



Instituto Superior de Economia e Gestão

UNIVERSIDADE TÉCNICA DE LISBOA

DESDE 1911

MESTRADO EM CIÊNCIAS EMPRESARIAIS

TRABALHO FINAL DE MESTRADO DISSERTAÇÃO

**EXPLORING DIGITAL MUSIC ONLINE: USER
ACCEPTANCE AND ADOPTION OF ONLINE MUSIC
SERVICES**

CAROLINA IGLÉSIAS MARTINS

MAIO - 2013



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Abstract

Online digital music has changed dramatically since the emergence of Napster (in 1999), as a file-sharing system, and the establishment of electronic commerce. The transformation of the music industry value chain enabled Online Music Services (OMS) to serve as *reintermediaries* in the way the music product is delivered to consumers. However, a need to understand OMS user-end behavior has been recognized and suggested by academic authors. To explore this aspect, we extended the UTAUT2 framework (an IT/IS User Acceptance Model) to study OMS through individual *Behavioral Intention* and *Use*. UTAUT2 model was applied with the main purposes of validating its applicability in this environment, and identifying additional determinants in OMS acceptance and adoption. A quantitative approach was undertaken and data was collected from a sample of 329 individuals. Partial Least Squares (PLS) path modeling was proposed to assess the relationships within our model. With our findings, we verified the suitability of UTAUT2 constructs on an OMS background, as well as the significance of *Ideology of Consumer Rights* and *File-Sharing Expertise* in the formation of *Behavioral Intention* and *Use*, respectively. Moreover, *File-Sharing Judgment* revealed to have a statistically non-significant impact on *Behavioral Intention*. Several theoretical and practical implications are provided in order to enhance the comprehension of consumer behavior for OMS providers.

Keywords: Online Music Services, E-commerce, User Acceptance Models, UTAUT2 model.

Resumo

A música digital *online* sofreu alterações profundas desde o aparecimento do Napster (em 1999), como sistema de partilha de ficheiros, e com o desenvolvimento do comércio electrónico. A transformação da cadeia de valor da indústria musical permitiu aos Serviços de Música Online (SMO) desempenharem um papel de “*re-intermediação*” na forma como o produto pode ser entregue aos consumidores. Contudo, é reconhecida e sugerida por autores académicos a necessidade de compreender o comportamento destes utilizadores. Com o intuito de explorar esta necessidade, estendemos o Modelo de Aceitação Tecnológica UTAUT2, por forma a analisar a *Intenção de Comportamento* e *Uso* individual dos SMO. O modelo UTAUT2 foi empregue com os principais objectivos de validar a sua aplicabilidade no contexto musical, com particular incidência nos SMO, e identificar constructos adicionais que levem à sua aceitação e adopção pelos utilizadores. Para este estudo, foi aplicada uma abordagem quantitativa com uma amostra de 329 indivíduos. A utilização de uma análise baseada nos Mínimos Quadrados Parciais (Partial Least Squares – PLS) foi utilizada para avaliar as relações entre os constructos do modelo teórico proposto. Os nossos resultados evidenciam a adequação do UTAUT2 no contexto analisado, assim como a importância da *Ideologia dos Direitos do Consumidor* e a *Perícia da Partilha de Ficheiros* na formação da *Intenção de Comportamento* e no *Uso*, respectivamente. Adicionalmente, o *Julgamento sobre a Partilha de Ficheiros* revelou não ser estatisticamente significativo no nosso modelo. Várias implicações teóricas e práticas são propostas, auxiliando os fornecedores de SMO na compreensão do comportamento dos consumidores.

Palavras-Chave: Serviços de Música Online, Comércio Electrónico, Modelos de Aceitação Tecnológica, Modelo UTAUT2.

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List of Abbreviations

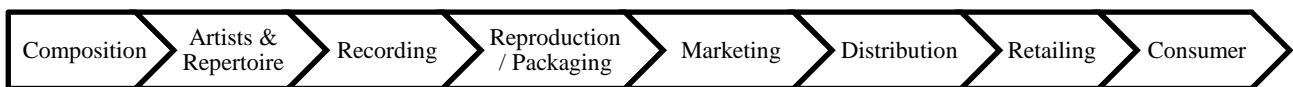
AVE – Average Extracted Variance
B2C – Business-to-Consumer
BI – Behavioral Intention
CD – Compact Disc
CRM – Customer Relationship Management
C-TAM-TPB – Combined Technology Acceptance Model and Theory of Planned Behavior
DRM – Digital Rights Management
DTPB – Decomposed Theory of Planned Behavior
EC – Electronic Commerce
EE – Effort Expectancy
FC – Facilitating Conditions
FS – File-sharing
FSE – File-sharing Expertise
FSJ – File-sharing Judgment
HM – Hedonic Motivation
HT – Habit
ICR – Ideology of Consumer Rights
IDT – Innovation Diffusion Theory
IFPI – International Federation of the Phonographic Industry
INE – Instituto Nacional de Estatística (Statistics Portugal)
IS – Information System(s)
ISPs – Internet Service Providers
IT – Information Technologies
MP3 – ISO-MPEG-1 Audio Layer 3
MPCU – Model of PC Utilization
OMS – Online Music Services
P2P – Peer-to-peer
PBC – Perceived Behavioral Control
PC – Personal Computer
PE – Performance Expectancy
PLS – Partial Least Squares
PV – Price Value
SCT – Social Cognitive Theory
SI – Social Influence
SMO – Serviços de Música Online
TAM – Technology Acceptance Model
TAM 2 – Technology Acceptance Model 2
TPB – Theory of Planned Behavior
TRA – Theory of Reasoned Action
UTAUT – Unified Theory of Acceptance and Use of Technology
UTAUT2 – Unified Theory of Acceptance and Use of Technology 2
VIF – Variance Inflation Factor
WTP – Willingness to Pay

1. Introduction

1.1 Digital Music Overview

The outburst of one of the most prominent Internet peer-to-peer¹ file-sharing (FS) systems (Napster), in 1999, brought dramatic changes to the music industry², music product and, consequently its consumption. The transition to digital online technologies created a substantial impact on the music industry's traditional value chain (Figure 1-1), altering the creation and distribution of music (Brousseau, 2008), and shaping it to become a part of a *total experience* (Bhattacharjee, Gopal, Marsden, & Sankaranarayanan, 2009).

Figure 1-1 – Music Industry's Traditional Value Chain (Graham, Burnes, Lewis, & Langer, 2004, p. 1092)



Firstly, the *music product* is a type of hedonic product³, which is perceived as an *experience product*. That is, it cannot be valued by the consumer prior to its consumption (Bhattacharjee, Gopal, Lertwachara, & Marsden, 2006; Lacher, 1989). With digitization, the *music product* progressed from a physical to a digital good⁴, creating new challenges (Bhattacharjee *et al.*, 2006, 2009; Zhu & MacQuarrie, 2003).

The music industry is a high risk/low profitability market, but it is increasingly expanding its existing number of players as electronic manufacturers, mobile operators, Internet Service Providers (ISPs) and digital service providers enter the market in order to gain higher profits by selling traffic and/or electronic devices (Brousseau, 2008). This creates a competitive environment that leads to the development of new strategies that involve the retention of customers through exclusivity in contracts, to reduce portability (Garon, 2009), or technological (in)compatibility (Amberg & Schröder, 2007).

¹ Peer-to-peer systems are defined by Slater, Smith, Bambauer, Gasser, & Palfrey (2005) as “online distribution mechanisms, (that) enable individuals to find, acquire, and share content with great efficiency” (p. 7).

² The music industry can be defined as “the whole social, regulatory, technological and economic system that brings an original musical supply within the reach of consumers who want to listen to it” (Bourreau, Gensollen, & Moreau, 2008, p. 2).

³ Hedonic products tend to be emotionally involving and require a considerable mental activity by the consumer. Their evaluation is based on their symbolic features rather than on their tangible characteristics (Hirschman & Holbrook, 1982).

⁴ A digital good can be defined as a product “capable of being stored and distributed in digital form” (Zhu & MacQuarrie, 2003, p. 264). The term ‘information good’ can also be considered, since the concept indicates products that can be digitized (Mortimer, Nosko, & Sorensen, 2012).

Specially with the ‘Napster advent’, issues of illegal downloading, Intellectual Property rights, emergence of niche-specific markets, and adjustment of existing pricing/distribution models emerged alongside with changes in Internet connectivity and digital compression technologies (Bhattacharjee *et al.*, 2009; Zhu & MacQuarrie, 2003; Makkonen, Halttunen, & Frank, 2011; Peitz & Waelbroeck, 2004). Uncertainty dominated the industry and by the year of 2000, a downturn in CD sales was felt (Liebowitz, 2006). Peitz & Waelbroeck (2004) identified the potential causes for this decline as being related with the substitution between music formats, others forms of leisure, negative economic environments and FS. However, the debate still remains. The web’s proliferation of unpaid and free content lead several legal mechanisms to rise, in order to provide legal protection as an attempt to try to contain profit losses⁵ (see Peitz & Waelbroeck (2004) and Merante (2009) for a detailed explanation).

At the same time, not only in the music industry, the Internet and electronic commerce (e-commerce or EC) transformed the distribution of information goods (Mortimer *et al.*, 2012) and opened new channels for online retailing (Bhattacharjee *et al.*, 2006). The paradigm shifted to a digital economy, enabling retailers to better reach their customers with constrains in accessing brick-and-mortar stores and supplying broader markets (Weeds, 2012). However, for the music industry, the disintermediation of traditional value chain activities gave opportunity for new players and strategies to arise.

As a result, Online Music Services (OMS) emerged on the Internet and are a form of EC. OMS are online services that allow legal distribution and sale of online digital music (*e.g.*, iTunes, Musicbox, Spotify and Rhapsody). According to the International Federation of the Phonographic Industry (IFPI, 2012) and Wikström (2012), three main consumption models can be employed⁶: through *ownership* (where one is in possession of the digital music file); and/or *access* (*e.g.*, using cloud technology where one can access music without possessing it); and/or *contextually* (music for a particular ‘context’).

One of the most important milestones in OMS was the launch of iTunes Music Store, in 2003, which changed individuals’ music consumption alternatives, since it provided a legal way to acquire digital songs online (Aguiar & Martens, 2013). In 2012, there were

⁵ *E.g.*, Digital Millennium Copyright Act or Digital Rights Management technology.

⁶ IFPI (2012) only identifies the two first models.

around 500 legitimate OMS worldwide offering a total of 30 million tracks (IFPI, 2013). In 2011, the proportion of revenues coming from digital sales represented 32% of global sales, highlighting a growth of 65% in subscription services (boosted by cloud-based services (IFPI, 2013)), and additionally, reaching an estimated 20 million subscribers in 2012 (IFPI, 2012, 2013). In early 2013, IFPI (2013) stated a residual recovery, for 2012, of the global trade value for the recorded music industry in +0.3%, representing the best result since 1998. In Portugal, for example, on the first week of implementation of Spotify, 3 million music tracks were accessed (SOL, 19 Feb. 2013). To allow these services to operate and to be profitable, OMS - being pure-play services - have to develop partnerships with record labels and pay royalties to the tracks' copyright owners (Peitz & Waelbroeck, 2004; Slater *et al.*, 2005). IFPI (2013) reports that 62% of Internet users adopt this type of e-services, revealing that the music consumption pattern is changing. With the decline of physical sales in -8.7% to \$10.4 billion in 2011 (Music Ally, 27 Mar. 2012), and the rise of digital music sales (estimation of a 9% growth in the 2011-2012 period and revenues of \$5.6 billion (IFPI, 2013)), there is a viable prospect for the expansion of OMS.

Taking into account that EC is an Information Systems (IS) phenomenon (Koufaris, 2002), and OMS are a form of EC (Fox, 2004), OMS can be considered as a form of IS. As there is a need to understand OMS end-user behavior in order to maximize their potential growth (Chu & Lu, 2007; Walsh, Mitchell, Tobias, & Wiedmann, 2003), this leads to the question: "Which are the determining factors that influence the users' acceptance and adoption of OMS?". Since a free alternative in accessing music illegally exists, understanding the individual adoption of legal mechanisms, by the consumer, becomes fundamental to allow a possible and specific orientation to be taken by OMS providers. Following Chu & Lu (2007) and Walsh *et al.* (2003) observation, and to answer this question, *Behavioral Intention* and *Usage* of OMS can be studied using User Acceptance Models applied in IS.

Overall, IS can be divided in two groups, according to their primary function, which can be: 1) Utilitarian, if used for work-related tasks (Koster, 2007) or; 2) Hedonic, if pleasure-orientated (van der Heijden, 2004). Specifically, we will use Venkatesh, Thong, & Xu's (2012) User Acceptance Model: the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2). Our choice relays on the basis that UTAUT "served

as a baseline model and has been applied to the study of a variety of technologies in both organizational and non-organizational settings” (Venkatesh *et al.*, 2012, p. 158), supporting, according to the authors, its generalization capability. Additionally, this theory integrates previous ones on user acceptance of IS or other innovations.

The present investigation proposes to accomplish three main goals: 1) validate the applicability of the UTAUT2 model in the OMS-context; 2) enhance the understanding of legal music consumption through OMS and; 3) identify additional determinants that could affect *Behavioral Intention* and *Usage* of these EC services.

Hereafter, the study is structured as follows: section II presents the literature review discussing OMS and User Acceptance Models. Section III describes the research model and hypotheses development, while section IV refers to the used methodology. Results are reported in Section V. Sections VI and VII discuss the most important findings, study limitations and potential trails for future research.

2. Literature Review

2.1 (Re)intermediation in Digital Music

To better understand the contemporary music industry dynamics, Leyshon’s (2001) concept of musical network shows that the music industry is composed by four distinctive interrelated and overlapping networks: 1) a creativity network, which is composed by links of composition and representation; 2) a reproduction network, which centers on mass production based on economies of scale; 3) a network of distribution, to ensure that the music product is delivered to consumers and; 4) a consumption network, which includes retail organizations. For the purpose of our study, we focus on the *consumption network* and the role of OMS.

