their customers.
RA2	Reveals that the adoption levels of both music download stores and paid music subscription services in Finland are very low and that there is great potential for growth. Reveals in which consumer segments in terms of gender, age, income, and consumer involvement in music the greatest potential for growth resides.
RA3	Reveals the WTP of different consumer segments for the albums and tracks sold in music download stores. Suggests that the current prices of the albums and tracks sold in music download stores seem to be too high and that there are opportunities for third-degree price discrimination in terms of gender, age, and income.
RA4	Provides interesting particulars about the use patterns of different acquisition channels of recorded music and suggests that the divergence in the acquisition and consumption behaviour of modern recorded music consumers should be better taken into account in the business models of the stores and services.
RA5 + ext.	Suggests what kind of managerial actions are the most effective in terms of promoting consumer purchase intention and purchase behaviour in music download stores. Suggests which consumer segments in terms of gender and age these managerial actions should be targeted at.
RA6 + ext.	Suggests what kind of managerial actions are the most effective in terms of reducing consumer resistance to making purchases in music download stores. Suggests which consumer segments in terms of gender and age these managerial actions should be targeted at.

In terms of the latter practical contributions, the more context-specific and dualistic examination, which also incorporates the examination of potential gender and age differences, enables the thesis to promote the relevance of the conducted research to practice. For example, based on its findings, the thesis is able to suggest several concrete managerial actions that the managers of music download stores can take in order to promote the adoption the stores through the better alignment of their offerings and business models with the needs, wants, and expectations of consumers, with which many of the stores have been found to struggle (e.g., Amberg & Schröder 2007). This better alignment can be considered critical not only for individual stores in terms of providing them with a competitive advantage but also for the whole recorded music industry in terms of tackling the problem of digital piracy through the offering of more attractive commercial music acquisition alternatives. Of course, in addition to individual stores and the whole industry, the better alignment can also be considered beneficial for individual consumers in terms of augmenting the amount of value that they are able to capture from using the stores.

The aforementioned concrete managerial actions are here formulated into a four-step "recipe". By following this recipe, the managers of music download stores can strive to promote the adoption of the stores. The first two steps of the recipe concentrate on eliminating the inhibitors that cause resistance to adop-

tion and "push" potential consumers away from the stores. In RA5 and RA6 as well as their extensions, the most significant of these inhibitors were found to be related to the existing practices and preferences of consumers. Therefore, the first step for the store managers is to strive to change these existing practices and preferences. This may turn out to be a challenging task because, as it was discussed in Chapter 6.2.1, many of the existing practices and preferences may be so deeply rooted that they have become habits that result in a strong status quo bias (Samuelson & Zeckhauser 1988). This bias may even be so strong that consumers basically become blind to any other alternatives around them. In other words, even if music download stores are able offer them a superior value proposition in comparison to their present music acquisition alternative, consumers may still not even take notice of them, let alone consider switching to them, but will continue repeating their existing habitual patterns. Thus, in order to break these habitual patterns, the store managers must typically resort to more sophisticated strategies, which can be divided into two main types.

The first type of strategy aims at causing disruptions to the existing practices and preferences of consumers, for example, through strong incentives that are intended to attract consumers to either permanently or at least temporarily abandon their existing habitual patterns and to try out new alternatives. For example, the stores may offer consumers a trial of their offerings with discounted prices or even for free for a limited amount of time, with the hope that when the trial is over, at least some of these consumers will remain active users. At times, the disruptions may also be caused by some external factors, in which case the store managers simply have to find and target the consumers who are being affected by them. For example, consumers who have recently adopted a smartphone as their main music consumption device instead of a traditional CD player may also be very willing to consider music download stores as their main music acquisition alternative. Therefore, they may be very susceptible to the marketing messages of the stores, at least until new habitual patterns concerning music acquisition have solidified.

The second type of strategy aims at utilising the existing practices and preferences of consumers by trying to integrate new habits into them. These strategies typically involve some sort of product or service bundling. For example, physical discs or records may be bundled with licence codes that enable consumers to also download the purchased albums and tracks digitally from music download stores very inexpensively or even for free. Such a strategy cannot necessarily be considered particularly profitable in the short term, but it may prove its potential in the longer term by causing more and more consumers to adopt the habitual pattern of making purchases in music download stores instead of using other music acquisition alternatives.

In RA6 and its extension, several other inhibitors related to store features, personal facilitators, and personal values were also found to cause resistance to making purchases in the stores. Therefore, the second step for the store managers is to strive to eliminate these other reasons for resistance among consumers. The inhibitors related to store features concerned factors like the music being

too expensive, usage or copying restrictions in the music, the bad audio quality of the music, the bad music selection of the stores, not being able to re-download the purchased music if needed, music purchasing being too risky, and music purchasing being too difficult or effortful. These were found to be relevant especially for men and younger consumers. In turn, the inhibitors related to personal facilitators concerned factors like not having the required know-how, the required hardware, software, or Internet connectivity, or the required means of payment to make purchases in the stores as well as not being sure about the legality of the stores or the music that they are selling. These were found to be relevant especially for women and older consumers. The main factor in terms of personal values was that some consumers considered music download stores to be bad for artists or other actors working with music.

In contrast to existing practices and preferences, most of the aforementioned inhibitors can be seen as much more straightforward for the store managers to address. For example, if a store is missing the feature of allowing consumers to re-download the purchased music or if the purchased music has too many technical restrictions in it, the re-download feature can simply be added to the store or some technical restrictions can be removed. Similarly, if consumers do not have the required know-how to make purchases in the stores or the necessary means to pay for the purchased music, this know-how can be provided to them through, for example, tutorials and manuals, or they can be offered the option to use alternative means of payment. Of course, the environment in which the stores operate may set some constraints on the managerial actions that are available to the store managers. For example, the addition of a re-download feature or the removal of some technical restrictions may not be conducted unilaterally by the stores but they may require lengthy bilateral or multilateral contractual negotiations with record companies and other stakeholders that are responsible for licencing the music that the stores are selling.

The last two steps of the recipe concentrate on promoting the attraction or "pull" of the stores by influencing the enablers behind consumer purchase intention and purchase behaviour in music download stores. In RA5 and its extension, the most significant of these enablers was found to be the attitude towards making purchases in the stores. Therefore, the third step for the store managers is to strive to cause positive attitudinal changes in consumers. Such attitudinal changes can be considered important not only in terms of attracting new users but also in terms of retaining the existing users and promoting continued usage of the stores. In terms of gender and age, attitudinal changes seem to be most urgently needed in the age groups of under 30 years and 45 years or over, in which consumers were found to have a less positive attitude towards making purchases in the stores as well as a weaker purchase intention in comparison to consumers in the age group of 30–44 years. As suggested by the findings of the extension of RA5, the attitudinal changes can be most efficiently achieved by manipulating the behavioural beliefs about resource savings in terms of money, time, and effort as well as the behavioural beliefs about the compatibility of the stores with one's existing music consumption practices and

lifestyle. In terms of gender and age, the main targets of such manipulations would seem to be men and elderly consumers, who were found to be more sceptical about both resource savings and practical compatibility.

The managerial actions through which the store managers may strive to induce positive attitudinal changes by manipulating the behavioural beliefs are basically twofold (Fishbein & Ajzen 2010). On one hand, the store managers may obviously strive to promote the strength of the behavioural beliefs about resource savings and practical compatibility. On the other hand, the store managers may also choose to target the importance of the behavioural beliefs, striving to get consumers to consider resource savings and practical compatibility as more important goals in their lives. However, this latter approach can typically be considered a somewhat riskier option for the store managers. That is, if consumers already have positive behavioural beliefs about making purchases the stores, it is likely to amplify the effects of these behavioural beliefs on attitude and to result in positive attitudinal changes. In contrast, if the behavioural beliefs that consumers have about making purchases the stores are negative, it is also likely to amplify the effects of these behavioural beliefs on attitude and to result in negative attitudinal changes.