Although the support for music consumption has changed, leading to a less important physical distribution chain, the traditional business model remains relatively stable with artists creating music, record labels promoting and distributing it, and with fans consuming it (Graham *et al.*, 2004). With the introduction of the first digital technology (CD) in the early 80’s and software format ISO-MPEG-1 Audio Layer 3 (MP3) in the 90’s, the music industry has transformed itself on the reproduction, distribution and consumption networks (Knopper, 2009; Leyshon, 2001), changing the industry dynamics. The transition to digital selling created a *disintermediation* effect and loss of power by major record labels, since intermediaries in the value chain could be removed

and consumers could access music in new ways (Hess & Walter, 2006; Graham *et al.*, 2004). This enforced the disappearance/downsizing of music retailers within the consumption network (Knopper, 2009; Leyshon, 2001), but given the characteristics of digital music (Table 2-1) and new opportunities, the music industry experienced a *re-intermediation* effect.

Table 2-1 - Digital Music Characteristics and affected players (Bockstedt, Kauffman, & Riggins, 2005, p.5)

Characteristics	Players Affected	How they are affected
<i>Easily Reproduced</i>	Record Label	Low manufacturing costs.
	Artist, Record Label	High cost to make 'master'; Low break-even.
<i>Easily Transferred</i>	Record Label	Low distribution costs.
	Consumer	Cheap, high quality product.
<i>Effective Electronic format</i>	Digital Music Retailer	Low inventory costs; Low menu costs.
	Consumer	Easy pre-purchase sampling; Likes high-portability; Values high compatibility; Demands additional product features: artwork, lyrics.
<i>Equivalent Quality</i>	Consumer	More product options.
	Physical Retailer	New entrants can compete.
<i>Separability</i>	Artist, Record Label	Song 'single' is the product.

Content intermediation can only be efficient when there are imperfections between supply and demand, requiring an additional allocation of functions (as reported in Table 2-2) mainly on the Internet, PC and User actors (Hess & Walter, 2006). This is consistent with the establishment of OMS as legitimate channels to access music. Since music selling moved from a physical platform to an essentially digital platform, OMS can assume a role in the consumers music demand. However, given that record labels lack technological infrastructures to engage in OMS-development, technology and Internet Service Providers, traditional retailers and/or intermediaries, pure players, and labels and/or record companies, in collaboration, are often the initiators on these services (Swatman, Krueger, & van der Beek, 2006). This leads to the end of major record labels dominance, with the virtualization of structures and creation of joint-ventures with potential partners, along with endless combinations of customers, suppliers and business partners (Graham *et al.*, 2004).

Table 2-2 - Music Content Intermediation: additional allocation of functions (Hess & Walter, 2006, p. 25)

Function	Actor								
	Artist	Record Label	Studio	Press	Logistics/Distributor	Retail	Internet	PC	User
<i>Identification</i>		■					■		
<i>Selection</i>		■							■
<i>Aggregation</i>	■	■				■		■	■
<i>Transformation</i>			■					■	
<i>Reproduction</i>				■				■	
<i>Distribution</i>					■		■		
<i>Presentation</i>	■					■	■	■	■

Legend ■ Traditional allocation of a function ■ Additional allocation of a function

With shifts on the value chain (Bockstedt *et al.*, 2005), the opportunity of supplying music - in digital content - directly to consumers, allowed the development of OMS as *reintermediaries* in media content markets (Hess & Walter, 2006). In fact, *reintermediation* focuses on specific values which are appreciated by consumers: (i) exclusivity (an effective way to improve affinity), (ii) affinity (building a strong long-term relationship) and (iii) relevance (recognition and satisfaction of needs and tastes) (Garon, 2009). As companies are engaging in increasingly diversified business strategies and markets, aiming to expand their audience and possible revenues (Bockstedt *et al.*, 2005), new business models have been developed to suit the online context (Slater *et al.*, 2005). These models (v. Appendix I for the most distinctive ones found on literature review) are a form of combating FS. They can range from small differences to a complete restructuring of offline models, in which relationships between content creators, intermediaries and consumers are redesigned (Slater *et al.*, 2005).

As digital music can be obtained through legal or illegal music downloading services, the decline of CD sales has been associated with the spreading of FS through peer-to-peer (P2P) networks (*e.g.* Zentner, 2006; Liebowitz, 2006). However, this fact has been challenged by Oberholzer-Gee & Strumpf (2007) in their econometric study, indicating that sales displacement is “statistically indistinguishable from zero” (p. 26). A recent study from Aguiar & Martens (2013) found that consumers do not view illegal downloading as a substitute for legal music, existing a complementary effect between illegal and legal downloading, which positively affects copyright owners. Nevertheless, the (possible) impact of FS is an unavoidable topic within the music industry. While consumers are demanding higher interactivity and involvement with the music content (Slater *et al.*, 2005) and as CD sales diminishes (Bhattacharjee *et al.*, 2009), Slater *et al.* (2005) observed how the music industry is answering to FS. In addition to the development of new business models, the music industry makes use of the legal system in: 1) implementation of Digital Rights Management (DRM)⁷ technologies; 2) civil lawsuits against infracting consumer providers; and 3) technical obstruction and accountability of P2P services.

⁷ Bourreau *et al.* (2008) define DRM as “an umbrella term covering all technologies used by publishers or copyright holders to control access to and use of digital content or computer material, as well as the restrictions associated with specific cases of digital works or systems” (p. 2).

2.2 Online Music Services

2.2.1 As B2C e-commerce

Although there is no universal definition of EC (Ngai & Wat, 2002), business-to-consumer (B2C) EC is generally accepted as the online activity that enables consumers to acquire products and services (Olson & Olson, 2000). This includes pre-sale and post-sale activities, customer support and complementary business services (Zwass, 1996; Bakos, 1998). For Riggins & Rhee (1998), EC should not function merely as another marketing tool for sales, but as a channel to support the total delivery of goods/services to the customer, taking into account that EC consumers are both buyers and computer users (Koufaris, 2002).

Considering that the majority of the transactions between subjects occur with a temporal and spatial separation (Grabner-Kraeuter, 2002), EC's structure and products differ from traditional commerce in several ways (Zwass, 1996; Koufaris, 2002). With the benefits brought by the development of EC (*e.g.*, Bakos, 1998; Ngai & Wat, 2002), the online environment provides a way for users to quickly examine and compare a wider assortment of products and offerings, along with time and space convenience (Childers, Carr, Peck, & Carson, 2001). These aspects enable lower search costs for consumers, rise competition between sellers, reduce monopolistic capacity, and enable the development of customized services (Bakos, 1997, 1998).

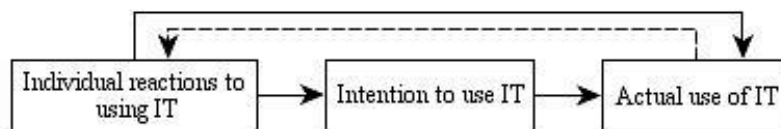
Bearing in mind Olson & Olson's (2000) definition of B2C EC, OMS fit that description. Since digital online music doesn't require a physical support, OMS can sell it through several online channels (Peitz & Waelbroeck, 2004), providing legal distribution of music in digital formats (such as files or streams) as an alternative for file-swapping (Kwong & Park, 2008). When it comes to applied business models, there is no academic consensus regarding traditional and emergent models, which denotes major shifts (both vertically and horizontally) suffered by the supply chain (Dubosson-Torbay, Pigneur, & Usunier, 2004). However, it has been noted by Aguiar & Martens (2013) and DangNguyen, Dejean, & Moreau (2012) that streaming platforms have a complementary effect on buying digital music online. Although the rise and maturation of EC is transversal to almost all industries, the music industry is considered a prominent example, combining information-push and information-pull technologies (Peitz & Waelbroeck, 2004). Furthermore, and given the fact that the music product can

be digitalized, all processes related to it can be fully digital (from search, to purchase, to delivery).

2.3 User Acceptance Models and Online Music Services

EC adoption is viewed as a topic in IT acceptance that takes into account a combination of marketing and technology adoption elements (Pavlou & Fyngenson, 2006). Furthermore, Koufaris (2002) argues that EC should be viewed as an IS phenomenon where an IT user interacts with a complex IT system. Additionally, the basic concept of IT User Acceptance (Figure 2-1) is the result of individual reactions, intentions and actual use (Venkatesh, Morris, Davis, & Davis, 2003).

Figure 2-1. Basic Concept Underlying User Acceptance Models (Venkatesh et al., 2003, p. 427)



Two main concerns for B2C EC adoption are trust and uncertainty, since there are potential technological problems (system-dependent uncertainty) and information asymmetry (transaction-specific uncertainty), that make it difficult to convert web-surfers into consumers and impeding customer loyalty (Zwass, 1996; Grabner-Kraeuter, 2002; Reichheld & Schefer, 2000). In the OMS-context, in order to be successful, OMS must increase the value of their offering, persuading consumers to pay for music that they could attain freely through P2P networks (Slater *et al.*, 2005; Brousseau, 2008), while reducing possible uncertainty. In this sense, Kwong & Park (2008) discuss that the existence of a free alternative inhibits the replication of traditional studies on EC adoption and consumers' attitude. Being the nature of the website determining if a utilitarian/hedonic motive is precedent for its use (van der Heijden, 2004), OMS present goal-orientated (utilitarian) characteristics, as well as pleasure-orientated (hedonic) (Chu & Lu, 2007).

2.3.1 Overview of Theories

User Acceptance Models have been developed in order to better understand the aspects that influence technology adoption, regarding *Behavioral Intention* (BI) and *Usage*. Some of the most significant models are: a) Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), which became one of the most fundamental theories of human behavior, gaining general acceptance (Compeau & Higgins, 1995); b) Social

Cognitive Theory (SCT), developed by Bandura (1986) for general human behavior (Venkatesh *et al.*, 2003), but was applied to computer use context by Compeau & Higgins (1995); c) Theory of Planned Behavior (TPB) (Ajzen, 1991), that emerged as an extension of TRA (Venkatesh *et al.*, 2003); d) Technology Acceptance Model (TAM) (Davis, Bagozzi, & Warshaw, 1989), that was developed to fit the IS context and to predict information technology acceptance and usage (Venkatesh *et al.*, 2003)⁸ and; e) TAM2 (Venkatesh & Davis, 2000), which emerged with the purpose of identifying additional key elements (in TAM) that affect *Behavioral Intention* and *Use*. The constructs applied in these models can be found on Appendix II.

In 2003, Venkatesh *et al.* (2003) developed the Unified Theory of Acceptance and Use of Technology (UTAUT) to review the existing literature of User Acceptance Models (on *organizational contexts*) and to develop a theory based on the similarities of eight models: TRA, TAM, TPB, SCT, Motivational Model, Combined TAM and TPB (C-TAM-TPB), Model of PC Utilization (MPCU) and Innovation Diffusion Theory (IDT). The authors identified the core-constructs of each model, and their significance, in order to function as root-constructs in the development of new variables in UTAUT (v. Appendix III for a summary of the root-constructs and their inclusion in the new UTAUT variables). UTAUT empirical findings were capable of justifying up to 70% of the variance of *Intention*, indicating that: 1) *Performance Expectancy* (PE), *Effort Expectancy* (EE), and *Social Influence* (SI) impact directly *Behavioral Intention*; 2) *Facilitating Conditions* (FC) and *Behavioral Intention* are direct determinants of *Use* and; 3) *Experience*, *Gender*, *Age* and *Voluntariness* have significant moderating effects in almost all variables (Venkatesh *et al.*, 2003).

UTAUT was subsequently extended to UTAUT2 (Venkatesh *et al.*, 2012), in order to better suit a *consumer use context* (v. Appendix IV for a visual figure of the UTAUT2 framework). Through an extensive literature research, the authors identified three new significant constructs (*Hedonic Motivation* (HM), *Price Value* (PV) and *Habit* (HT)) and found that one of the main differences between UTAUT and UTAUT2 was the role of *Experience*, which moderates the *Behavioral Intention-Use* path. *Voluntariness* was dropped in this framework, being advocated that in a *consumer use context* most

⁸ An extended TAM was developed by van der Heijden (2004) to better suit hedonic IS, considering that users can be more or less hedonic in their disposition to use the system. The author argues that, for hedonic systems, the “achievement of external goals is subordinate to using the system itself” (p. 698).

consumer behaviors are voluntary. UTAUT2 offered several important new findings, summarized as follows: a) *Hedonic Motivation* is considered as a critical element in *Behavioral Intention*; b) *Price Value* is an important determinant in consumer decision-making concerning technology use; c) *Facilitating Conditions*, moderated by *age* and *gender*, have a significant impact on *Behavioral Intention*; d) *Habit* has an important role in forecasting continued use of IT; and e) utilitarian and hedonic benefits play important roles in technology use (Venkatesh *et al.*, 2012). To our knowledge, in the OMS case, there is a lack of research from the IT/IS area that focuses this particular point.

2.4 Empirical Findings in the Online Music Services context

There are only a few studies that analyze the adoption and use of OMS through an IS perspective. Considering that the music product and consumption are complex, it reveals quite difficult to analyze this issue with only one perspective and/or theory. Taking into account the complexity associated with this topic, Table 2-3 summarizes the most relevant studies identified in academic literature.

3. Research Model and Hypotheses Development

To study the factors that affect *Behavioral Intention* (BI) and *Use Behavior* of OMS, we build on UTAUT2 (Venkatesh *et al.*, 2012) to develop our original conceptual model. Additional variables that could impact the acceptance of this type of e-services were identified through literature research. The research model depicted in Figure 3-1 enhances the understanding of the relationships between factors.

Figure 3-1 - Research Model

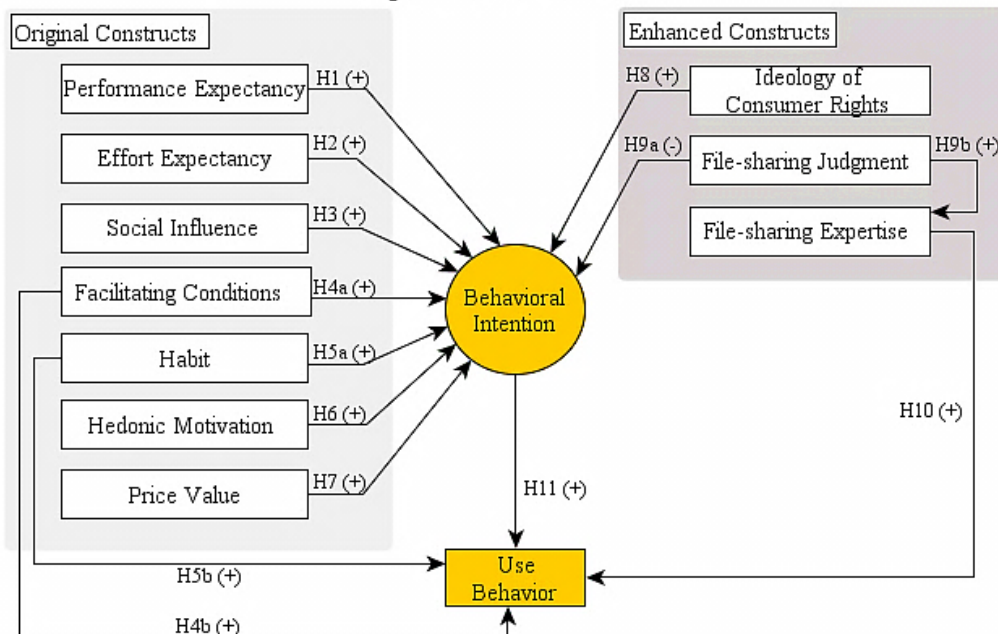


Table 2-3 - Selected studies related to OMS acceptance and adoption

Reference	Perspective	Adopted Theory	Variables	Moderators	Type of Study	Sample	Country
<i>Chu & Lu (2007)</i>	IS	Adapted Value-Intention Framework	Perceived Usefulness; Perceived Playfulness; Perceived Price; Perceived Ease of Use; Perceived Customer Value; Purchase Intention	<i>n.a.</i>	Quantitative - Survey	302	Taiwan
<i>Koster (2007)</i>	IS	Modified UTAUT	Performance Expectancy; Effort Expectancy; Perceived Enjoyment; Social Influence; Facilitating Conditions; Anxiety; Self-Efficacy; Behavioral Intention; Use	Gender; Age; Experience	Quantitative - Survey	100	Netherlands
<i>Kwong & Park (2008)</i>	IS	Modified DTPB	Perceived Ease of Use; Perceived Usefulness; Attitude Towards Behavior; Subjective Norm; Perceived Behavioral Control; Perceived Service Quality; Behavioral Intention	<i>n.a.</i>	Quantitative - Survey	217	USA
<i>Makkonen et al. (2011)</i>	IS	<i>n.a.</i>	Free Tangible Channels; Paid Tangible Channels; Free Intangible Channels; Paid Intangible Channels	<i>n.a.</i>	Qualitative - Interviews	14	Finland
<i>Nel et al. (2009)</i>	IS	Modified TAM	Perceived Usefulness; Perceived Ease of Use; Perceived Download Self-Efficacy; Perceived Financial Costs; Perceived Risk; Perceived Trust; Perceived Enjoyment; Behavioral Intention	<i>n.a.</i>	Quantitative - Survey	627	South Africa
<i>Kunze & Mai (2007)</i>	Marketing	<i>n.a.</i>	Risk Relievers; Perceived Risks	<i>n.a.</i>	Quantitative - Survey	211	<i>n.r.</i>
<i>Molteni & Ordanini (2003)</i>	Marketing	<i>n.a.</i>	Dependence on MP3 Sites; Dependence of P2P Sites; Recording Files on CD; Search and Exploration; Entertainment; Use of Mobile Phone	<i>n.a.</i>	Quantitative - Survey	204	<i>n.r.</i>
<i>Sanchez-Franco & Rodan-Cataluña (2010)</i>	Marketing	<i>n.a.</i>	Satisfaction; Trust; Commitment; Emotion	Emotion	Quantitative - Survey	408	U.K.; Germany; Denmark
<i>Walsh et al. (2003)</i>	Marketing	<i>n.a.</i>	Assortment and time advantage; Independence; Trend consciousness; Topicality	<i>n.a.</i>	Quantitative - Survey	1486	Germany
<i>Jeong & Lee (2010)</i>	Economics	<i>n.a.</i>	Monthly Price; Number of Music Files; Search and Download Time; Extent of Music Available; Possibility of Penalty	<i>n.a.</i>	Quantitative - Survey	224	Korea

n.a. - not applied; *n.r.* - not reported in the study

UTAUT - Unified Theory of Acceptance and Use of Technology; DTPB - Decomposed Theory of Planned Behavior; TAM - Technology Acceptance Model.

3.1 Performance Expectancy

In UTAUT2, *Performance Expectancy* (PE) is an important determinant for *Behavioral Intention*. It refers to the individual perception concerning the benefits provided by using a technology in executing specific activities (Venkatesh *et al.*, 2012). Although, it has been referred that *Performance Expectancy* has a greater predictive value to *Behavioral Intention* (Venkatesh *et al.*, 2003, Davis, Bagozzi, & Warshaw, 1992), van der Heijden (2004) observed that, in hedonic systems, *usefulness*⁹ loses its predictive value.

When using OMS, consumers expect the service to have the capability to deliver functional benefits, as well as an entertaining experience (Chu & Lu, 2007). As OMS perform a specific function to access music (highlighting its utilitarian features), in our study, *Performance Expectancy* relates to Nel, Raubenheimer, & Bounagui's (2009) *Perceived Usefulness* definition¹⁰. *Performance Expectancy* specifically refers the consumer's perception that his/her music-accessing experience is enriched by using OMS.

Chu & Lu (2007) argue that the effectiveness in accessing music and pertinent information are the most important benefits desired by consumers. In Dufft, Stiehler, Vogeley, & Wichmann's (2005) survey results, the authors found that consumers who simultaneously use OMS and P2P, consider that OMS, in general, have a superior service when compared to P2P networks (*e.g.*, in playing songs and quality of tracks). However, the main issues pointed to OMS are the high rate of track unavailability (opposed to P2P networks) and the lack of information in the acquired track permissions (referring to DRM-protected tracks) (Dufft *et al.*, 2005), leading to a decrease of the services' *Performance Expectancy*.

Several studies mention that the consumers' expectation regarding OMS is affected by several *performance* factors, such as: available music catalog, content sampling, trial services, unbundling possibilities, up-to-date information about the song/artist and download-time (Makkonen *et al.*, 2011; Amberg & Schröder, 2007; Kunze & Mai,

⁹ *Perceived Usefulness* is a variable from TAM, functioning as a root-construct in *Performance Expectancy* (Venkatesh *et al.*, 2003).

¹⁰ Nel *et al.*'s (2009) definition of *Perceived Usefulness* is: "the consumer's belief that purchasing music from online music retailers enhances the outcome of his/her downloading experience" (p.26).

2007; Walsh *et al.*, 2003; Jeong & Lee, 2010; McCorkle, Reardon, Dalenberg, Pryor, & Wicks, 2012). Hence, we formulate the following hypothesis:

H1: Consumers' perceived Performance Expectancy is positively related to Behavioral Intention to use OMS.

3.2 Effort Expectancy

According to UTAUT, *Effort Expectancy* (EE) is the “degree of ease associated with the use of the system” (Venkatesh *et al.*, 2003, p. 450). In other words, as the system is perceived to be easier to use, the probability of being accepted by users is higher (Davis, 1989). For Chu & Lu (2007), effort can diminish *Behavioral Intention* since it can be considered a “non-monetary sacrifice” (p. 144), although Koufaris (2002) argues that it depends on the task being undertaken by the consumer. *Effort Expectancy* was proven to be a substantial variable in predicting *intention* to use IS (Venkatesh *et al.*, 2012; van der Heijden, 2004).

For this study, we adapt Nel *et al.*'s (2009) definition of *Perceived Ease of Use*¹¹. Therefore, *Effort Expectancy* represents the consumer's belief that accessing music (through OMS) should be effortless, enhancing overall service quality (Kwong & Park, 2008). In order to compete against P2P, several studies emphasize that OMS should have mechanisms that reduce effort in using the system, such as an user-friendly interface, which improve the consumers' experience, facilitating the discovery of new music and reducing possible perceived risks (Kwong & Park, 2008; McCorkle *et al.*, 2012; Molteni & Ordanini, 2003; Kunze & Mai, 2007; Sanchez-Franco & Rodan-Cataluña, 2010). Consequently, we propose the following hypothesis:

H2: Consumers' perceived Effort Expectancy is positively related to Behavioral Intention to use OMS.

3.3 Social Influence

According to UTAUT, *Social Influence* (SI) is partially rooted on *Subjective Norm* from TAM2, TPB and TRA, dealing with the impact that social environment and pressure has on the individual to perform (or not) a behavior (Fishbein & Ajzen, 1975; Ajzen, 1991). *Social Influence* can be defined as the amount of individual perception that is given to

¹¹ *Perceived Ease of Use* is a variable from TAM, functioning as a root-construct in *Effort Expectancy* (Venkatesh *et al.*, 2003).

important others' regarding their belief that the system should be used (Venkatesh *et al.*, 2003).

The role of *Social Influence* is complex, shaping individual perception about a particular technology (Venkatesh *et al.*, 2003). The impact of *Social Influence* on *Behavioral Intention* was verified in UTAUT and UTAUT2, concluding that *Social Influence* functions as a direct determinant on the formation of *Behavioral Intention* in mandatory and/or voluntary contexts (Venkatesh *et al.*, 2003, 2012).

In the musical context, Molteni & Ordanini (2003) found a social-contagion process on this type of cultural consumption, being the purchasing/downloading behavior influenced by the behavior that the individual's peers engage (Kwong & Park, 2008; Lacher, 1989; McCorkle *et al.*, 2012). However, Kunze & Mai (2007) found that, while friends and family opinions weren't important to the individuals' online music download decisions, they are important on decisions regarding the choice of which OMS to use. Consequently, the following hypothesis is proposed:

H3: Consumers' Social Influence is positively related to Behavioral Intention to use OMS.

3.4 Facilitating Conditions

In UTAUT, *Facilitating Conditions* (FC) are defined as the extent in which the individual believes he/she has the necessary resources (and support) to use the system (Venkatesh *et al.*, 2003), in this case, OMS. Although with different designations/constructs, resource-based facilitating conditions have been studied in the context of technology acceptance (Venkatesh *et al.*, 2003), but with contradicting results. On one hand, several studies support a significant effect on *Behavioral Intention* (Mathieson, Peacock, & Chin, 2001; Venkatesh *et al.*, 2012; Ajzen, 1991; Limayem & Hirt, 2003), while others do not (Venkatesh *et al.*, 2003). A possible explanation for this discrepancy in results may be assigned to the fact that part of the *Facilitating Conditions* construct is captured by *Performance Expectancy* and *Effort Expectancy*, making it non-significant in predicting *intention* (Venkatesh *et al.*, 2003). However, Venkatesh *et al.* (2012) consider that *intention* to use a system is likely to be higher if the individual has access to a "favorable set of *Facilitating Conditions*" (p. 162).

The impact of *Facilitating Conditions* on actual *Usage* has been also discussed. Triandis (1980) upholds that although intentions can be high, behavior may not develop if the

absences of *Facilitating Conditions* make the behavior impossible. In line with Triandis (1980), Ajzen (1991) found that, in the TPB conceptual model, *Behavioral Intention* combined with *Perceived Behavioral Control* (PBC)¹², explained a significant proportion of *Usage* behavior.

In the OMS-context, specific *Facilitating Conditions* are mentioned as relevant aspects for digital music acceptance, emphasizing its possible role in explaining users' OMS-technology acceptance. Accordingly, *Facilitating Conditions* for the present study (and in line with UTAUT2), refer to the availability and characteristics of Internet infrastructures (e.g., downloading speed) (Bhattacharjee, Gopal, & Sanders, 2003; Kunze & Mai, 2007), knowledge to get online (Kwong & Park, 2008; Dufft *et al.*, 2005), compatibility between file formats (Makkonen *et al.*, 2011) and support of others (Dufft *et al.*, 2005). Kwong & Park (2008) argue that a more confident behavior could develop if individuals have the necessary skills and resources to use OMS. Considering the previous discussion, we suggest the following hypotheses:

H4a: Consumers' Facilitating Conditions are positively related to Behavioral Intention to use OMS.

H4b: Consumers' Facilitating Conditions are positively related to actual Usage of OMS.

3.5 Habit

In UTAUT2, *Habit* (HT) is discussed on two opposing perspectives (habit/automaticity perspective and instant activation perspective), being the main distinction the existence (or absence) of an aware cognitive process between stimulus and action on the formation of *intentions* (see Venkatesh *et al.*, 2012; Kim, Malhotra, & Narasimhan, 2005).

Accordingly, *Habit* can be operationalized in two different ways: for Kim *et al.* (2005) *Habit* is matched with automaticity, while for Limayem, Hirt, & Cheung (2007) *Habit* derives from prior experiences, becoming automatic through learning. Venkatesh *et al.* (2012) argue that, although there are rival perspectives in how *Habit* affects behavior, its development (through cue processing and association) becomes relevant in establishing consequent effects on the *Habit-Intentions* link. The authors also denote that *Habit* can weaken or strengthen the *Intention-Usage* relationship.

¹² PBC is a root-construct for *Facilitating Conditions* (Venkatesh *et al.*, 2003).

The effect on *behavior* (i.e., *Use*) results from automatic association, whereas before, *Habit* exerts its influence through *Behavioral Intentions* (Triandis, 1980; Venkatesh *et al.*, 2012; Kim *et al.*, 2005). Several studies verified the impact of *Habit* on either *intention* and/or *behavior* (Limayem & Hirt, 2003; Limayem *et al.*, 2007; Venkatesh *et al.*, 2012; Kim *et al.*, 2005), enhancing its effect on technology acceptance. Hence, applying the same reasoning to OMS, we put forward the following hypotheses:

H5a: *Consumers' Habit is positively related to Behavioral Intention to use OMS.*

H5b: *Consumers' Habit is positively related to actual Usage of OMS.*

3.6 Hedonic Motivation

According to UTAUT2, *Hedonic Motivation* (HM) is “the fun or pleasure derived from using a technology” (Venkatesh *et al.*, 2012, p. 161). Being theoretically conceptualized as *Perceived Enjoyment* (Venkatesh *et al.*, 2012), it has been found that it influences technology acceptance and shapes online consumer behavior (Childers *et al.*, 2001; Venkatesh *et al.*, 2012). Van der Heijden (2004) verified that for hedonic systems, *Perceived Enjoyment* was a stronger determinant of *intention* than *Perceived Usefulness* (i.e., *Performance Expectancy*). This finding is consistent with findings of UTAUT2 in non-organizational contexts (Venkatesh *et al.*, 2012).