Of the aforementioned behavioural beliefs, those related to practical compatibility can be considered the most challenging ones for the store managers to manipulate because it requires them to have a thorough understanding of the existing music consumption practices and lifestyle of consumers, such as what kind of music they typically listen to as well as when, where, and how they typically listen to it. Acquiring such an understanding through consumer studies or other similar means is often both costly and time-consuming. In contrast, the behavioural beliefs about resource savings are usually much more straightforward for the store managers to manipulate. For example, the perceived potential of using the stores to result in time and effort savings can be promoted by optimising the user interfaces of the stores and streamlining the whole purchase process, whereas the perceived potential of using the stores to result in monetary savings is often best promoted through the pricing policies of the stores. For example, by reducing the album and track prices, consumers are likely to become more convinced about the potential of making purchases in the store to result in monetary savings. As suggested by the findings of RA3, such price reductions would be warmly welcomed by many consumer segments, especially among men, younger consumers, and consumers with limited income, because their WTP for the music was found to be well below the typical album and track prices of about €10 and €1, respectively. Of course, the drawback to such price reductions for the stores is the risk that they will result in reduced revenue. However, as it is noted by Bauxmann et al. (2005), this is not necessarily the case because the decreases in sales prices may be compensated by an increase in sales volumes. In addition to general price reductions, the stores may also resort to more specific third-degree price discrimination strategies based on variables like gender and age, which in RA3 were found to differentiate consumers in terms of their WTP for the music sold in music download stores. Of

course, such price discrimination cannot necessarily be performed based on these variables directly, but it may be possible to perform it indirectly based on variables that are known to correlate closely with them, such as the genre of music that is typically listed to by consumers of different genders and ages. For example, music belonging to genre A, which is typically consumed by women or older consumers, could be priced more highly than is music belonging to genre B, which is typically consumed by men or younger consumers.

When trying to influence the behavioural beliefs, it is also important to note that, in comparison to the aforementioned behavioural beliefs about practical compatibility and resource savings, the behavioural beliefs about width of selection, freedom of selection, audio quality, technical restrictiveness, technical perishability, and ease of use were found to have only very weak or no effects on the attitude towards making purchases in music download stores. In practice, this finding gives the store managers a bit more latitude when thinking about the range of their managerial actions. For example, consider a situation in which a particular store is able to a negotiate a new licencing contract that allows it to reduce its prices. These price reductions are likely to make consumers more convinced about the potential of making purchases in the store to result in monetary savings, thus causing positive attitudinal changes among them. Therefore, the overall outcome for the store is a positive one. But how about if the new licencing contract also imposes stricter DRM and stricter re-download policies on the sold music, which is likely to make consumers perceive the sold music to have more technical restrictions and be more prone to perishability risks? Does the overall outcome for the store still positive? Based on the findings of the extension of RA5, the answer to this question would seem to be affirmative, because the behavioural beliefs about technical restrictions and technical perishability were found to have very weak effects on attitude.

However, the aforementioned latitude is likely to be limited by the potential cross-over effects between the behavioural beliefs (e.g., Taylor & Todd 1995a). That is, although some of the behavioural beliefs may not have a direct effect on attitude, they may still affect it indirectly via other behavioural beliefs. Consider the same example, but with the exception that the new licencing contract also imposes changes to the user interface of the store that cause consumers to perceive the store as less easy to use. In this case, at first, the overall outcome for the store would seem to remain the same as above because the behavioural beliefs about ease of use were also found to have no direct effect on attitude. However, the behavioural beliefs about ease of use may very well have a negative cross-over effect on the behavioural beliefs about time and effort savings, which, in turn, were found to affect attitude. Therefore, the behavioural beliefs about ease of use may affect attitude indirectly, causing the overall outcome for the store to be less positive, or even negative.

Another limiting factor is the fact that, although some of the behavioural beliefs were not found to have strong or even statistically significant symmetric and linear effects on the attitude towards making purchases in the stores, some of them were found to affect consumer behaviour in a more asymmetric and

non-linear manner in RA6 and its extension by causing consumer resistance to making purchases in the stores. For example, although most consumers may indeed be more or less indifferent towards moderate changes in the DRM and re-download policies of the stores as well as in their ease of use, these factors may become unsurmountable barriers if the changes become more extreme.

Besides the behavioural beliefs and attitude, the subjective norm towards and the perceived behavioural control over making purchases in music download stores were also found to affect consumer purchase intention and purchase behaviour in RA5 and its extension. Of them, perceived behavioural control was found to have the weakest effect on purchase intention but a relatively strong direct effect on purchase behaviour. Therefore, the fourth and final step for the store managers is to strive to promote the perceived social pressure towards using the stores and the sense of self-efficacy over their usage. The promotion of perceived social pressure can be considered most important in the case of men and younger consumers, who were found to have a somewhat less positive subjective norm towards using the stores. In contrast, the promotion of the sense of self-efficacy can be considered most important in the case of women and elderly consumers, who were found to have a somewhat weaker perceived behavioural control over their usage. In addition, subjective norm was found to affect purchase intention only in the case of consumers who were aged under 45 years. In practice, these promotions may be achieved, for example, through advertising campaigns that portray well-known artists or other celebrities as active users of the stores, through a more open exchange of the usage experiences of the stores on both social and traditional media, as well as through educational campaigns that aim to train consumers to become more skilful and knowledgeable users of the stores.

As stated above, by following the aforementioned four-step recipe, the managers of music download stores can strive to promote the adoption of their stores among consumers by first eliminating the potential inhibitors for making purchases in them and then concentrating on the enablers behind both purchase intention and purchase behaviour. However, in each step, it is important for the store managers to keep in mind the crucial role of perceptions in determining consumer and human behaviour (e.g., Rogers 2003; Fishbein & Ajzen 2010). That is, consumer and human behaviour are often determined more by the subjective perceptions of reality than by objective reality itself. In other words, rather than selecting the consumption or behavioural alternatives that are actually best in objective terms, consumers typically select those that they perceive to be best from their own subjective perspective. Of course, reality and perceptions often correlate, meaning that the alternatives that are actually better or worse in reality are also typically perceived as better or worse. However, this is not necessarily case because of the potential biases in our perceptions. This is why the main focus when conducting the aforementioned managerial actions should not be on these managerial actions themselves and on their outcomes but on how consumers perceive them and how their outcomes are communicated to consumers. Returning once more to the example of the store that has managed to

negotiate a new licencing contract and to reduce its prices, this managerial action alone is unlikely to do the store much good if consumers are not able to actually perceive the potential of the price reductions for monetary savings.

Although the aforementioned four-step recipe concentrated mainly on the context of digital music that is purchased from music download stores, it is important to note that many of the suggested managerial actions may also be applicable to the context of other types of digital products as well as the stores and services that sell them. Such applicability can once again be analytically judged based on representativeness, as it was discussed in Chapter 6.2.2. Of course, from a more pragmatic perspective, the stores and services that sell these other types of digital products may also simply try out the suggested managerial actions to see if and how well they work in practice.

6.4 Limitations and future research

This thesis can be considered to have three main limitations. First, the conducted case study concentrated on only one case context: making purchases in music download stores in Finland. Although this does not prevent analytical generalisations to be made from the case context to also other contexts, as it was discussed in Chapter 6.2.2, it does limit the level of confidence of these generalisation claims because the representativeness of the case context in relation to the other contexts can be judged only on analytical instead of empirical grounds. As it was discussed in Chapter 6.2.2, from an analytical perspective, digital music that is purchased from music download stores can be considered to represent digital products in general reasonably well, although there are also some obvious differences between it and other types of digital products that must be taken into consideration. Similarly, Finland can, in many respects, be considered a reasonably representative case country, especially in terms of most Nordic and European countries, although, for example, the adoption levels of music download stores in Finland were still relatively low at the time of conducting the empirical research activities for this thesis. However, if one wants to address the aforementioned issues from an empirical perspective, there is a need for future studies that extend the research activities that were conducted for this thesis to cover also other types of digital products and other countries.

Second, the thesis concentrated on examining only one type of consumer behaviour, which was purchase behaviour. Thus, it ignores many other types of consumer behaviours that could be interesting to examine, both in the context of digital music that is purchased from music download stores and in the context of other types of digital products. One example of these is the continued use of the stores and services from which digital products are purchased. Continued use can be considered particularly interesting from the perspective of adoption behaviour, which, in this thesis, was examined by using purchase behaviour as its proxy. In other words, adopters were defined as consumers who had made purchases, whereas non-adopters were defined as consumers who

had not made purchases in music download stores. This operationalisation obviously represents a rather simplistic view of adoption, which does not take into account, for example, whether an adopter actually continues making purchases in the store or whether this is discontinued for one reason or another. Other examples of interesting types of consumer behaviour that could be examined in future studies include pre-purchase behaviours, such as how consumers search for and process the information related to their purchase decisions, and post-purchase behaviours, such as recommendation behaviour, complaining behaviour, and coping behaviour in the case of product or service failures. Of course, an alternative and equally important path for future research could be to concentrate not only on the stores and services from which digital products are purchased, but also on the use of the purchased products.