Considering that music consumption is repetitive (Lacher, 1989), and that an individual acquires music to *reexperience* it and to seek emotional stimulation (Lacher & Mizerski, 1994; Lacher, 1989), Chu & Lu (2007) imply that individuals are willing to purchase music through OMS when online music sites are committed to meet their emotional and affective demands. This conclusion meets Nel *et al.* (2009) and Sanchez-Franco & Rodan-Cataluña's (2010) empirical evidence, enhancing the role of enjoyment-based motives in *Behavioral Intention*. Therefore, we propose the following hypothesis:

H6: *Consumers' Hedonic Motivation is positively related to Behavioral Intention to use OMS.*

3.7 Price Value

Price Value (PV) was included in UTAUT2 due to existent monetary costs for consumers, which are inexistent in organizational contexts (Venkatesh *et al.*, 2012). *Price Value* applies the concept of *Perceived Value* proposed by Dodds, Monroe, &

Grewal (1991), referring (in UTAUT2) to the cognitive tradeoff between monetary costs and benefits of a particular technological application (Venkatesh *et al.*, 2012).

Although digitization has reduced production, distribution and storage costs¹³ (Weeds, 2012), the charged price for music still has a significant impact on the individuals' choice to buy or engage in piracy (McCorkle *et al.*, 2012). Several studies emphasize the effect of price on *intention* to use OMS, functioning as a key motivational driver (*e.g.*, Molteni & Ordanini, 2003; Dufft *et al.*, 2005; Bhattacharjee *et al.*, 2003). Since OMS compete with free-alternative services (P2P), it is expected that a similar effect of *Price Value* can be exerted on *Behavioral Intention*. For instance, Nel *et al.* (2009) argue that in P2P, one can download music without monetary costs and with almost the same sound quality than in offline retailers. Additionally, Makkonen *et al.* (2011) substantiate that one of the disadvantages of OMS is the necessity to pay for music content, especially because individuals perceived it as overpriced. However, if OMS offer a set of benefits jointly with price savings and/or different pricing models/policies, they might achieve commercial success (Walsh *et al.*, 2003; Amberg & Schröder, 2007; Molteni & Ordanini, 2003; Fox, 2004; Brousseau, 2008).

An important aspect, pointed by Bhattacharjee *et al.* (2003), is the impact of perceived value of music on willingness to pay (WTP). This reflects in users having a higher WTP for a known song than an unknown one (Bhattacharjee *et al.*, 2003), which hints that a bigger music catalogue can induce in higher perceived benefits. Therefore, and by adding that increased value in legal music purchasing could increase OMS adoption since it raises the *Price Value* of online music (Chu & Lu, 2007), we suggest the following hypothesis:

H7: Consumers' perceived Price Value is positively related to Behavioral Intention to use OMS.

3.8 Ideology of Consumer Rights

As discussed earlier, music can only be experienced after its consumption, leading to revenues for the record labels through legal purchase. Considering that legal purchasing involves a form of transaction, the *Ideology of Consumer Rights* (ICR) refers to

¹³ In the case of digital music it is considered that the production of a copy has a marginal cost of zero after the first copy is produced (Zhu & MacQuarrie, 2003).

elementary requisites that must be fulfilled in order to have a fair trade between the service provider/consumer (Shang, Chen, & Chen, 2008; Chen, Shang, & Lin, 2008).

In a P2P context, Kwong & Lee (2002) argue that Internet piracy emerged due to a consumers' awareness of the excessive prices charged by record labels, having a significant impact on consumers' individual attitude towards music copyright owners. Shang *et al.* (2008) also verified that consumers' deontological evaluation (in what they perceive to be their rights) significantly impact *Behavioral Intention* in P2P usage, since digital technology increases consumers' expectations. Hence, unsatisfied consumers (in the legal context) will try to attain music through other means (*i.e.*, P2P networks).

Considering that *Behavioral Intention* to use OMS (*versus* the physical product or P2P) can be boosted through specific features that have the ability to meet the consumers' perception of their rights when purchasing online music, such as sampling, lower prices and flexibility in sharing features (Hu, Liu, Bose, & Shen, 2010; Walsh *et al.*, 2003; Makkonnen *et al.*, 2011; Dufft *et al.*, 2005), we propose that:

H8: Individuals' perception of their Ideology of Consumer Rights is positively related to Behavioral Intention to use OMS.

3.9 File-Sharing Judgment and Expertise

As previously discussed, music can be acquired digitally through legal or illegal means. In that sense, FS and piracy behavior can be taken into account to understand how they may affect legal consumption (McCorkle *et al.*, 2012; Coyle, Gould, Gupta, & Gupta, 2009).

Since a moral issue consists on a decision that has consequences for others and implicates a choice by individuals (Jones, 1991), we can infer that the existence of different options to access music (OMS *vs.* P2P) meet the requirements to be considered as a moral issue. Nonetheless, a previous recognition of its existence is required to enable an engagement on ethical decision-making¹⁴ (Jones, 1991). Accordingly, ethical judgment would affect behavior through *intention* (Hunt & Vitell, 1986; Jones, 1991). Even though Gopal, Sanders, Bhattacharjee, Agrawal, & Wagner (2004) evidenced a relationship between ethical predisposition and piracy behavior, suggesting that individuals with higher ethical index have fewer predispositions to take part in illegal

¹⁴ In line with the work of Jones (1991), the terms *ethical* and *moral* are used interchangeably throughout the present study depending on context.

downloading of online music, Huang (2005), Lysonski & Durvasula (2008) and Dufft *et al.* (2005) reveal that digital piracy/FS may not be perceived by individuals as a serious ethical matter, being distinct from physical theft (Logsdon, Thompson, & Reid, 1994). In studies about piracy, the dissemination of FS and sales-displacement reveal a higher engagement on this illicit activity (Liebowitz, 2006; Bhattacharjee *et al.*, 2006). Although with different results, there are several possible factors that influence individuals to engage in piracy, such as ideology of freeware, personal belief that they are contributing towards a wider acknowledgment of a musicians work, social influence and monetary reasons (*e.g.*, Shang *et al.*, 2008; Makkonen *et al.*, 2011; d'Astous, Colbert, & Montpetit, 2005). In fact, considering that the individuals' perceived probability of being caught is low (Shang *et al.*, 2008; d'Astous *et al.*, 2005), empirical evidence leads to the perception that FS is ethically acceptable (Lysonski & Durvasula, 2008; Coyle *et al.*, 2009). Therefore, we may expect that individuals who perceive FS as a correct behavior (*i.e.*, higher *File-Sharing Judgment* – FSJ) will have lower *intention* to use legal services (*i.e.*, OMS).

Huang (2005) considers that the *moral judgment of FS* (FSJ) affects the development of *File-Sharing Expertise* (FSE), being *File-Sharing Judgment* a direct determinant in the development of *File-Sharing Expertise*. Specifically, the more correct an individual perceives FS, the greater his/her *File-Sharing Expertise*. Accordingly, the author advocates that an inexperienced user in FS has a lower probability of seeking, downloading and hearing a particular song. The empirical evidence in Huang's study (2005) positively relates *File-Sharing Judgment* to *File-Sharing Expertise*, and *File-Sharing Expertise* to a greater musical consumption through FS.

However, although Huang (2005) relates *File-Sharing Expertise* to a higher use of P2P, Hu *et al.* (2010) and Bhattacharjee, Gopal, Lertwachara, & Marsden (2006b) identify the possible role of P2P in music sampling, allowing an uncertainty reduction in the pre-purchase phase, and therefore operating as a mechanism that can improve legal sales. Aguiar & Martens (2013) also found that an increase in clicks on illegal downloading websites lead to a small, but significant, increase in clicks on legal downloading websites. In this sense, by Hu *et al.* (2010), Bhattacharjee *et al.* (2006b) and Aguiar & Martens (2013) evidence, if an individual uses P2P with the purpose of sampling, his/her experience can lead to an easier use of OMS, potentiating its acceptance.

Consequently, and following the previous discussion, we propose the following hypotheses:

H9a: File-Sharing Judgment is negatively related to Behavioral Intention to use OMS.

H9b: File-Sharing Judgment is positively related to the development of File-Sharing Expertise.

H10: File-Sharing Expertise is positively related to actual Usage of OMS.

3.10 Behavioral Intention

Behavioral Intention (BI) is a measure of strength of an individual's intention to fulfill a specific behavior (Fishbein & Ajzen, 1975) and that can predict actual usage (Davis *et al.*, 1989). Since TAM and TPB state *Behavioral Intention* as the key factor in *Usage* behavior (Davis *et al.*, 1989), the link *Intention-Usage* has been extensively verified in general technology acceptance studies. In this sense, it is expected that as an individuals' *intention* to perform a specific behavior is higher, greater is the probability that his/her intention will be reflected in *actual behavior* (Ajzen, 1991). However, *Behavioral Intention* can only express itself in *actual behavior* if it is under individual voluntary control (Ajzen, 1991).

Considering the evident positive interaction previously mentioned, the same reasoning may be applied in a music-specific context (in this case OMS). In line with UTAUT/UTAUT2, and according to the hypothesis formulated by Venkatesh *et al.* (2003), the following hypothesis is suggested:

H11: Behavioral Intention has a significant positive influence in actual Usage of OMS.

4. Research Methods

The present study proposes to explain and predict the relationships between determinant factors that could influence OMS acceptance and adoption. Following UTAUT2 (Venkatesh *et al.*, 2012) approach to study mobile technology acceptance, a deductive, positivist and quantitative methodology was chosen. It allows the researcher to explore relationships between theory and research, while observing social reality as an external reality (Bryman, 2012).

Foremost, a literature review was conducted to identify a User Acceptance Model and additional variables to explore, resulting in our research model. For a subsequent empirical validation of the extended constructs, a qualitative approach was undertaken

so it would be possible to extend the theoretical model to fit into the OMS context. The developed theoretical model was therefore presented to four music industry professionals (two producers/composers/music teachers and two managers/booking agents) through four individual semi-structured exploratory interviews. The interviews (summarized in Table 4-1) were held between the 18th and 23rd of October of 2012, having the average length of an hour and ten minutes.

Table 4-1 - Information regarding the conducted interviews

Interviewees	Date	Length	Topics addressed
<i>Producer/composer /music teacher A</i>	October 19th, 2012	01h34m	- Professional career - Music Industry: <ul style="list-style-type: none"> - Role of digital music in the industry - Digital sales vs. physical sales
<i>Producer/composer /music teacher B</i>	October 19th, 2012	01h20m	<ul style="list-style-type: none"> - OMS role in today's industry - Prevailing business models in OMS - File-sharing and OMS
<i>Manager/booking agent A</i>	October 18th, 2012	01h03m	<ul style="list-style-type: none"> - Biggest challenges in the music industry nowadays - How to motivate legal sales
<i>Manager/booking agent B</i>	October 23rd, 2012	00h53m	- Theoretical Model: <ul style="list-style-type: none"> - Variable and relationship analysis

In order to gain a better insight of the feedback provided by the interviewees, each interview was composed by two sections. Firstly, generic questions about the music industry were asked, aiming for a personal opinion of the interviewees about the actual state and trends in the industry. The second part consisted in the analysis of the model's existing variables and respective relationships. All interviews were recorded, enabling a verification and comparison of each interview in detail. After a meticulous analysis of the interviews, we were able to confirm the face validity of the research model and that it is well suited to the OMS context.

4.1 Operationalization of Constructs

Construct items were adapted from prior research (v. Appendix V). The original items from UTAUT2 (*i.e.*, *Performance Expectancy*, *Effort Expectancy*, *Social Influence*, *Facilitating Conditions*, *Price Value*, *Habit* and *Behavioral Intention*) were respected in its entirety from Venkatesh *et al.* (2012), with exception of *Hedonic Motivation*. In this case, the scale from van der Heijden's (2004) study was used, considering that Venkatesh *et al.* (2012) mentions that *Hedonic Motivation* is conceptualized as

Perceived Enjoyment (p. 161). Thus, van der Heijden (2004) construct was more suitable to our study. For *Ideology of Consumer Rights* and *File-sharing Judgment/File-sharing Expertise*, Shang *et al.*'s (2008) and Huang's (2005) scales were, respectively, used. All of the items were slightly adapted to suit the OMS-context, when the original context was on a different subject (UTAUT2 constructs and *Ideology of Consumer Rights*). All items were measured with a seven-point Likert scale, ranging from 'strongly disagree' and 'strongly agree'.

Considering that *Use* represents the only formative variable in the study, Venkatesh *et al.*'s. (2012) measurement model and scale was used, being a formative composite index of both variety and frequency. The necessary adaptations for the music-context were considered. In order to enhance the variable's formative measurement, several other items were included, reaching the composite index its best with the inclusion of a Molteni & Ordanini (2003) item (referred in Appendix V).

In order to validate the questionnaire translation from English to Portuguese, the back-translation approach suggested by Sekaran (2003) was applied. In this sense, the questionnaire was translated to Portuguese by the authors and then translated back to English by a native speaker. The original English version of the questionnaire was compared to the translated one, by a third person, to evaluate its reliability. No significant differences were found, so we concluded that the questionnaire was correctly translated. The questionnaire comprised six sections: 1) Introduction, where was explained the research purpose and presented the OMS definition; 2) Profile of the participants, referring to the demographic characteristics; 3) Interaction with OMS, to categorize the relation of the individuals with the services; 4) Perception of OMS, analyzing the influence of peers and price perception; 5) Intention and Usage of OMS; 6) Music file-sharing behavior.

4.2 Participants and Data Collection Procedures

Considering the quantitative approach used, a self-completion questionnaire was developed in order to meet the research question, while respecting the proposed model. Thereby, a purposive sampling approach was entailed because participants needed to be music listeners and/or consumers, but could (or could not) be active users of OMS. As an age group wasn't defined, this approach allowed for a higher variety in responses.

The questionnaire was administered online using the Limesurvey platform (www.limesurvey.org). To ensure it was perceptible to respondents, a pre-test was conducted with four individuals, where grammar suggestions were considered. Subsequently, a pilot test was performed to a group of 27 individuals for statistical analysis, through SmartPLS 2.0 (Ringle, Wende, & Will, 2005), to verify the quality (in terms of reliability and validity) of the proposed constructs. After a preliminary validation of our constructs, the final questionnaire was launched on 11th of December of 2012, running until the 3rd of January of 2013. The questionnaire was placed on Facebook, leading to a non-probabilistic sampling, but reaching a snowball effect. A total of 514 responses were gathered. From these, 329 were acceptable.

5. Data and Results

In this section, we analyze the collected data and test the previous developed hypotheses, in order to verify our extended UTAUT2 model and its adaptation to OMS. Partial Least Squares (PLS) Path Modeling was adopted in this study (with SmartPLS 2.0 software (Ringle *et al.*, 2005)), since: a) PLS allows the inclusion of both reflective and formative measurement models; b) is recommended in early stages of theoretical development to test and validate exploratory models with the purpose of prediction and/or theory building and; c) has the capability of working with small samples (Henseler, Ringle, & Sinkovics, 2009). Regarding our sample ($n=329$), the following Table 5-1 reports the distribution of demographic characteristics.

Table 5-1 - Respondents descriptive statistics ($n=329$)

Characteristics	Frequency (%)		Characteristics	Frequency (%)	
<i>Gender</i>			<i>Income</i>		
Male	173	53%	Less than 500€	40	12%
Female	156	47%	500-749€	48	15%
<i>Age Group</i>			750-999€	60	18%
0-14	0	0%	1.000-1.999€	105	32%
15-24	57	17%	Greater than 2.000€	37	11%
25-54	255	78%	Refuses to answer/doesn't know	39	12%
+55	17	5%			
<i>Education</i>			<i>Internet connection</i>		
Less than Junior High School	0	0%	Broadband connection	311	95%
Junior High School	7	2%	“Traditional” dial-up connection with modem	11	3%
High School	83	25%	Doesn't have Internet at home	5	2%
College	239	73%	Doesn't know	2	1%

For gender, distribution is almost equal, with a slightly higher number of male respondents (52.6%). Almost 95% of the respondents have access to a broadband Internet connection, and have a level of education at the ‘College’ level (72.6%). The vast majority lies in the age group of 24-55 years (77.5%), which could be justified with the fact that, according to Instituto Nacional de Estatística¹⁵ (INE, 2012), in Portugal, the majority of Internet users (53.2%) are between 24-55 years-old.

5.1 Measurement Model

To assess the measurement model, Henseler *et al.* (2009) proposed process was followed. In order to assess reflective constructs, indicators for reliability (*Composite Reliability* and *Cronbach’s Alpha*, for internal consistency) and, convergent and discriminant validity were evaluated. All value-indicators are mentioned on Tables 5-2, 5-3 and on Appendices IV and V.

Table 5-2 - Reliability measurement of reflective variables ($n=329$)

Measurement Item	Composite Reliability	Cronbach's Alpha (α)	Mean	SD
<i>Performance Expectancy</i>	0.943	0.909	2.806	1.629
<i>Ideology of Consumer Rights</i>	0.843	0.785	5.046	1.611
<i>File-Sharing Judgment</i>	0.852	0.747	3.719	1.542
<i>File-Sharing Expertise</i>	0.963	0.949	5.377	1.798
<i>Behavioral Intention</i>	0.952	0.924	3.175	1.793
<i>Effort Expectancy</i>	0.954	0.935	5.007	1.689
<i>Social Influence</i>	0.972	0.956	3.824	1.715
<i>Hedonic Motivation</i>	0.944	0.921	3.441	1.561
<i>Price Value</i>	0.964	0.945	2.433	1.457
<i>Habit</i>	0.890	0.821	1.859	1.204
<i>Facilitating Conditions</i>	0.820	0.710	4.712	1.381

According to Henseler *et al.* (2009), *Composite Reliability* (measure of internal consistency that take into consideration that indicators have various loadings) and *Cronbach’s Alpha* (based on the correlations of indicators) should have values higher than 0.6 and 0.7 (respectively) to guarantee a good reliability and internal consistency. All indicators have higher values than 0.8 for *Composite Reliability* and 0.7 for *Cronbach’s Alpha*, satisfying all requirements. Henseler *et al.* (2009) also emphasize that the absolute standardized outer loadings of each indicator and its construct should be higher than 0.7. For our study, all values are acceptable (v. Appendix VII).

¹⁵ Official Portuguese designation of Statistics Portugal.

Average Extracted Variance (AVE) is used to measure convergent validity, demonstrating the unidimensionality of a given construct based on its group of indicators (Henseler *et al.*, 2009). Since all constructs exhibit values higher than 0.5 (as represented in Table 5-3), this reveals the capability of the latent variables to explain, at least, 50% of the variance of its indicators (Henseler *et al.*, 2009).

Table 5-3 - AVE and Fornell-Larcker criterion ($n= 329$)

	PE	ICR	FSJ	FSE	BI	EE	SI	HM	PV	HT	FC
<i>PE</i>	0.846										
<i>ICR</i>	0.053	0.644									
<i>FSJ</i>	0.034	0.009	0.658								
<i>FSE</i>	0.000	0.078	0.137	0.868							
<i>BI</i>	0.385	0.100	0.045	0.005	0.868						
<i>EE</i>	0.100	0.181	0.000	0.164	0.181	0.837					
<i>SI</i>	0.070	0.000	0.059	0.003	0.149	0.060	0.920				
<i>HM</i>	0.429	0.135	0.053	0.003	0.413	0.235	0.128	0.810			
<i>PV</i>	0.186	0.019	0.045	0.001	0.240	0.028	0.053	0.139	0.900		
<i>HT</i>	0.423	0.025	0.021	0.002	0.391	0.067	0.064	0.286	0.175	0.730	
<i>FC</i>	0.066	0.159	0.000	0.154	0.153	<u>0.564</u>	0.068	0.185	0.030	0.057	0.534

Note: Values in diagonal represent AVE, while off-diagonal refer to the squared correlation.
PE - Performance Expectancy; *ICR* - Ideology of Consumer Rights; *FSJ* - File-Sharing Judgment; *FSE* - File-Sharing Expertise; *BI* - Behavioral Intention; *EE* - Effort Expectancy; *SI* - Social Influence; *HM* - Hedonic Motivation; *PV* - Price Value; *HT* - Habit; *FC* - Facilitating Conditions

Finally, discriminant validity is also assessed. Henseler *et al.* (2009) argues that it can be measured through: a) Fornell-Larcker criterion, where each latent variable shares more variance with its own set of indicators than with any other and; b) Cross-loadings, by evaluating discriminant validity on the indicator level.

Regarding the former (Table 5-3), all values are according to requirements (the AVE of each variable is higher than the squared correlation with other variables), with exception of *Facilitating Conditions*, which interferes with *Effort Expectancy*. As for the latter, as it can be observed in Appendix VI, intra-constructs items have a high correlation, while inter-construct items present low correlation, with exception of *Facilitating Conditions*, interfering with the same previous latent variable (*Effort Expectancy*). As a result, the construct was dropped from the model, although it is present in UTAUT2. A possible explanation could be due to the respondents' understanding of both construct items, which could be interpreted as similar. By dropping *Facilitating Conditions* from the model, all values were acceptable, indicating good discriminant validity.

For *Use*, the only formative construct and composed by seven formative indicators, evidence of *significance of weights* and *multicollinearity* was evaluated (values are shown in Table 5-4).

Table 5-4 - Formative measurement model

<i>Indicator</i>	Significance of weights		Collinearity Statistics	
	<i>Original Sample</i>		<i>Tolerance</i>	<i>VIF</i>
U1	0.321***		0.745	1.342
U2	0.072		0.675	1.481
U3	-0.034		0.656	1.525
U4	0.032		0.652	1.533
U5	0.264***		0.633	1.580
U6	-0.058		0.596	1.677
U7	0.636***		0.583	1.714

* p < 0.05; ** p < 0.01; *** p < 0.001

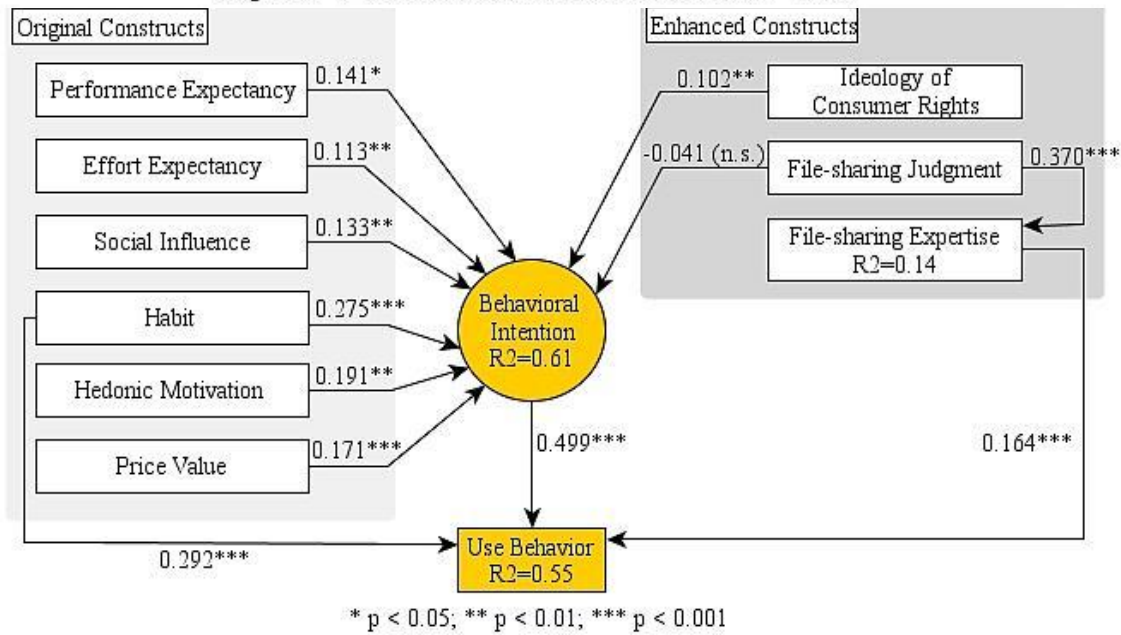
As for *significance of weights* (indicator level), not all items were statistically significant (U2, U3, U4 and U6), but considering nomological validity (Henseler *et al.*, 2009) and the original measurement of Venkatesh *et al.* (2012), conceptually, it justified the inclusion of all items. As Henseler *et al.*'s (2009) emphasize, “formative indicators should never be discarded simply on the basis of statistical outcome” (p. 302). Regarding *multicollinearity*, Variance Inflation Factor (VIF) is calculated for each indicator, whereas if $VIF > 10$, harmful collinearity exists. For *Use*'s formative indicators, values ranged from 1.342 to 1.714, demonstrating low multicollinearity between indicators.

5.2 Structural Model

After verifying that the outer model estimations requirements were meet, an evaluation of the structural model was conducted. The *bootstrapping* technique was applied to generate 1.000 samples from 329 cases¹⁶. This technique is applied with the aim of assessing the structural (or internal) model. According to Henseler *et al.* (2009), the structural model is evaluated taking into account: a) *coefficients of determination* of endogenous latent variables (*i.e.*, R^2); b) *path coefficients* (in terms of sign, magnitude and significance) and; c) *Cohen effect-sizes* (*i.e.*, f^2) on the endogenous variables at the structural level. Given the previous mentioned aspects, the model depicted in Figure 5-1 presents the PLS model results.

¹⁶ Bootstrapping allows an estimation of the shape, spread and bias of sampling distribution, treating the observed sample as the representation of the population (Henseler *et al.*, 2009).

Figure 5-1 - Resulted model and PLS results (n=329)



All hypotheses were supported, with the exception of H4a/H4b (since *Facilitating Conditions* was dropped off previously) and H9a. A hypotheses summary can be found on Appendix VIII. Regarding R² values, they function as an essential criterion to measure the structural model (Henseler *et al.*, 2009). Chin (1998) considers R² values of 0.19, 0.33 and 0.67 as weak, medium or strong, respectively. As it can be seen, *File-Sharing Expertise* displays a value lower than 0.19 (R²=0.14), while *Behavioral Intention* and *Use* (the two main factors in the present study) have moderate values (R²=0.61 and R²=0.55, respectively), indicating that the model is able to explain substantive variation of the endogenous variables.

Concerning sign, magnitude and significance of *path coefficients*¹⁷, most paths behaved as expected. However, a statistically non-significant path in the *File-Sharing Judgment-Behavioral Intention* link (*t* value = 1.009) was verified (v. Figure 5-1 and Appendix VIII). This means that there were significant effects for all UTAUT2 constructs, both impacting *Behavioral Intention* and/or *Use*. New extended constructs, as the impact of *Ideology of Consumer Rights* in *Behavioral Intention* and *File-Sharing Expertise* in *Use*, were also found significant. In line with UTAUT2 analysis, Cohen's *f*² was computed to verify the effect-size of the exogenous latent variables in explaining the R² on endogenous latent variables. In general, values of 0.35, 0.15 and 0.02 are considered

¹⁷ Path coefficients of the structural model, according to Henseler *et al.* (2009), can be understood as standardized beta coefficients of common least squares regressions.

large, medium and weak, respectively (Cohen, 1988). All variables have a weak effect, although *Habit* represents the highest value, near to a medium effect ($f^2=0.11$). These values go against the ones reported in UTAUT2 (effect-sizes between medium and large). A probable cause could be the high number of factors in our model, which could distribute the effect-size by all factors (resulting in weak effects of individual factors) and the relatively small sample of our study.

6. Discussion

The aim of this study is to examine the applicability of UTAUT2 in predicting OMS acceptance and adoption, identifying possible additional constructs to better suit the model to an OMS-context. As expected, original constructs from UTAUT2 behaved consistently, as reported by Venkatesh *et al.* (2012) when accounting for direct effects on *Behavioral Intention* and/or *Use*¹⁸. In this sense, the results indicated *Behavioral Intention* as the main factor impacting *Use*, jointly with *File-sharing Expertise* and *Habit*, while on *Behavioral Intention* the determinants are *Habit*, *Hedonic Motivation*, *Price Value*, *Performance Expectancy*, *Social Influence*, *Effort Expectancy* and *Ideology of Consumer Rights*, respectively.