Third, the empirical research activities for this thesis were conducted mainly as cross-sectional instead of longitudinal studies between September 2009 and October 2010, which is why the findings of the thesis are based on a more or less static snapshot of consumer purchase behaviour in music download stores from this one-year time period. From a theoretical perspective, this obviously raises the question of not only the contextual generalisability of the findings from the case context of the thesis to other contexts but also of the temporal generalisability of the findings to the year 2019 or even beyond. Of course, there are some findings that obviously do not have such temporal generalisability. The best example of these are the adoption levels of music download stores and paid music subscription services, which were reported in RA2. However, although not being temporally generalisable, these adoption levels can be considered to act as important contextual information for some of the other findings of the thesis. In contrast, the two new theories for explaining consumer purchase behaviour in music download stores, which were proposed in RA5 and RA6 as well as their extensions, together with the three new rich theoretical insights proposed in Chapter 6.2.1, may very well be as valid today as they were almost a decade ago. When judging such temporal generalisability from an analytical perspective, the key issue is obviously once again representativeness. That is, how representative are the music download stores and consumers of the early 2010s in comparison to their contemporary counterparts?

On one hand, music download stores themselves seem to have changed relatively little during the past decade, so the music download stores of the early 2010s can be considered reasonably representative of the music download stores of today. For example, the stores still sell music in a very similar manner than they did before and also price the albums and tracks practically identically. For example, the price tiers of Apple's iTunes Store (Apple 2009) have remained more or less unchanged since 2009. Of course, some stores have gained a few additional features, but most of them can be considered only incremental rather than radical innovations. The most notable of these have been the increasingly infrequent use of DRM in the sold music, better search and recommendation features for finding new music, as well as cloud features, which enable the purchased music to be stored in and streamed from a remote cloud instead of being

stored in and played from a local device. In addition, in some stores and services, the line between music download stores and music subscription services has begun to blur, and many modern stores and services can actually be considered hybrids of the two. A good example of this is the integration of iTunes Store with Apple's new music subscription service Apple Music.

One the other hand, music consumers have undergone much more drastic changes during the past decade. For example, their music acquisition and consumption practices and preferences are likely to be very different than they were in the early 2010s. Here, the main change relates to the rise of music subscription services, such as Spotify, as the main music acquisition and consumption source of many consumers. This rising popularity of music subscription services can be interpreted as a sign of further evolution in music acquisition and consumption practices and preferences to the point where consumers are not only ready to forsake physical products for their digital counterparts but are also ready to renounce the concept of owning the products altogether and to start using them as services instead. In addition to digital music, this also seems to apply to many other types of digital products. Another interrelated change has been the fact that digitality as well as digital products and services have become an increasingly integral part of the daily lives of more and more consumers. For example, instead of being active users of only music subscription services, many consumers are now also actively using video subscription services, such as Netflix and HBO, instead of purchasing their films and series as physical products, such as digital versatile discs (DVDs) and Blu-ray discs.

These changes may obviously have implications for the findings of this thesis. For example, when thinking about its three new rich theoretical insights concerning the pronounced role of existing practices and preferences, risk perceptions, as well as utilitarian versus hedonic dimension as antecedents of consumer behaviour in the context of digital products, it may be that risk perceptions, especially those related to perishability risks, have lost some of their significance as a behavioural antecedent. That is, because consumers have already become so accustomed to digitality as well as digital products and services, they are no longer so concerned about issues like technical perishability. Additionally, in the case of subscription services that offer streaming content, the issue of technical perishability is much less relevant than it is in the case of digital products that are purchased from download stores because consumers do not actually own the products in question.

In addition, from a more practical perspective, one can raise the question of the relevance of the findings of the thesis to practice. For example, if music download stores are indeed being surpassed by music subscription services in terms of their popularity, one could claim that the four-step recipe for promoting the adoption of music download stores, which was proposed in Chapter 6.3, is no longer particularly relevant for practice. This claim can be countered with the potential contextual generalisability of the recipe. That is, as it was discussed in Chapter 6.3, the recipe, or at least parts of it, may also be applicable to promoting the adoption of other types of stores and services that sell digital

products. For example, it may have high a practical relevance especially to markets that are more or less in the same situation that the digital music market was in the early 2010s. For these markets, the findings of this thesis can be seen to offer a retrospect of the digital music market from which valuable lessons can be learned. One example of such markets could be the market of digital books, such as electronic books and audiobooks, which still seem to be adopted by relatively few consumers based on their share of consumer books publishing revenue in the United States in 2018 (AAP 2019).

Of course, a particularly important path for future research would also be to apply the more context-specific and dualistic perspective used in this thesis to examine consumer behaviour in the context of digital products to other interesting IS contexts. As it was demonstrated in this thesis, this perspective was able to promote not only the breadth and depth of the present theoretical understanding of the examined phenomenon but also the relevance of the conducted research to practice. Thus, its more common application could potentially bring similar benefits in many other IS contexts and help to promote the quality of IS research in general.

6.5 Conclusion

As stated in the introduction, there is an urgent call for studies on consumer behaviour in the context of digital products that examine the phenomenon from a more context-specific and a dualistic perspective that focuses on both the enablers and inhibitors of IS acceptance and use. The objective of this thesis was to address this call. In doing so, the thesis argued to be able to promote not only the breadth and depth of the present theoretical understanding of consumer behaviour in the context of digital products but also the relevance of the conducted research to practice. In order to evidence this argument, a case study was conducted, concentrating on the case context of consumer purchase behaviour in music download stores. The empirical data for the case study was collected in an interview study of 14 young Finnish music consumers and in two survey studies. Of these, the first survey was completed by 70 young Finnish consumers, whereas the latter survey was completed by 1,447 Finnish consumers. The latter survey was also followed by a brief follow-up survey, which was completed by 424 Finnish consumers. This collected data was then analysed in a mixed methods manner by using both qualitative and quantitative methods, such as thematic analysis, frequency analysis, dependency analysis, as well as CB-SEM and its two special applications, MGA and LCA.

The findings of these analyses have been reported in more detail in the included six research articles as well as their two extensions. The main findings were two new theories for explaining consumer purchase behaviour in music download stores. Through these theories and its other findings, the thesis demonstrated being able to promote both the breadth and depth of the present theoretical understanding of consumer purchase behaviour in music download

stores. This was manifested as three new rich theoretical insights concerning the pronounced role of existing practices and preferences, risk perceptions, and the utilitarian versus hedonic dimension as antecedents of consumer purchase behaviour in music download stores. The generalisability of these three new rich theoretical insights, the two new theories, and other findings of the thesis from the specific case context of digital music to the broader context of digital products was then discussed in more detail. This was followed by a brief discussion of the contributions of the thesis to IS research in general. Finally, the thesis also demonstrated how its more context-specific and dualistic perspective can promote the relevance of the conducted research to practice. To do this, the thesis proposed a four-step recipe of concrete managerial actions for promoting the adoption of music download stores and, potentially, of other types of stores and services that sell digital products. The thesis concluded with a brief discussion of its main limitations and potential paths for future research.

YHTEENVETO (FINNISH SUMMARY)

Viimeisten vuosien aikana eri tyyppiset digitaaliset tuotteet, kuten Internetin kautta jaeltava musiikki, elokuvat, sarjat ja kirjat, ovat tulleet yhä olennaisemmaksi osaksi monien kuluttajien arkielämää. Tästä huolimatta digitaalisia tuotteita koskevan kuluttajakäyttäytymisen ymmärryksessämme on monia merkittäviä puutteita. Näiden puutteiden korjaamiseksi on tarvetta lisätutkimuksille, jotka tarkastelevat digitaalisia tuotteita koskevaa kuluttajakäyttäytymistä sekä nykyistä kontekstispesifisemmästä että dualistisesta näkökulmasta, joka huomioi paitsi tietojärjestelmien omaksumisen ja käytön mahdollistavat, myös niitä estävät tekijät. Tämän tietojärjestelmätieteen väitöskirjan tavoitteena on vastata edellä mainittuun tarpeeseen, mitä kautta se väittää samalla pystyvänsä paitsi sekä laajentamaan että syventämään nykyistä teoreettista ymmärrystä digitaalisia tuotteita koskevasta kuluttajakäyttäytymisestä, myös parantamaan tehdyn tutkimuksen relevanssia käytännön kannalta.