Regarding the formation of *Behavioral Intention*, *Habit* and *Hedonic Motivation* represent the most important determinants, surpassing system architectural factors, such as *Performance Expectancy* and *Effort Expectancy*. Being *Habit* the highest factor in *Behavioral Intention* ($\beta=0.275$; $p<0.001$) - probably due to the individuals' regular need to satisfy their desire for music - it is important to understand that the development of *Habit* may play an important role for OMS in two ways. Firstly, *Habit* should be created to enable OMS to function as a primary form to access music. Secondly, to assist in the creation of a close relationship between OMS-brands and their users, and supporting the development of an automatic behavior. Considering that *Habit* manifests through *intentions* before being automatized, OMS should be elaborated so that their cost-benefit solution lead consumers in not having intentions to seek and/or evaluate other alternative means to satisfy their demand for music. The offered service ought to be developed taking into account a combination of various determinants (social, technological and ethical) that can create the *intention* in forming a habit to use OMS.

¹⁸ Not accounting for R^2 values of *Behavioral Intention* and *Use*, since the suggested model is an extended version of UTAUT2.

Being *Habit* a factor that can reinforce or decrease the *Behavioral Intention-Use* relationship (Venkatesh *et al.*, 2012), one of the first possible steps to further shape commercial success for OMS is to create consumer desire to ‘want to start’ using the service and subsequently develop a committed relationship that leads to automatic behavior.

Regarding *Hedonic Motivation*, our results are in line with other studies (Chu & Lu, 2007; Venkatesh *et al.*, 2012; Nel *et al.*, 2009). The hedonic characteristic of this type of e-services is the second most important determinant on *Behavioral Intention* ($\beta=0.191$; $p<0.01$), reinforcing that the individual pleasure perceived by OMS assists in forming an intention for OMS usage. As van der Heijden (2004) found, for hedonic systems, the *enjoyment* felt by using the system holds preponderance over the utilitarian factor of *Performance Expectancy*. For OMS, it should be taken into account that systems need to be pleasurable in their use, reinforcing the importance of immersive and emotional features (Sanchez-Franco & Rodan-Cataluña, 2010; Koufaris, 2002).

Also in line with Chu & Lu (2007) and Venkatesh *et al.* (2012), *Price Value* is another direct factor that helps form *Behavioral Intention* regarding OMS ($\beta=0.171$; $p<0.001$). Our findings reinforce previous studies (*e.g.*, Molteni & Ordanini, 2003; Dufft *et al.*, 2005) in which price plays a key factor in OMS acceptance and adoption. It can be suggested, such as Molteni & Ordanini (2003) and McCorkle *et al.* (2012) defend, that a differentiated pricing policy should be applied in order to satisfy various types of consumers, according to their personal preferences. Walsh *et al.* (2003) demonstrated that *demanding downloaders*, *general download approvers* and *procurement autonomous* value different service aspects (*e.g.*, regarding commercial business models or system-specific characteristics) and should have distinct treatment. Perhaps Spotify could be one of the most successful services with a differentiated price policy depending on the commitment that the consumer wants from the service¹⁹. As price plays a substantial role in OMS acceptance, these services should convey themselves as value-added services in order to raise their *Price Value*. Nevertheless, is important to understand what is valued by OMS users, as well to perform an accurate segmentation of potential customers. A close relation with users, based on relationship marketing,

¹⁹ Spotify is a primarily streaming service that practices three price ranges: 1) free, made possible by advertising; 2) 3.49€/month, with no advertisement, but only available online; 3) 6.99€/month, with portability, no advertisement and possibility to download songs and listen to them offline (Spotify, 2013).

could prove to be extremely advantageous in addition to offering extra support (*e.g.*, easy access to helpdesks) (Reichheld & Schefer, 2000). OMS should focus on risk-relievers (see Kunze & Mai (2007) for detailed description) and increase what is the client's perception about the services, instead of emphasizing an economic perspective. A potential way to increase *Price Value* could be, as suggested by Walsh *et al.* (2003), the possibility to perform cross-selling (by selling artists merchandising and/or concert tickets, mp3 players and loudspeakers).

As expected in UTAUT2, *Performance Expectancy* behaves in conformity, impacting *Behavioral Intention* directly ($\beta=0.141$; $p<0.05$). These results are consistent with those reported by Venkatesh *et al.* (2012) and Nel *et al.* (2009). However, regarding hedonic systems, van der Heijden (2004) evidences that the individuals' evaluation of achieved benefits is less important than the *enjoyment* and *effort* involved in using the system. In our study, *Performance Expectancy* surpasses *Effort Expectancy*, meeting several studies, such as Koufaris (2002), Davis (1989) and Venkatesh *et al.* (2012). In this sense, although music is a hedonic product, the results hint that individuals' assume, *a priori*, that OMS should be successful in fulfilling the objective of accessing and consuming music. As *Performance Expectancy* relates to specific functions and/or system features, our results can imply that issues regarding the existing music catalogue, music storage (physically and/or in the cloud), and portability and compatibility could be significant in OMS acceptance and adoption. Likewise, limitations on music-sharing flexibility and use (such as DRM mechanisms) were proven to diminish the attractiveness of legal services (Dufft *et al.*, 2005). As individuals become more knowledgeable in IT/IS usage, and as their experience increases, *performance factors* may be decisive in two ways: 1) in the process of choosing which channel to access to music (OMS or P2P networks), and; 2) in the differentiation of OMS providers (when choosing which OMS to adopt). For this reason, OMS should not ignore their utilitarian characteristics over hedonic features, and offer mechanisms related with information search, availability of detailed information about artists and/or their music and portability between devices.

Another relevant factor is *Social Influence* ($\beta=0.133$; $p<0.01$), emphasizing the importance that peers and significant people have in others' behavior concerning OMS adoption. Overall, these findings provide support for Kwong & Park's (2008)

conclusions and enable the suggestion that a *fashion* dimension (reported by Chen *et al.* (2008) in P2P downloading) can exert positive influence on individual opinion regarding OMS. This points to the fact that an individual without OMS experience will rely more on his/her peers opinion. Thereby, the development of positive feedback, and word-of-mouth regarding OMS, can function as a way to attract new potential customers, especially by using (and integrating) social-commerce mechanisms leveraged by Web 2.0 technologies.

For *Effort Expectancy*, its impact in *Behavioral Intention*, as reported in UTAUT2 and consistent with various studies (Venkatesh *et al.*, 2012; Walsh *et al.*, 2003), is statistically relevant ($\beta=0.113$; $p<0.01$). This could hint that the creation of intuitive and easy-to-use systems might potentiate actual usage of OMS. We suggest that the integration of alternative ways for payment (such as micropayments (Walsh *et al.*, 2003)) could possibly diminish anxiety associated with online shopping (see Venkatesh *et al.*, 2003; Meuter, Ostrom, Bitner, & Roundtree, 2003), and could help to withdraw the idea of effort associated with OMS, especially for first-time users. In addition to a possible reduction of anxiety, OMS should present a higher ease-of-use when compared with P2P so that, when in conjunction with price, a competitive strategy is developed.

Lastly, as a music-specific extended variable in UTAUT2, *Ideology of Consumer Rights* proved to be statistically significant in *Behavioral Intention* ($\beta=0.102$; $p<0.01$). This suggests that individuals confer a considerable attention to transition equity, still associating to the preconceived and historical idea regarding profits gained by record labels (Knopper, 2009; Walsh *et al.*, 2003). As there are less expensive alternatives in satisfying individuals' demand for music, the possible OMS-user may advocate the need for the music industry to restructure its web of relationships across the value chain, both in production and distribution (Chen *et al.*, 2008), to an industry which values the consumer in a fair relation. Therefore, it could influence his/her decision in creating *intentions* to engage in OMS usage. Nevertheless, as noted, the amount of royalties paid to artists can impact this decision. Hence, if a transparent and fair policy is adopted by OMS (once more associated with *Price Value*), showing which amount reverts to artists²⁰, it could be that potential OMS-clients feel that their participation (*i.e.*,

²⁰ Cdbaby, for example, publicly discloses the amount that it is paid to artists (91% per download sold on their digital store) (Cdbaby, 2013).

economic transaction) satisfies the principle of equity in four dimensions (labels/publishers, artists, distributors/retailers and customers). These findings are in line with those of Sanchez-Franco & Rodan-Cataluña (2010), in which they defend that a transparent policy helps to construct a reputation regarding the service's fairness and honesty, which lead to customer commitment.

One surprising finding is the absence of a statically significant relationship between *File-Sharing Judgment* and *Behavioral Intention*. Although the sign of the path coefficient is as expected (negative), partially supporting Hypothesis 9a (where was postulated that *File-Sharing Judgment* would negatively impact the formation of *intention* to use OMS), the absence of a significant relation seems to hint that a moral dimension (*i.e.*, perception that FS is wrong) about Intellectual Property theft does not impact the decision of legal purchasing. These outcomes meet Chen *et al.* (2008) results, corroborating that FS, probably, is not seen as an important ethical issue (Lysonski & Durvasula, 2008) and that the music industry could have raised the lack of user legal clarity by enabling free download of new songs (Walsh *et al.*, 2003). In this sense, these findings could suggest that the path that should be taken by the industry, in boosting OMS adoption, should not be done through raising awareness against FS (since its impact is not significant), but by defending OMS for their hedonic, functional and social characteristics. Taking into consideration the mean of items FSJ1 and FSJ3 (as reported in Appendix VII), we verify that FS acceptance is high, although individuals understand the possible harm in violating an unspoken promise (FSJ2). However, this leads in suggesting that FS is a deeply rooted social practice that could be very difficult to disrupt²¹. Despite legal actions could help mitigate actual FS (Bhattacharjee *et al.*, 2006), perhaps it is important to invest in finding new business models that involve FS and OMS as complementary ways to access legal music. Merante (2009) and Slater *et al.* (2005) defend that it is not by confronting consumers not to use P2P networks, but possibly by working with ISPs (Internet Service Providers) in creating a collective licensing system that enables new opportunities for music stakeholders. Slater *et al.* (2005), for instance, also suggest the implementation of P2P Stores as a legitimate new business model. Additionally, the social idea of FS can also

²¹ In Portugal's case, for instance, the country is positioned at number 13 of the most illegal FS countries in the World (BBC, 16 Sep. 2012).

help to spread new artists and enable the discovery of new music (Molteni & Ordanini, 2003; Dufft *et al.*, 2005).

Furthermore, the link *File-Sharing Judgment-File-Sharing Expertise* behaved in accordance with Huang (2005), supporting previous discovery regarding that higher moral FS acceptance leads to higher expertise in accessing music through illegal FS ($\beta=0.370$; $p<0.001$). This aspect allows the possible anticipation of which individuals could have a higher probability in developing this behavior. Still, it is important (on a FS behavior context) to try to develop more comprehensive models about *File-Sharing Expertise*, since *File-Sharing Judgment* can only explain 14% of variance of *File-Sharing Expertise* ($R^2=0.14$) in our model.

As we discuss factors that directly impact *Use*, we verified that (besides *Behavioral Intention* being the main determinant) *Habit* and *File-Sharing Expertise* also play a significant role. As presented earlier, several authors demonstrate that the automaticity of a specific behavior helps on IT and/or IS usage. Taking into account our findings, we can infer that the same applies to OMS, concerning *Habit* ($\beta=0.292$; $p<0.001$), and as verified in UTAUT2 (Venkatesh *et al.*, 2012). This insinuates that the establishment of a cognitive process with (or without) conscious marginal control could prove to be relevant in attaining OMS acceptance and adoption. Nevertheless, this may not necessarily mean the reduction of *Habit* in using other alternatives.

Concerning the *File-Sharing Expertise-Use* relationship, its impact is significant ($\beta=0.164$; $p<0.001$). Despite Walsh *et al.* (2003) and Kunze & Mai (2007) indicate that those who use P2P as an integrated part of their lives are the most resistant in accepting this type of commercial model, our results indicate otherwise. Most importantly, this could show that the P2P reality cannot be detached from actual music consumption. In general, P2P systems are more complex to use and require a greater technological knowledge to access and operate. Subsequently, as these individuals may develop a greater expertise and know-how in P2P, they might find it easier to use OMS. Also, as suggested by Hu *et al.* (2010) and Bhattacharjee *et al.* (2006b), these services may also contribute to the legal environment through sampling. Somehow, the strong relation between *File-Sharing Expertise* and *Use* can suggest that P2P usage may be employed with a sampling purpose in order to increase purchasing confidence. This supports Molteni & Ordanini (2003) evidence regarding the evaluation of new artists/music at

lower costs. It is pertinent to mention that regarding this factor, our results could be biased since the larger age clusters in our sample are situated on the 15-24 and 25-54 age groups, meaning that these individuals could have a greater computer literacy, which could justify high means in all *File-Sharing Expertise* items (v. Appendix VII). Finally, our analysis strongly suggests that UTAUT2 and its *Behavioral Intention-Use* path, is very significant in understanding OMS usage ($\beta=0.497$; $p<0.001$). Through an integrated marketing and IS strategy, the creation of *intentions* can help to predict OMS usage.

7. Final Remarks

7.1 Conclusion and Theoretical Implications

By using the UTAUT2 model, we verified its applicability on the music context, especially in OMS. Our findings suggest that Venkatesh *et al.* (2012) constructs for determining *Behavioral Intention* and *Use* in technology acceptance can provide a useful foundation for the investigation of music consumption behavior through legal channels. A key finding of this research is that *Ideology of Consumer Rights* and *File-Sharing Expertise* (in addition to UTAUT2 constructs) play an important role in OMS acceptance, influencing *Behavioral Intention* and *Use*, respectively. The concepts that have been used in our research have shown to be of some utility, although one hypothesis was partly supported. The lack of a significant relationship between *File-Sharing Judgment* and *Behavioral Intention* (Hypothesis H9a) hints that this rooted practice may not interfere with individuals' intentions of legal consumption, as suggested by Aguiar & Martens (2013). Also noted by Bhattacharjee *et al.* (2006b) a FS reduction does not mean an increase in profits. On the basis of the findings of this study, it is concluded that legal music consumption is a rather complex topic and can be further explored. By relating the consumers' (and potential customers of OMS) FS experience, it is inferred the urge to develop new models of inclusion between P2P networks and OMS.

7.2 Practical Implications

Several managerial implications were provided along Section VI. Nevertheless, it is important to emphasize that OMS customers do not have high switching costs (except if exclusivity with a technology provider is in place). Hence, OMS should try to implement "One-on-one" Marketing initiatives. The integration of a CRM (Customer

Relationship Management) philosophy to better focus on their customers' necessities, creating long-term value, satisfaction and trust, could create customers' retention and increase customers' share. So, for OMS, a detailed analysis of customers' consumption pattern and behavior (through data mining) can be employed, as well as the development of actions that create value through actions, combining online and offline products (*i.e.*, making use of complementary music markets, such as merchandising and concerts) to help developing the Habit of using a specific OMS repeatedly.

7.3 Limitations and Suggestion for Future Investigation

One of the main aims of the present study was to understand the relationships between variables to suit an OMS-context (emphasizing an exploratory aspect), rather than confirming if our extended UTAUT2 model would function on a Portuguese context. However, it is important to underline the possible impact of cultural specificities. That is, it is important to bear in mind that only 13% of the Portuguese population with Internet access engages in EC (INE, 2012). That must be taken into account when generalizing findings, since cultural specificities can be relevant.

Since our study is focused on exploratory ground and theory building, the absence of UTAUT2 moderators (Age, Gender and Experience) can be considered a limitation of our extended model, incapacitating a complete understanding of UTAUT2 indirect effects in an OMS-context. Taking into consideration practical aspects in the elaboration of this study, the option to not include the existing moderators of UTAUT2 was assumed. However, it is our conviction that, considering the present work as one of the first approaches to OMS with UTAUT2, this limitation does not nullify the validity of the presented results and findings.

In conclusion, future research should concentrate in including UTAUT2 moderation variables and in understanding how demographic characteristics can shape *Behavioral Intention* and *Use* of OMS adoption. Differences between OMS actual/potential users could also be explored, considering that those findings could possibly help to develop different marketing strategies. Possible new unobservable variables should be included to make the model more complete, such as, for example, music taste. As OMS are solely one form of music consumption, the impact of live-music market on legal digital sales should be further explored, in order to understand if there is a link between geographical concerts and an increase in digital music sales.

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Appendices

Appendix I – Review of selected business models applied in OMS

Model	Description	Examples
<i>Pay-per-download ('à-la-carte') Model</i> Makkonen <i>et al.</i> (2011); Dubosson-Torbay <i>et al.</i> (2004); Amberg & Schröder (2007); Walsh <i>et al.</i> (2003); Dufft <i>et al.</i> (2005); Bhattacharjee <i>et al.</i> (2006)	In this model, the consumers pay a separate fee for each downloaded file to their PC hard drive or Portable Music Player (Makkonen <i>et al.</i> , 2011; Walsh <i>et al.</i> , 2003; Dubosson-Torbay <i>et al.</i> , 2004). The music files generally fit an accepted music file, such as MP3, AAC, FLAC, and some of these files are protected by a Digital Rights Management (DRM) (Makkonen <i>et al.</i> , 2011). The music download stores can be dependent or independent from the supplier's technology. This means that the data format (music file) can be (or not) restricted to a specific hardware (Amberg & Schröder, 2007).	iTunes Music Store ^{ABC} ; Amazon MP3 Store ^A
<i>Subscription Model</i> Makkonen <i>et al.</i> (2011); Dubosson-Torbay <i>et al.</i> (2004); Fox (2004); Amberg & Schröder (2007); Walsh <i>et al.</i> (2003); Bhattacharjee <i>et al.</i> (2003); Dufft <i>et al.</i> (2005); Bourreau <i>et al.</i> (2008); Bhattacharjee <i>et al.</i> (2006)	In this case, OMS operate in a flat subscription fee basis, allowing subscribers to download files or access them as streaming content, without additional charges for a determined amount of time (Makkonen <i>et al.</i> , 2011; Fox, 2004). By allowing access to music streaming, this is a favored option to those who rather prefer to access a larger assortment of genres, songs or artists (Peitz & Waelbroeck, 2004). Dubosson-Torbay <i>et al.</i> (2004), despite making a clear distinction between 'Subscription Model' and the 'Online Radio Model', one can consider the latter as a form of subscription model, if it requires paying a fixed fee to subscribe.	Spotify ^A ; WiMP ^A ; rara.com ^A ; Rhapsody [⊖] ;
<i>The 'à-la-carte' and Subscription Bundle Model</i> Dubosson-Torbay <i>et al.</i> (2004); Bhattacharjee <i>et al.</i> (2006)	This model consists in bundling the subscription and pay-per-download models, allowing subscribers to have access to the services' catalogue (usually in streaming) and to download a limited number of music files per month. Some services offer subscribers the possibility to download additional music tracks, or get permanent access, by paying an additional fee (Dubosson-Torbay <i>et al.</i> , 2004).	Xbox Music Pass ^A ; Ministry of Sound ^B
<i>The Advertising Model</i> Dubosson-Torbay <i>et al.</i> (2004); Fox (2004)	In this model, advertising is used as a mean to achieve revenues and to pay the owed royalties that arise in music distribution (Dubosson-Torbay <i>et al.</i> , 2004). It is also referred as 'The Broadcasting Model' by Fox (2004), representing a free service for consumers.	Slacker (basic radio) ^A ; Spotify (basic) ^A ; Radio@AOL ^B
<i>The Artist to Consumer Model</i> Fox (2004)	By selling their own music online, music revenues may be larger for artists who adopt this model and have an established fan base (Fox, 2004).	Smashing Pumpkins ^B ; Tod Rundgren ^D
<i>Tipping Model</i> Dubosson-Torbay <i>et al.</i> (2004)	Dubosson-Torbay <i>et al.</i> (2004) describes this form as an emerging business model. It consists on the ability of the user to leave a tip to the artist, after downloading a song.	Sintoma Records [*]

^A) Mentioned by IFPI (2013); ^B) Mentioned by Dubosson-Torbay *et al.* (2004); [⊖]) Mentioned by Amberg & Schröder (2007); ^D) Mentioned by Fox (2004).

^{*}) The examples provided by Dubosson-Torbay *et al.* (2004) are not available nowadays. Sintoma Records can be viewed as an example, since it functions as the business model describes.

Appendix II - Construct definitions for User Acceptance Models

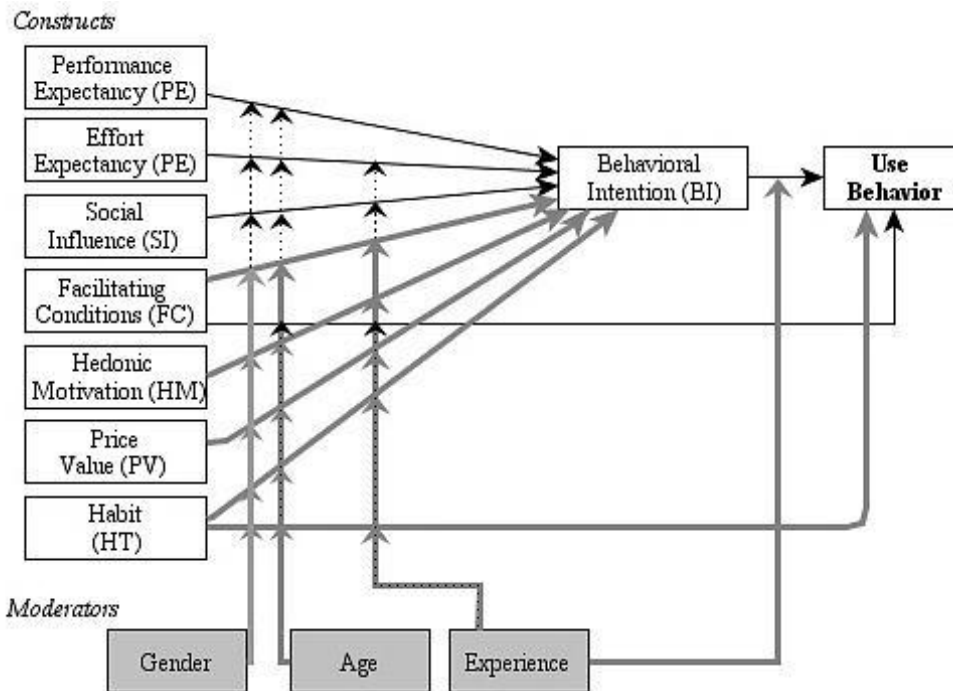
Constructs	Definitions	Model
<i>Affect</i>	"An individual's liking for a particular behavior (<i>e.g.</i> , computer use)" (Venkatesh <i>et al.</i> , 2003, p.432).	SCT
<i>Anxiety</i>	"Evoking anxious or emotional reactions when it comes to performing a behavior (<i>e.g.</i> , using a computer)" (Venkatesh <i>et al.</i> , 2003, p.432).	SCT
<i>Attitude Toward Behavior (A)</i>	"Degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question." (Ajzen, 1991, p. 188).	TRA; TPB; TAM
<i>Behavioral Intention (BI)</i>	"Measure of the strength of one's intention to perform a specified behavior" (Davis <i>et al.</i> , 1989, p. 984).	TRA; TPB; TAM; TAM2; UTAUT; UTAUT2
<i>Computer Self-Efficacy</i>	"Judgment of one's ability to use a technology (<i>e.g.</i> , computer) to accomplish a particular job or task" (Venkatesh <i>et al.</i> , 2003, p.432).	SCT
<i>Effort Expectancy (EE)</i>	"Degree of ease associated with the use of the system" (Venkatesh <i>et al.</i> , 2003, p. 450).	UTAUT; UTAUT2
<i>Experience</i>	"Passage of time from the initial use of a technology by an individual" (Venkatesh <i>et al.</i> , 2012, p. 161).	UTAUT; UTAUT2
<i>Facilitating Conditions (FC)</i>	"Consumers' perceptions of the resources and support available to perform a behavior" (Venkatesh <i>et al.</i> , 2012, p. 159).	UTAUT; UTAUT2
<i>Habit (HT)</i>	"Perceptual construct that reflects the results of prior experiences" (Venkatesh <i>et al.</i> , 2012, p. 161).	UTAUT; UTAUT2
<i>Hedonic Motivation (HM)</i>	"Fun or pleasure derived from using a technology" (Venkatesh <i>et al.</i> , 2012, p. 161). The authors also recognized it as being conceptualized as <i>Perceived Enjoyment</i> in IS literature.	UTAUT; UTAUT2
<i>Outcome Expectations</i>	Valued outcomes of the behavior (Compeau & Higgins, 1995). They can be 'Performance' related ("performance expectations (that) deal with job-related outcomes" (Venkatesh <i>et al.</i> , 2003, p. 432)) or 'Personal' related ("personal expectations (that) deal with the individual esteem and sense of accomplishment" (Venkatesh <i>et al.</i> , 2003, p.432)).	SCT
<i>Perceived Behavioral Control (PBC)</i>	"Refers to people's perception of the ease or difficulty of performing the behavior of interest." (Ajzen, 1991, p. 183).	TPB
<i>Perceived Ease of Use (E)</i>	"Degree to which the prospective user expects the target system to be free of effort" (Davis <i>et al.</i> , 1989, p. 985).	TAM; TAM2
<i>Perceived Enjoyment</i>	"Refers to the extent to which the activity of using the computer is perceived to be enjoyable in it's own right, apart from any performance consequences that may be anticipated"(Davis <i>et al.</i> , 1992, p. 1113).	Adapted Hedonic TAM
<i>Perceived Usefulness (U)</i>	"Extent to which a person believes that using the system will enhance his or her job performance" (Venkatesh & Davis, 2000, p. 187).	TAM; TAM2
<i>Performance Expectancy (PE)</i>	"Degree to which using a technology will provide benefits to consumers in performing certain activities" (Venkatesh <i>et al.</i> , 2012, p. 159).	UTAUT; UTAUT2
<i>Price Value (PV)</i>	"Consumers' cognitive tradeoff between the perceived benefits of the applications and the monetary cost for using them" (Venkatesh <i>et al.</i> , 2012, p. 161).	UTAUT; UTAUT2
<i>Social Influence (SI)</i>	Range "to which consumers perceive that important others (<i>e.g.</i> , family and friends) believe they should use a particular technology" (Venkatesh <i>et al.</i> , 2012, p. 159).	UTAUT; UTAUT2
<i>Subjective Norm (SN)</i>	"The person's perception that most people who are important to him think he should or should not perform the behavior in question" (Fishbein & Ajzen, 1975, p. 302).	TRA; TPB; TAM2
<i>Voluntariness of Use</i>	"Extent to which potential adopters perceive the adoption decision to be non-mandatory" (Venkatesh & Davis, 2000, p. 188).	UTAUT

Appendix III – Root-Constructs for UTAUT Constructs (Venkatesh *et al.*, 2003)

UTAUT Constructs	Root-Constructs	Root-Models
<i>Performance Expectancy</i>	Perceived Usefulness	TAM; C-TAM-TPB
	Extrinsic Motivation	MM
	Job-fit	MPCU
	Relative Advantage	IDT
	Outcome Expectations	SCT
<i>Effort Expectancy</i>	Perceived Ease of Use	TAM
	Complexity	MPCU
	Ease of Use	IDT
<i>Social Influence</i>	Subjective Norm	TRA; TAM; TPB; C-TAM-TPB
	Social Factors	MPCU
	Image	IDT
<i>Facilitating Conditions</i>	Perceived Behavioral Control	TPB; C-TAM-TPB
	Facilitating Conditions	MPCU
	Compatibility	IDT

C-TAM-TPB - Combined TAM and TPB; IDT - Innovation Diffusion Technology; MM - Motivational Model; MPCU - Model of PC Utilization; SCT - Social Cognitive Theory; TAM - Technology Acceptance Model; TPB - Theory of Planned Behavior; TRA - Theory of Reasoned Action.

Appendix IV – UTAUT2 Framework (Venkatesh *et al.*, 2012, p. 160)



Notes:
 1) Black lines represent original relationships in UTAUT;
 2) Grey lines represent new relationships in the UTAUT2 extension.