Väitteen todistamiseksi toteutettiin tapaustutkimus, jossa keskityttiin tarkastelemaan digitaalisen musiikin kontekstia ja tarkemmin ottaen kuluttajien ostokäyttäytymistä musiikin latauskaupoissa. Tapaustutkimuksen empiirinen aineisto kerättiin suomalaisilta kuluttajilta haastattelututkimuksessa (N = 14) sekä kahdessa kyselytutkimuksessa (N = 70 ja N = 1 447), joista jälkimmäiseen liittyi myös lyhyt seurantatutkimus (N = 424). Tätä aineistoa analysoitiin monimenetelmällisesti käyttäen sekä laadullisia että määrällisiä tutkimusmenetelmiä, kuten temaattista analyysiä, frekvenssianalyysiä, riippuvuusanalyysiä ja kovarianssiperusteista rakenneyhtälömallintamista sekä sen erikoissovelluksia, kuten moniryhmäanalyysiä ja latenttien luokkien analyysiä. Tärkeimmät tutkimustulokset ovat kaksi täysin uutta teoriaa kuluttajien ostokäyttäytymisen selittämiseen musiikin latauskaupoissa. Kyseisten teorioiden ja muiden tutkimustulostensa kautta väitöskirja osoittaa pystyvänsä sekä laajentamaan että syventämään nykyistä teoreettista ymmärrystä kuluttajien ostokäyttäytymisestä musiikin latauskaupoissa. Tämä uusi teoreettinen tietämys voidaan kiteyttää kolmeksi uudeksi johtopäätökseksi, jotka koskevat jo olemassa olevien käytänteiden ja mieltymysten, koettujen riskien sekä utilitaristisen ennemmin kuin hedonististen tekijöiden korostunutta roolia kuluttajien ostokäyttäytymistä musiikin latauskaupoissa selittävinä tekijöinä. Väitöskirja myös pohtii tutkimustulostensa yleistettävyyttä digitaalisen musiikin kontekstista laajempaan digitaalisten tuotteiden kontekstiin sekä niiden yleisemmän tason kontribuutioita tietojärjestelmätieteen tutkimukselle.

Edellä mainitun lisäksi väitöskirja osoittaa, kuinka sen nykyistä kontekstispesifisempi ja dualistinen näkökulma pystyy parantamaan tehdyn tutkimuksen relevanssia käytännön kannalta. Esimerkkinä tästä väitöskirja esittelee tutkimustuloksista johdetun neljän kohdan ”reseptin”, jota hyödyntäen musiikin latauskauppiaat sekä mahdollisesti myös muunlaisten digitaalisten tuotteiden kauppiaat pystyvät edistämään kauppojensa omaksumista kuluttajien keskuudessa. Lopuksi väitöskirja tarkastelee lyhyesti tehdyn tutkimuksen keskeisimpiä rajoituksia ja ehdottaa kiinnostavia jatkotutkimuksen kohteita.

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ORIGINAL PAPERS

I

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

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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).

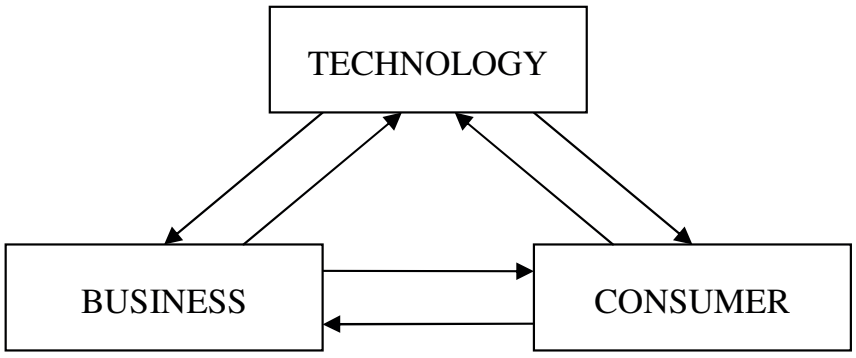

Fig 1. The original model

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.

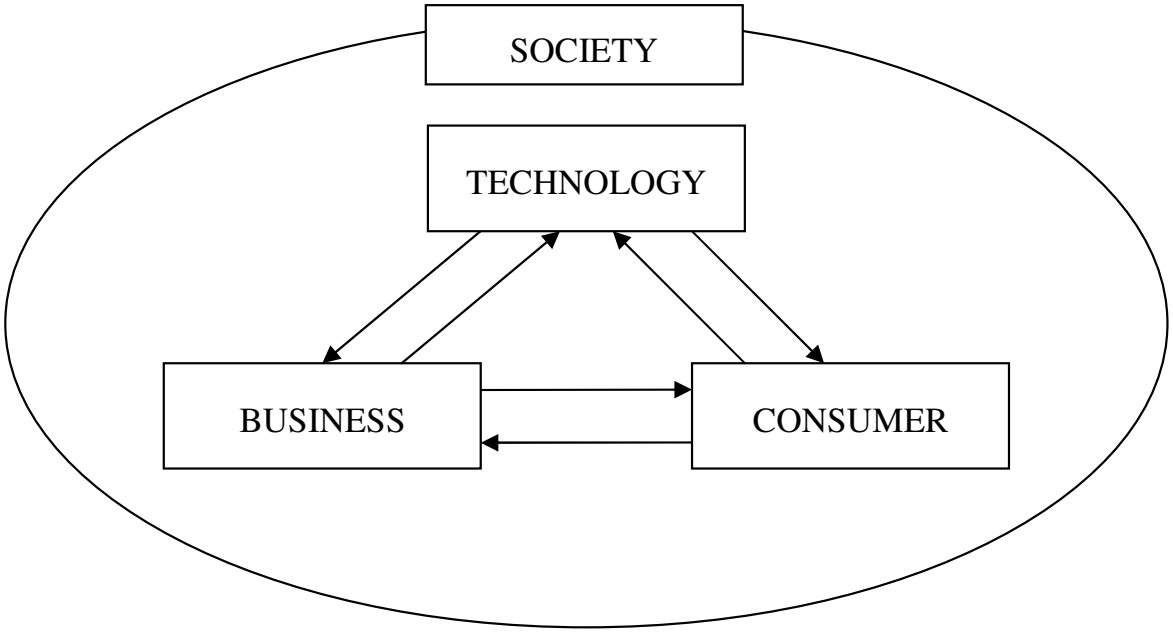

Fig 2. The redrawn model

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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II

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

by

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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 homogenously 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 enduing 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	Yes	28.3 %	23.0 %	25.3 %
download stores?	No	71.7 %	77.0 %	74.7 %
N		586	804	1 390

		Male	Female	All
Has adopted	Yes	14.7 %	7.7 %	10.6 %
subscription services?	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	Yes	21.0 %	34.3 %	31.0 %	19.8 %	4.0 %	25.3 %
download stores?	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	Yes	9.3 %	12.5 %	11.5 %	10.5 %	5.9 %	10.6 %
subscription services?	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	Yes	19.4 %	22.0 %	26.5 %	28.9 %	37.4 %	25.8 %
download stores?	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	Yes	7.0 %	12.7 %	11.2 %	11.4 %	15.8 %	11.0 %
subscription services?	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	Yes	14.3 %	22.3 %	21.0 %	23.9 %	31.6 %	25.4 %
download stores?	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	Yes	11.6 %	9.7 %	7.0 %	9.6 %	14.3 %	10.7 %
subscription services?	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 homogenously 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	□	□	□	□	□
I have a strong interest in music	□	□	□	□	□
Music matters a lot to me	□	□	□	□	□

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 Musalaajakaista	□	□
Last.fm (paid version)	□	□
Nokia Comes With Music	□	□
Nokia Music Store streaming service	□	□
Radio Rock subscription service	□	□
Sonera Music Player	□	□
Spotify (paid version)	□	□
Other paid music subscription service	□	□

III

THE EFFECTS OF GENDER, AGE, AND INCOME ON THE WILLINGNESS TO PAY FOR MUSIC DOWNLOADS

by

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The Effects of Gender, Age, and Income on the Willingness to Pay for Music Downloads

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Abstract
This paper examines the effects of gender, age, and income on the willingness to pay (WTP) for music downloads. The examination is based on an online survey of 1 330 Finnish consumers conducted in June 2010. The analysis of the survey data follows a two-phase strategy. In the first phase, the effects of the explanatory variables on the consumers' unwillingness to pay (UWTP) for album and track downloads are examined by using contingency tables and the Pearson's χ^2 tests of independence. In the second phase, the effects of the explanatory variables on the consumers' actual WTP for album and track downloads are examined by using one-way analysis of variance (1-ANOVA) and post-hoc multiple comparisons. The results of the analysis suggest that there are several statistically significant differences in the WTP for albums and tracks between the examined consumer segments. These findings and their implications should be taken into consideration in the future business models of music download stores.

Keywords: music downloads, willingness to pay, gender, age, income, online survey

1 Introduction

During the past decade, the selling of recorded music as downloadable files and streaming content over the Internet has become increasingly common. In 2009, the Internet and other digital channels already accounted for about 25 % of global recorded music sales, constituting a market of $4.3 billion (IFPI, 2010). However, this increase in sales of digital formats has not been able to offset the dramatic decrease in sales of

physical formats that has continued since the turn of the millennium. As a result, total global sales of recorded music have decreased by about 36 % from $26.5 billion in 2000 to $17.0 billion in 2009 (IFPI, 2010). In addition, there seems to be significant country-specific differences in the adoption rates of digital channels. For example, in the US, digital channels already accounted for about 43 % of recorded music sales in 2009. By contrast, in Finland, a country often seen as one of the forerunners in many information society issues, the corresponding figure was only 8 % (IFPI, 2010).

So clearly the adoption of novel digital channels has not been a global success story. But what are the reasons why so many consumers have not adopted them? As reported in a recent study on the factors why Finnish consumers have not adopted music download stores (Halttunen, Makkonen, & Frank, 2011), there seems to be a multitude of reasons. They can be roughly classified into two main categories. First, there are the reasons related to the *ability* of consumers to use the channels. For example, some consumers may simply lack the necessary know-how, hardware, software, network connectivity, or payment methods for using them. Second, there are the reasons related to the *willingness* of consumers to use the channels, which often refers to their *willingness to pay* (WTP) for the content sold in digital music stores and services. In several prior studies (e.g., Bauxmann et al., 2005), this WTP has been found to be relatively low, especially when compared to the current prices of the content. The causes for this may relate to the positive pull factors of alternate acquisition channels or to the negative push factors of the stores and services themselves. For example, some consumers may still prefer to purchase their music stored on physical carriers (e.g., CDs, LPs, or cassettes) or acquire it through free sources, such as traditional or online radio stations, peer-to-peer (P2P) file sharing networks, or advertisement-supported subscription services. Others may simply be dissatisfied with the current attributes of the stores and services themselves as well as the content sold in them.

When thinking about the reasons falling into these two categories, it seems safe to assume that especially in many developed countries, where the adoption rates of online shopping are already high, the reasons in the first category can explain only a limited amount of the laggard adoption. Thus, it is the reasons in the second category and especially the WTP for digital music that seem to be in a key position. Unfortunately, relatively few academic studies have analytically examined the WTP for digital music. Some exceptions include the studies by Bhattacharjee, Gopal, and Sanders (2003), Walsh et al. (2003), Bauxmann et al. (2005), Amberg and Schröder (2007), Breidert and Hahsler (2007), Fetscherin and Lattemann (2007), Sandulli and Martín-Barbero (2007), Styvén (2007), Sinha and Mandel (2008), Chiang and Assane (2009), Doerr et al. (2010), and Sinha, Machado, and Sellman (2010). However, these studies have several shortcomings. First, most have examined only the WTP for single-track downloads and service subscriptions, and few have covered the WTP for full-album downloads, which constitute a significant share of the digital music market (IFPI, 2010). Second, most studies have concentrated on the linear regression relationships between WTP and other (explanatory and explained) variables and paid little attention to the non-linear relationships as well as to the absolute WTP preferences of different consumer segments and their divergence. Third, most studies have been conducted in the context of relatively large recorded music markets (e.g., the US, Germany, and Spain) and among rather restricted populations (e.g., students and P2P users). Thus, the generalisability of their findings, especially to smaller recorded music markets, remains questionable.

In this paper, we aim at addressing these shortcomings by examining the effects of three socioeconomic variables on the WTP for the digital music sold in music download stores. By *music download stores*, we refer to online stores that sell digital music as downloadable files on a pay-per-download (i.e., à la carte) basis (e.g., the iTunes Store). The three variables are gender, age, and income, which have been found to be important antecedents of consumer behaviour in general and online shopping in particular (cf. Chang, Cheung, & Lai, 2007; Zhou, Dai, & Zhang, 2007). These variables are also particularly interesting in the context of the WTP for digital music because, although their effects have been examined in several prior studies, the findings concerning them have been quite contradictory. Our examination covers the WTP for both single-track and full-album downloads and concentrates on exploring the absolute WTP preferences of different consumer segments and their divergence through analysis of variance (ANOVA). The examination is conducted in the context of Finland, a relatively small recorded music market with several interesting special characteristics, by utilising data from an online survey of 1 330 Finnish consumers conducted in June 2010.

The paper consists of five sections. After this introductory section, we briefly discuss the concept of WTP and its measurement in Section 2. Section 3 describes the methodology of the study. The results of the study are reported in Section 4. Section 5 discusses the most important results and draws conclusions. Finally, the limitations of the study and potential paths of future research are briefly considered in Section 6.

2 Willingness to Pay

Willingness to pay (WTP) is commonly defined as the maximum price a buyer is willing to pay for a given quantity of a product or service (Wertenbroch & Skiera, 2002). Thus, it can be considered a critical input for the business models of all companies that aim at implementing optimal pricing policies. There are many different methods for measuring WTP. Breidert (2005) classifies these into two main categories. The methods in the first category aim at measuring WTP by eliciting *revealed* consumer preferences through observations, which may be based on actual market data, or on field or laboratory experiments. Typical examples of these kinds of experiments are auctions conducted by using the Vickery (1961) or Becker-DeGroot-Marschak (BDM, 1964) mechanisms. The methods in the second category aim at measuring WTP by eliciting *stated* consumer preferences through direct or indirect surveys. In direct surveys, consumers are directly asked about their WTP by using open-ended or closed-ended questions. In the context of non-market products and services, this approach is also commonly referred to as the contingent valuation (CV) method (cf. Mitchell & Carson, 1989). In indirect surveys, consumers are offered a selection of products or services with varying attributes, and WTP is inferred indirectly from their rankings or ratings of these alternatives. A common example of this kind of an approach is the conjoint analysis (CA) method (cf. Green, Krieger, & Wind, 2001).

Observation-based and survey-based methods have both their advantages and their disadvantages in measuring WTP. On one hand, observation-based methods are typically perceived as producing more reliable and valid estimates of the consumers' true WTP, but they are capable of producing only *ex-post* information and are often quite complex to employ. On the other hand, survey-based methods are often more simple to employ and capable of producing also *ex-ante* information, but they are

typically perceived as producing less reliable and valid estimates of the consumers' true WTP, often either underestimating or overestimating it.

In the context of digital content in general and digital music in particular, both observation-based and survey-based methods have been employed in measuring WTP. However, the employment of survey-based methods has been much more common. Among survey-based methods, the most commonly employed method has been a direct survey with one or more open-ended questions (e.g., Fetscherin & Lattemann, 2007; Sandulli & Martín-Barbero, 2007; Chiang & Assane, 2009), most probably due to its intuitiveness and simplicity from the perspective of both the respondent and the researcher. Because of these same reasons and to promote comparability with prior studies, this measurement method is employed also in this paper.

3 Methodology

To examine the effects of gender, age, and income on the WTP for music downloads, we conducted a self-administered online survey among Finnish consumers. The survey questionnaire was composed by using the LimeSurvey 1.87+ software, and before the actual survey, it was pre-tested with 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 actively promoted by sending multiple invitation e-mails through the internal communication channels of our university as well as through a 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 worth a total of 1 500 € were raffled among them.

Altogether, the survey questionnaire consisted of 108–112 items (depending on the responses). However, only five of them were used for the purpose of this paper. Gender, age, and income were each measured by one item. The measurement scale of gender was nominal (male or female), while age was initially measured with an interval scale but was later categorised into three age groups (under 30 years, 30–44 years, and 45 years or over). Income, which referred to annual gross income per person, was measured with an ordinal scale. The scale initially consisted of ten income groups, but their number was later reduced to three (under 15 000 €, 15 000–29 999 €, and 30 000 € or over). The WTP for album and track downloads was measured with two open-ended questions in which the respondents were directly surveyed for their general WTP for the albums and tracks sold in music download stores. Both the questions were optional, so the respondents had the option to answer both, one, or none of them.