Appendix V - Constructs, items and references employed

Construct	Code	Items	Scale	Reference		
<i>Profile of respondent</i>	AGE	Age	Years	--		
	SEX	Gender	Male; Female	--		
	EDUC	Educational level	Frequency ranged: Less than Junior high school; Junior high school; High School; College	--		
	INC	Income Level	Frequency ranged: <500€; 500-749€; 750-999€; 1.000-1.999€; >2.000; Refuse to answer/doesn't know	Adapted INE, 2009		
	NET	Type of Internet connection available at home	Frequency ranged: Broadband connection (incl. ADSL, connection via cable, wireless connection, or 3G/4G net); "Traditional" dial-up connection with modem; I don't have an Internet connection at home	Adapted INE, 2012		
Construct	Code	Items	Scale	Reference		
<i>Performance Expectancy (PE)</i>	PE1	I find online music services useful in my daily life.				
	PE2	Using paid online music services helps me accomplish things more quickly.	Seven-point likert scale	Venkatesh <i>et al.</i> , 2012		
	PE3	Using paid online music services increases my productivity.				
<i>Effort Expectancy (EE)</i>	EE1	Learning how to use paid online music services is easy for me.				
	EE2	My interaction with paid online music services is clear and understandable.	Seven-point likert scale	Venkatesh <i>et al.</i> , 2012		
	EE3	I find paid online music services easy to use.				
	EE4	It is easy for me to become skillful at using paid online music services.				
<i>Social Influence (SI)</i>	SI1	People who are important to me think that I should use paid online music services.				
	SI2	People who influence my behavior think that I should use paid online music services.	Seven-point likert scale	Venkatesh <i>et al.</i> , 2012		
	SI3	People whose opinions that I value prefer that I use paid online music services.				
<i>Hedonic Motivation (HM)</i>	HM1	Using paid online music services is enjoyable.				
	HM2	Using paid online music services is exciting.	Seven-point likert scale	Van der Heijden, 2004		
	HM3	Using paid online music services is pleasant.				
	HM4	Using paid online music services is interesting.				
<i>Facilitating Conditions (FC) - dropped</i>	FC1	I have the resources necessary to use paid online music services.				
	FC2	I have the knowledge necessary to use paid online music services.				
	FC3	The formats used in paid online music services are compatible with other technologies I use.	Seven-point likert scale	Venkatesh <i>et al.</i> , 2012		
	FC4	I can get help from others when I have difficulties using paid online music services.				
<i>Price Value (PV)</i>	PV1	Online music is reasonably priced.				
	PV2	Online music is a good value for the money.			Seven-point likert scale	Venkatesh <i>et al.</i> , 2012
	PV3	At the current price, purchasing at paid online music services provides a good value.				
<i>Habit (HT)</i>	HT1	The use of paid online music services has become a habit for me.				
	HT2	I am addicted to using paid online music services.	Seven-point likert scale	Venkatesh <i>et al.</i> , 2012		
	HT3	I must use paid online music services.				

Appendix V - Constructs, items and references employed (*cont'd*)

Construct	Code	Items	Scale	Reference
<i>Ideology of Consumer Rights (ICR)</i>	ICR1	Since the cost of producing a music CD is low, I should be able to buy music at paid online music services at a lower price than the price I pay now.		
	ICR2	Since digital music could be distributed at paid online music services than in physical stores, I should be able to buy the music I like at a lower price than the price I pay now.	Seven-point likert scale	Shang <i>et al.</i> , 2008
	ICR3	Downloading music at paid online music services is more convenient than buying music from a CD store.		
<i>File-Sharing Judgment (FSJ)</i>	FSJ1	Sharing music files is fair.		
	FSJ2	Sharing music does not violate an unspoken promise.	Seven-point likert scale	Huang, 2005
	FSJ3	Sharing music is culturally acceptable.		
<i>File-Sharing Expertise (FSE)</i>	FSE1	I know clearly how to access MP3 music files.		
	FSE2	I can get MP3 files that I need without much effort.		
	FSE3	Once I get it, I know clearly how to play an MP3 file.	Seven-point likert scale	Huang, 2005
	FSE4	I can name a variety of ways to get MP3 files that I may want.		
<i>Behavioral Intention (BI)</i>	BI1	I intend to continue using paid online music services in the future.		Venkatesh <i>et al.</i> , 2012;
	BI2	I will always try to use paid online music services in my daily life.	Seven-point likert scale	Venkatesh <i>et al.</i> , 2003
	BI3	I plan to use paid online music services in the near future.		
Construct	Code	Items	Scale	Reference
<i>Use*</i>	U1	Online music stores (<i>e.g.</i> iTunes)		
	U2	Music streaming websites (<i>e.g.</i> MusicBox, Grooveshark)	Frequency ranged from “Never”; “Less than once a month”; “Less than once a week”; “At least once a week”; “Several times a week”; “Once a week”; “Several times per day”.	Venkatesh <i>et al.</i> , 2012
	U3	Online radio (<i>e.g.</i> Live 365)		
	U4	Music Recommendation websites (<i>e.g.</i> TasteKid)		
	U5	Music-sharing websites (<i>e.g.</i> Soundcloud)		
	U6	Music Blogs/websites		
	U7	Frequency of music purchasing on online music	Frequency ranged from “Never”; “Less than once a month”; “Once a month; “Once a week”; “More than once a week”; “Almost every day”. “Never” was included.	Molteni and Ordanini, 2003

* *Formative Construct*

Appendix VI - Cross-loadings

Indicator	PE	ICR	FSJ	FSE	BI	EE	SI	HM	PV	HT	FC
PE1	0.895	0.255	-0.154	0.074	0.582	0.342	0.211	0.611	0.379	0.608	0.286
PE2	0.940	0.197	-0.190	0.015	0.573	0.274	0.262	0.591	0.408	0.592	0.238
PE3	0.925	0.179	-0.166	-0.053	0.555	0.253	0.259	0.604	0.403	0.595	0.185
ICR1	0.096	0.759	0.115	0.279	0.119	0.319	-0.182	0.166	0.051	-0.033	0.317
ICR2	0.129	0.749	0.100	0.281	0.154	0.336	-0.207	0.188	0.073	0.009	0.345
ICR3	0.248	0.891	0.061	0.195	0.359	0.373	0.174	0.401	0.153	0.239	0.331
FSJ1	-0.147	0.067	0.869	0.325	-0.188	-0.051	-0.231	-0.230	-0.195	-0.126	-0.053
FSJ2	-0.158	0.062	0.773	0.166	-0.175	-0.104	-0.196	-0.207	-0.086	-0.086	-0.082
FSJ3	-0.150	0.101	0.789	0.360	-0.155	0.078	-0.170	-0.138	-0.204	-0.126	0.066
FSE1	-0.003	0.245	0.349	0.937	0.072	0.370	-0.091	0.056	-0.037	-0.056	0.319
FSE2	0.033	0.240	0.357	0.955	0.069	0.363	-0.040	0.042	-0.014	-0.022	0.362
FSE3	-0.003	0.282	0.297	0.890	0.031	0.375	-0.032	0.028	-0.033	-0.076	0.377
FSE4	0.022	0.279	0.366	0.942	0.089	0.403	-0.033	0.067	-0.037	-0.036	0.406
BI1	0.550	0.319	-0.206	0.116	0.936	0.454	0.371	0.607	0.408	0.564	0.422
BI2	0.589	0.266	-0.178	0.028	0.936	0.342	0.365	0.599	0.504	0.633	0.310
BI3	0.597	0.301	-0.207	0.059	0.924	0.394	0.343	0.591	0.458	0.549	0.362
EE1	0.239	0.384	-0.024	0.446	0.347	0.921	0.221	0.405	0.114	0.166	0.705
EE2	0.369	0.372	-0.056	0.300	0.439	0.902	0.219	0.482	0.185	0.302	0.646
EE3	0.252	0.417	-0.005	0.359	0.353	0.911	0.217	0.413	0.142	0.215	0.696
EE4	0.277	0.388	0.030	0.393	0.404	0.926	0.240	0.461	0.162	0.242	0.708
SI1	0.218	-0.030	-0.261	-0.065	0.333	0.201	0.946	0.307	0.167	0.234	0.256
SI2	0.269	0.055	-0.215	-0.032	0.384	0.256	0.964	0.365	0.245	0.226	0.244
SI3	0.271	0.016	-0.230	-0.057	0.389	0.245	0.967	0.352	0.242	0.266	0.252
HM1	0.572	0.397	-0.209	0.101	0.605	0.549	0.322	0.860	0.271	0.446	0.497
HM2	0.604	0.257	-0.183	-0.004	0.551	0.342	0.347	0.890	0.361	0.521	0.309
HM3	0.584	0.331	-0.200	0.017	0.570	0.415	0.312	0.941	0.343	0.496	0.353
HM4	0.595	0.327	-0.237	0.071	0.582	0.428	0.306	0.905	0.367	0.464	0.380
PV1	0.415	0.141	-0.192	-0.030	0.447	0.145	0.247	0.360	0.949	0.373	0.146
PV2	0.395	0.116	-0.218	-0.051	0.430	0.135	0.199	0.327	0.959	0.367	0.155
PV3	0.415	0.134	-0.195	-0.013	0.508	0.191	0.208	0.369	0.938	0.442	0.189
HT1	0.658	0.232	-0.154	0.007	0.682	0.337	0.235	0.597	0.396	0.903	0.309
HT2	0.480	0.070	-0.077	-0.098	0.401	0.099	0.232	0.401	0.323	0.840	0.119
HT3	0.485	0.050	-0.117	-0.067	0.444	0.159	0.180	0.309	0.341	0.818	0.124
FC1	0.144	0.193	-0.028	0.155	0.321	0.350	0.185	0.303	0.096	0.223	0.678
FC2	0.173	0.359	0.072	0.469	0.295	0.778	0.162	0.339	0.084	0.181	0.844
FC3	0.143	0.330	-0.002	0.350	0.205	0.575	0.206	0.241	0.137	0.105	0.708
FC4	0.299	0.297	-0.111	0.161	0.303	0.475	0.231	0.360	0.215	0.165	0.681

PE - Performance Expectancy; ICR - Ideology of Consumer Rights; MI - Music Involvement; FSJ - File-Sharing Judgment; FSE - File-Sharing Expertise; BI - Behavioral Intention; EE - Effort Expectancy; SI - Social Influence; HM - Hedonic Motivation; PV - Price Value; HT - Habit; FC - Facilitating Conditions.

Appendix VII - Reliability measurement of reflective variables (n =329)

Measurement Item	Composite Reliability	Cronbach's Alpha (α)	Loading	Mean	SD	Measurement Item	Composite Reliability	Cronbach's Alpha (α)	Loading	Mean	SD
<i>Facilitating Conditions</i>	0.820	0.710				<i>Effort Expectancy</i>	0.954	0.935			
FC1			0.678	3.97	2.01	EE1			0.921	5.23	1.87
FC2			0.844	5.19	1.86	EE2			0.902	4.71	1.95
FC3			0.708	5.16	1.77	EE3			0.911	5.06	1.73
FC4			0.681	4.53	1.94	EE4			0.926	5.02	1.84
<i>Ideology of Consumer Rights</i>	0.843	0.785				<i>File-Sharing Expertise</i>	0.963	0.949			
ICR1			0.759	5.24	1.89	FSE1			0.937	5.53	1.85
ICR2			0.749	5.29	1.88	FSE2			0.955	5.31	1.92
ICR3			0.891	4.60	2.02	FSE3			0.890	5.63	1.90
<i>File-Sharing Judgment</i>	0.852	0.747				FSE4			0.942	5.03	2.04
FSJ1			0.869	3.60	1.92	<i>Price Value</i>	0.964	0.945			
FSJ2			0.773	2.96	1.85	PV1			0.949	2.47	1.52
FSJ3			0.789	4.60	1.92	PV2			0.959	2.38	1.50
<i>Habit</i>	0.890	0.821				PV3			0.938	2.46	1.59
HT1			0.903	2.30	1.67	<i>Hedonic Motivation</i>	0.944	0.921			
HT2			0.840	1.55	1.16	HM1			0.860	3.89	1.87
HT3			0.818	1.73	1.39	HM2			0.890	2.94	1.65
<i>Social Influence</i>	0.972	0.956				HM3			0.941	3.27	1.69
SI1			0.946	3.75	1.81	HM4			0.905	3.66	1.75
SI2			0.964	3.95	1.80	<i>Behavioral Intention</i>	0.952	0.924			
SI3			0.967	3.77	1.76	BI1			0.936	3.26	1.99
<i>Performance Expectancy</i>	0.943	0.909				BI2			0.936	2.82	1.80
PE1			0.895	3.02	1.82	BI3			0.924	3.44	1.98
PE2			0.940	2.86	1.80						
PE3			0.925	2.55	1.70						

Appendix VIII - Results of the structural model and Hypotheses testing

#	Relationships	Expected Sign	Path Coefficient	t Value	Supported
H1	<i>Performance Expectancy</i> \rightarrow <i>Behavioral Intention</i>	+	0.141	2.119	Yes
H2	<i>Effort Expectancy</i> \rightarrow <i>Behavioral Intention</i>	+	0.113	2.988	Yes
H3	<i>Social Influence</i> \rightarrow <i>Behavioral Intention</i>	+	0.133	3.062	Yes
H4a	<i>Facilitating Conditions</i> * \rightarrow <i>Behavioral Intention</i>	+	n/a	n/a	n/a
H4b	<i>Facilitating Conditions</i> * \rightarrow <i>Use</i>	+	n/a	n/a	n/a
H5a	<i>Habit</i> \rightarrow <i>Behavioral Intention</i>	+	0.275	5.923	Yes
H5b	<i>Habit</i> \rightarrow <i>Use</i>	+	0.292	4.418	Yes
H6	<i>Hedonic Motivation</i> \rightarrow <i>Behavioral Intention</i>	+	0.191	3.127	Yes
H7	<i>Price Value</i> \rightarrow <i>Behavioral Intention</i>	+	0.171	3.679	Yes
H8	<i>Ideology of Consumer Rights</i> \rightarrow <i>Behavioral Intention</i>	+	0.102	2.648	Yes
H9a	<i>File-Sharing Judgment</i> \rightarrow <i>Behavioral Intention</i>	-	-0.041	1.009	Partially
H9b	<i>File-Sharing Judgment</i> \rightarrow <i>File-Sharing Expertise</i>	+	0.370	8.034	Yes
H10	<i>File-Sharing Expertise</i> \rightarrow <i>Use</i>	+	0.164	4.381	Yes
H11	<i>Behavioral Intention</i> \rightarrow <i>Use</i>	+	0.499	8.008	Yes

* Variable was dropped