The survey data was analysed by using the PASW Statistics 18 software. The analysis was conducted independently for albums and tracks, meaning that the same analysis procedures were first performed for the respondents who had stated their WTP for albums and then for the respondents who had stated their WTP for tracks.

Because of the high number of responses with a WTP of zero, the analysis followed a two-phase strategy. A similar strategy has been used previously by Sandulli and Martín-Barbero (2007) as well as Chiang and Assane (2009). In the first phase, we examined the effects of gender, age, and income on the unwillingness to pay for music downloads.

By *unwillingness to pay* (UWTP), we refer to a special case of WTP, in which a buyer is willing to pay nothing for a given quantity of a product or service. The examination was done by first dividing the sample into two groups: *unwilling payers* with a WTP of zero (WTP = 0) and *willing payers* with a WTP of greater than zero (WTP > 0). After this, contingency tables and the Pearson's χ^2 tests of independence were used to analyse the differences in the percentages of unwilling payers between men and women as well as between the three age and income groups to see whether any statistically significant dependencies between UWTP and the explanatory variables could be found.

In the second phase, we examined the effects of gender, age, and income on the actual WTP for music downloads among the willing payers. This was done by first excluding the respondents with the highest and lowest five percent of the WTP values from the analysis to minimise the effects of extreme values. After this, one-way analysis of variance (1-ANOVA) was used to investigate whether any statistically significant differences could be found in the WTP means between men and women as well as between the three age and income groups (and their two-way combinations). If these were found and there were more than two compared groups, post-hoc multiple comparisons using the Tukey's test were used to examine which of the groups differed. During the analysis, we noticed that the data in some of the compared groups showed signs of non-normality and heteroscedasticity, thus violating the assumptions of 1-ANOVA. This was mainly caused by the tendency of the respondents to round the WTP values to major price points, as also noted by Wertenbroch and Skiera (2002). The violations were not severe and, therefore, unlikely to significantly affect the results when considering the low number of compared groups, the high number of responses in each group, and the approximately balanced group sizes (Bathke, 2004). However, to be on the safe side, we replicated the analysis by using the non-parametric variants of 1-ANOVA (i.e., the Kruskal-Wallis test) and post-hoc multiple comparisons. The results of the non-parametric analysis were almost identical to those of the parametric analysis. The few minor deviations are reported as footnotes in the following section.

4 Results

The survey was properly completed by 1 447 respondents. The mean response time was a bit less than 17 minutes, indicating that the survey questionnaire was rather long for a self-administered online survey. This was also implied by the relatively high drop-off rate of 25.9 %. However, we do not consider the response time or drop-off rate too high in terms of suggesting severe respondent fatigue.

Of the 1 447 respondents, 117 (8.1 %) stated their WTP for neither albums nor tracks, and they were excluded from further analysis. Of the remaining 1 330 respondents, 1 321 stated their WTP for albums and 1 323 stated their WTP for tracks. Of them, 106 (8.0 %) were unwilling to pay anything for albums and 126 (9.5 %) were unwilling to pay anything for tracks. After excluding the respondents with the lowest and highest five percent of the WTP values, the WTP values of those willing to pay something varied from 2.00 € to 17.00 € for albums and from 0.10 € to 3.00 € for tracks. This resulted in the sample mean of 8.55 € (SD = 3.40 €, SE = 0.10 €) for albums and 0.92 € (SD = 0.58 €, SE = 0.02 €) for tracks. The excluded respondents did not differ significantly in terms of gender and income, but the exclusion rate was slightly higher in the age group of 45 years or over. This was emphasised especially among women.

Descriptive statistics of the sample (N = 1 330) are presented in Table 1. Overall, the sample can be characterised as highly heterogeneous in terms of the gender, age, income, and socioeconomic group of the respondents. It also contained relatively many respondents (25.3 %) who had purchased music from a download store. The gender, age, and income distributions of the sample corresponded quite well to the gender and age distributions of the Finnish Internet population in 2010 as well as the income distribution of the Finnish income recipients in 2009 (Statistics Finland, 2011). Women and the age group of under 30 years were somewhat overrepresented, whereas men and especially the age group of 45 years or over were underrepresented. However, there were no signs of severe non-response bias in terms of these three variables. The risk of this bias severely affecting the findings was also further reduced by the fact that we focused on examining WTP separately among men and women as well as in the three age and income groups (and their two-way combinations), thus controlling for the effects of these variables.

	Number	Percentage
Gender		
Male	581	43.7 %
Female	749	56.3 %
Age		
–29 yrs.	506	38.0 %
30–44 yrs.	473	35.6 %
45– yrs.	351	26.4 %
Income		
–14 999 €	458	34.4 %
15 000–29 999 €	350	26.3 %
30 000– €	350	26.3 %
N/A	172	12.9 %
Socioeconomic group		
Student	327	24.6 %
Employed	725	54.5 %
Unemployed	115	8.6 %
Pensioner	70	5.3 %
Other	81	6.1 %
N/A	12	0.9 %
Purchased music from a download store?		
Yes	337	25.3 %
No	943	70.9 %
N/A	50	3.8 %

Table 1: Descriptive statistics of the sample (N = 1 330)

4.1 Unwillingness to Pay (UWTP)

The results of the first phase of analysis are presented in Tables 2 and 3. Table 2 lists the percentages of unwilling (WTP = 0) and willing (WTP > 0) payers in each examined consumer segment. Table 3 summarises the results of the χ^2 tests.

Gender was found to have a statistically significant dependency with the UWTP for neither albums ($\chi^2(1) = 0.079$, $p = 0.778$) nor tracks ($\chi^2(1) = 0.039$, $p = 0.843$). By contrast, age was found to have a statistically significant dependency with the UWTP for both albums ($\chi^2(2) = 10.746$, $p = 0.005$) and tracks ($\chi^2(2) = 6.408$, $p = 0.041$). In the case of both albums and tracks, the percentage of unwilling payers increased quite linearly with age. Also income was found to have a statistically significant dependency with the UWTP for albums ($\chi^2(2) = 6.077$, $p = 0.048$) but not with the UWTP for tracks ($\chi^2(2) = 3.618$, $p = 0.164$). In the case of albums, the percentage of unwilling payers was the highest in the income group of 15 000–29 999 € (9.8 %), followed by the income groups of under 15 000 € (7.5 %) and 30 000 € or over (4.9 %).

	Albums			Tracks		
	N	WTP = 0	WTP > 0	N	WTP = 0	WTP > 0
Gender						
Man	578	7.8 %	92.2 %	578	9.3 %	90.7 %
Woman	743	8.2 %	91.8 %	745	9.7 %	90.3 %
Age						
–29 yrs.	502	5.6 %	94.4 %	506	7.5 %	92.5 %
30–44 yrs.	471	7.9 %	92.1 %	470	9.4 %	90.6 %
45– yrs.	348	11.8 %	88.2 %	347	12.7 %	87.3 %
Income						
–14 999 €	454	7.5 %	92.5 %	458	9.4 %	90.6 %
15 000–29 999 €	348	9.8 %	90.2 %	348	10.6 %	89.4 %
30 000– €	348	4.9 %	95.1 %	347	6.6 %	93.4 %

Table 2: Percentages of unwilling (WTP = 0) and willing (WTP > 0) payers

	Albums				Tracks			
	N	χ^2	df	p	N	χ^2	df	p
UWTP x gender	1 321	0.079	1	0.778	1 323	0.039	1	0.843
UWTP x age	1 321	10.746	2	**0.005**	1 323	6.408	2	**0.041**
UWTP x income	1 150	6.077	2	**0.048**	1 153	3.618	2	0.164

Table 3: Results of the χ^2 tests ($p < 0.05$ are bolded)

4.2 Willingness to Pay (WTP)

The results of the second phase of analysis are presented in Tables 4 and 5. Table 4 lists the WTP means, standard deviations, and standard errors of mean in each examined consumer segment. Table 5 summarises the results of the 1-ANOVA tests.

In terms of gender, women were found to have a significantly higher WTP for both albums ($F(1,1\ 091) = 49.985$, $p < 0.001$) and tracks ($F(1, 1\ 075) = 34.312$, $p < 0.001$). This was also true when the differences between men and women were examined separately in each of the three age and income groups. The only exception was the income group of under 15 000 €, in which no statistically significant difference between men and women was found in the WTP for tracks. [1] In the case of albums, the relative magnitude of the difference was about the same in each of the three age and income groups. In the case of tracks, the relative magnitude of the difference increased with income and was also higher in the age group of 30–44 years.

In terms of age, no statistically significant differences between the groups were found in the WTP for albums ($F(2, 1\ 090) = 1.257$, $p = 0.285$), and this was also true when the differences were examined separately among men and women as well as in each of the three income groups. By contrast, statistically significant differences between the age groups were found in the WTP for tracks ($F(2, 1\ 074) = 8.004$, $p < 0.001$). According to multiple comparisons, the group that differed from the other two groups was the age group of under 30 years, in which the WTP for tracks was lower than in the age groups of 30–44 years ($p = 0.026$) and 45 years or over ($p < 0.001$). Statistically significant differences between the age groups were also found when they were examined separately among men and women, but multiple comparisons suggested a difference only between the age groups of under 30 years and 45 years or over. [2] By contrast, no statistically significant differences between the age groups were found when they were examined separately in each of the three income groups.

1 The non-parametric tests suggested women having a higher WTP for tracks also in the income group of under 15 000 € but not in the age group of 45 years or over.

2 The non-parametric tests suggested a difference also between the age groups of under 30 years and 30–44 years but only among women.

	Albums				Tracks			
	N	**Mean (€)**	**SD (€)**	**SE (€)**	**N**	**Mean (€)**	**SD (€)**	**SE (€)**
Gender								
Man	483	7.75	3.20	0.15	469	0.82	0.52	0.02
Woman	610	9.18	3.42	0.14	608	0.99	0.61	0.02
Age								
–29 yrs.	430	8.36	3.50	0.17	428	0.84	0.53	0.03
30–44 yrs.	400	8.73	3.13	0.16	392	0.94	0.57	0.03
45– yrs.	263	8.57	3.60	0.22	257	1.01	0.65	0.04
Income								
–14 999 €	373	8.24	3.44	0.18	374	0.84	0.54	0.03
15 000–29 999 €	280	8.52	3.38	0.20	280	0.95	0.65	0.04
30 000– €	306	8.60	3.38	0.19	294	0.97	0.57	0.03
Gender and age								
Man (–29 yrs.)	195	7.56	3.20	0.23	187	0.76	0.47	0.03
Man (30–44 yrs.)	171	7.87	2.96	0.23	167	0.82	0.51	0.04
Man (45– yrs.)	117	7.88	3.51	0.32	115	0.92	0.59	0.05
Woman (–29 yrs.)	235	9.02	3.61	0.24	241	0.90	0.56	0.04
Woman (30–44 yrs.)	229	9.38	3.11	0.21	225	1.03	0.60	0.04
Woman (45– yrs.)	146	9.12	3.58	0.30	142	1.09	0.69	0.06
Gender and income								
Man (–14 999 €)	160	7.55	3.19	0.25	158	0.78	0.53	0.04
Man (15 000–29 999 €)	106	7.62	3.15	0.31	106	0.84	0.60	0.06
Man (30 000– €)	173	7.90	3.29	0.25	162	0.85	0.47	0.04
Woman (–14 999 €)	213	8.76	3.53	0.24	216	0.89	0.55	0.04
Woman (15 000–29 999 €)	174	9.07	3.40	0.26	174	1.02	0.68	0.05
Woman (30 000– €)	133	9.52	3.28	0.28	132	1.11	0.65	0.06
Age and income								
–29 yrs. (–14 999 €)	261	8.06	3.52	0.22	262	0.81	0.53	0.03
–29 yrs. (15 000–29 999 €)	86	8.58	3.25	0.35	83	0.84	0.49	0.05
–29 yrs. (30 000– €)	33	8.39	3.79	0.66	31	0.90	0.60	0.11
30–44 yrs. (–14 999 €)	75	8.73	3.34	0.39	77	0.89	0.56	0.06
30–44 yrs. (15 000–29 999 €)	120	8.75	3.07	0.28	119	0.96	0.65	0.06
30–44 yrs. (30 000– €)	153	8.73	3.21	0.26	150	0.96	0.54	0.04
45– yrs. (–14 999 €)	37	8.52	3.02	0.50	35	0.98	0.58	0.10
45– yrs. (15 000–29 999 €)	74	8.09	3.95	0.46	78	1.07	0.77	0.09
45– yrs. (30 000– €)	120	8.51	3.50	0.32	113	0.99	0.61	0.06

Table 4: WTP means, standard deviations (SD), and standard errors (SE) of mean

	Albums					Tracks				
	N	**F**	**df_1**	**df_2**	**p**	**N**	**F**	**df_1**	**df_2**	**p**
Gender	1 093	49.985	1	1 091	**< 0.001**	1 077	34.312	1	1 075	**< 0.001**
Age = –29 yrs.	430	19.422	1	428	**< 0.001**	428	7.966	1	426	**0.005**
Age = 30–44 yrs.	400	23.858	1	398	**< 0.001**	392	13.382	1	390	**< 0.001**
Age = 45– yrs.	263	7.902	1	261	**0.005**	257	4.358	1	255	**0.038**
Income = –14 999 €	373	11.637	1	371	**0.001**	374	3.809	1	372	0.052
Income = 15 000–29 999 €	280	12.704	1	278	**< 0.001**	280	4.940	1	278	**0.027**
Income = 30 000– €	306	18.188	1	304	**< 0.001**	294	15.861	1	292	**< 0.001**
Age	1 093	1.257	2	1 090	0.285	1 077	8.044	2	1 074	**< 0.001**
Gender = man	483	0.567	2	480	0.568	469	3.579	2	466	**0.029**
Gender = woman	610	0.643	2	607	0.526	608	5.016	2	605	**0.007**
Income = –14 999 €	373	1.263	2	370	0.284	374	1.726	2	371	0.179
Income = 15 000–29 999 €	280	0.898	2	277	0.409	280	2.666	2	277	0.071
Income = 30 000– €	306	0.210	2	303	0.811	294	0.274	2	291	0.760
Income	959	1.089	2	956	0.337	948	4.470	2	945	**0.012**
Gender = man	439	0.550	2	436	0.578	426	0.817	2	423	0.442
Gender = woman	520	2.021	2	517	0.134	522	5.393	2	519	**0.005**
Age = –29 yrs.	380	0.775	2	377	0.462	376	0.432	2	373	0.650
Age = 30–44 yrs.	348	0.002	2	345	0.998	346	0.444	2	343	0.642
Age = 45– yrs.	231	0.352	2	228	0.704	226	0.419	2	223	0.658

Table 5: Results of the 1-ANOVA tests ($p < 0.05$ are bolded)

In terms of income, no statistically significant differences between the groups were found in the WTP for albums ($F(2, 956) = 1.089$, $p = 0.337$), and this was also true when the differences were examined separately among men and women as well as in each of the three age groups. By contrast, statistically significant differences between

the income groups were found in the WTP for tracks ($F(2, 945) = 4.470$, $p = 0.012$). According to multiple comparisons, the group that differed from the other two groups was the income group of under 15 000 €, in which the WTP for tracks was lower than in the income groups of 15 000–29 999 € ($p = 0.046$) and 30 000 € or over ($p = 0.021$). [3] However, when the differences between the income groups were examined separately among men and women as well as in each of the three age groups, a statistically significant difference was found only among women and only between the income groups of under 15 000 € and 30 000 € or over.

5 Discussion and Conclusions

In this paper, we examined the effects of gender, age, and income on the WTP for music downloads. The findings of the study suggest that there are several statistically significant differences in the WTP for album and track downloads between the examined consumer segments. In brief, women expressed a higher WTP for both albums and tracks, and the WTP for tracks was also found to increase with age and income. In addition, age was found to increase the UWTP for both albums and tracks, whereas the effect of income on the UWTP for tracks was more non-linear.

When the findings are compared to those of prior studies, several similarities, but also some discrepancies, can be observed. Although some of these discrepancies can be explained by the differences in research settings, their high number would seem to suggest that there may be significant divergence in the examined effects between different countries and cultures. For example, the findings of Chiang and Assane (2009) concerning the WTP for tracks are very similar to ours, also suggesting that women have a higher WTP than men and that the WTP increases with age and income. However, their findings concerning the UWTP for tracks differ from ours, suggesting that men have a higher UWTP than women and that the UWTP decreases with age and income. Also the findings of Fetscherin and Lattemann (2007) are partly in congruence but partly in conflict with ours. They also found age to have a positive effect on the WTP for tracks but found gender and income to have no effect on it. By contrast, the findings of Sandulli and Martín-Barbero (2007) differ considerably from ours. They found gender, age, and income to have completely opposite effects on the WTP for tracks as compared to our findings, and their findings also suggest that men have a higher UWTP for tracks than women and that the UWTP for tracks decreases with age. However, their findings concerning the effect of income on the UWTP for tracks are very similar to ours. This also applies to the findings of Sinha and Mandel (2008), which support our finding of women having a higher WTP for tracks than men.

All in all, the findings suggest two very important implications for the business models of music download stores. First, as also concluded by Bauxmann et al. (2005), the current prices of the albums and tracks sold in music download stores seem to be too high for most consumers. In Finland, for example, the prices typically vary from 9.49 € to 12.99 € per album and from 0.99 € to 1.69 € per track, which clearly exceeds the WTP expressed by most of the examined consumer segments, especially in the case of albums. Thus, there seems to be strong pressure to lower the prices. Bauxmann et al. (2005) suggest that these kinds of price reductions could actually increase the revenues

3 The non-parametric tests suggested a difference only between the income groups of under 15 000 € and 30 000 € or over, not between the income groups of under 15 000 € and 15 000–29 999 €.

of the actors involved in digital music retailing, although their implementation would require considerable cooperation and consensus among these actors.

Second, the findings also suggest some substantial opportunities for third-degree price discrimination (i.e., different prices for different consumer segments). For example, instead of just differentiating the prices of albums and tracks based on their novelty or popularity, also their target segments in terms of gender and age should be considered when setting the prices. Here, the most important segmentation variable seems to be gender, with women expressing an about 16–21 % higher WTP for albums and about 14–31 % higher WTP for tracks, depending on their age and income. Also age and income can be seen as important segmentation variables, but their effects on WTP seem to be somewhat weaker. For example, age and income were found to have an effect only on the WTP for tracks, and also these effects seemed to be partly caused by their two-way interaction (i.e., income tends to increase with age). When this interaction was controlled for, no statistically significant effects could be found anymore. In addition, income was found to have an effect on the WTP for tracks only among women, and the positive effect of age on the WTP for tracks was partly offset by the fact that not only the WTP but also the UWTP for tracks was found to increase with age.

In conclusion, it seems that the current business models of music download stores are facing many severe challenges, one of which is the mismatch between the prices of the albums and tracks sold in the stores and the consumers' WTP for them. In this respect, the most challenging consumer segments seem to be men and young consumers with a relatively low WTP for music downloads and, surprisingly, also elderly consumers whose UWTP for music downloads is relatively high. To confront these challenges, innovative improvements to the future business models of music download stores are desperately needed. One example of these could be the more differentiative pricing policies suggested in this paper, which better take into consideration the divergence in the WTP for music downloads between different consumer segments.

6 Limitations and Future Research

We consider our study to have three main limitations. First, the analysed data was gathered from Finnish consumers by using an online survey. Thus, the findings are directly generalisable only to the Finnish Internet population. Second, the effects of age and income on WTP were examined by categorising the respondents into only three age and income groups. This obviously limited the precision of the examination but enabled the proper examination of the two-way interaction effects between gender, age, and income, although the number of respondents in some two-way combinations of the age and income groups was relatively low. Third, WTP was measured by using two open-ended questions to directly survey the respondents for their general WTP for the albums and tracks sold in music download stores. Although a similar measurement method has been commonly employed in prior studies (cf. Section 2), it has some shortcomings. For example, Bauxmann et al. (2005) suggest divergence in WTP also between different categories of music (e.g., current hits, older titles, rarities, and newcomers), which should be taken into consideration when measuring it. Respectively, Breidert (2005) lists a number of flaws related to direct surveys as a measurement method. One is that they seldom offer consumers strong incentives to reveal their true WTP, often causing them to either overestimate or underestimate it. In our study, the risk of biased estimates

may have been further increased by the fact that relatively many respondents (70.9 %) had never purchased music from a download store and, therefore, may have been quite unfamiliar with their pricing policies. Even though the estimates are unbiased, Breidert (2005) also notes that they do not necessarily translate into actual purchasing behaviour.

To address these limitations, we see that a preferable path of future research would be to replicate our study also in other countries and cultures by using a more precise categorisation of age and income as well as a more varied set of methods for measuring WTP. These studies could also concentrate on some interesting special segments of consumers, such as the more experienced users of music download stores. Another potential path of future research would be to extend the current study to cover the WTP for not only music downloads but also music subscriptions as well as the effects of other interesting variables on the WTP for digital music.

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IV

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.

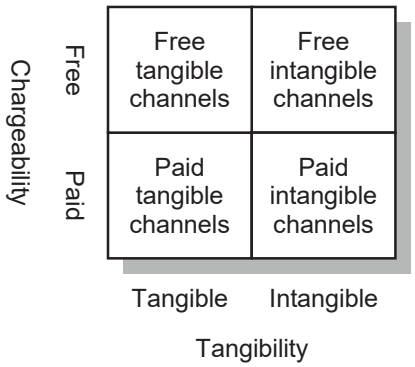

Figure 1. Framework for categorising the acquisition channels of recorded music

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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V

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

by

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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.

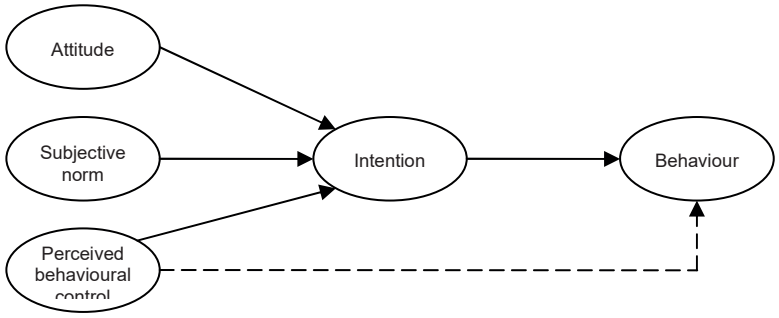

Figure 1. The theory of planned behaviour (Ajzen, 1991)

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 %
	Missing	11	0.8 %
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 (κ = 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.

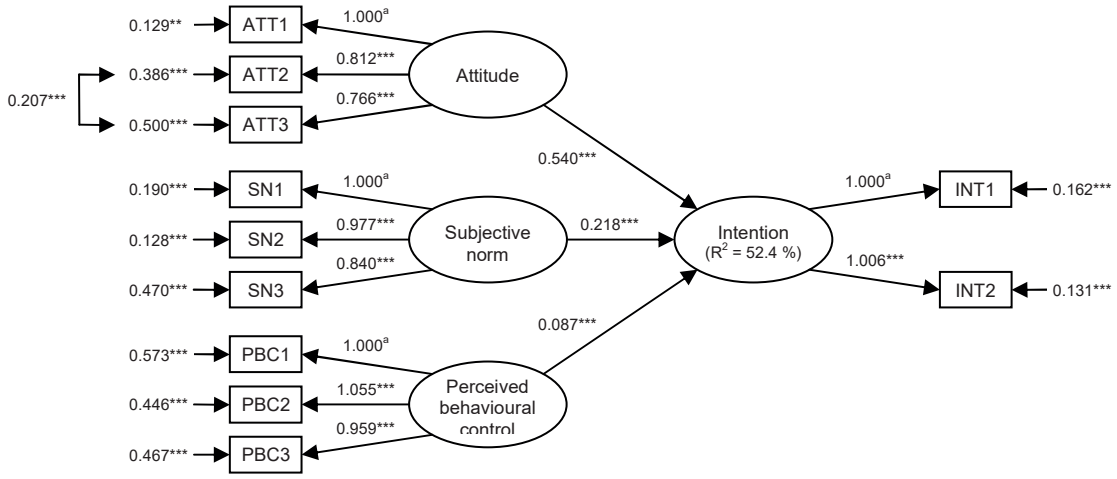

Figure 2. Estimated TPB model ([a] = fixed to 1, * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$)

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	$\Delta\chi^2$	Δdf	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}	$\beta_{INT, ATT}$	$\beta_{INT, SN}$	$\beta_{INT, PBC}$	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]	0.522***	0.291***	0.084***	2.471***	54.0 %
30–44 years	-0.015	0.248**	0.635***	-0.075				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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VI

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 Sention 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. RESEACH 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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