CRANFIELD UNIVERSITY

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EXPLAINING CONSUMERS' MUSIC
PREFERENCES IN A MULTI-CHANNEL
FRAMEWORK: THE CASE OF MUSIC PIRACY

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Abstract

Understanding consumers' behaviour towards music acquisition from all channels (both legal and illegal) is essential for marketers and policy makers in order to fight music piracy. Yet, existing research has not examined consumers' intention to acquire music from all possible channels but has focused on digital illegal acquisition only. The purpose of this research is to create a model based on the Theory of Planned Behaviour for music acquisition from all possible channels and to test it in order to explain the reasons that lead consumers to acquire music from each channel. The study employs a mixed method approach with a dominant quantitative component. During the exploratory phase an extensive literature review indicated key themes that led to the creation of the research hypotheses, the theoretical model and the scale associated with it. An initial questionnaire was created as an instrument for the study, which was subject to face and content validity with expert judging (5 academics and 5 practitioners) and a pilot study (19 participants). Purification and validation of the scale was conducted through reliability tests and Exploratory Factor Analysis (n=200). The research hypotheses of the model were tested using Confirmatory Factor Analysis and Structural Equation Modelling on a sample of undergraduate students (n=511) from two European countries (UK and Greece) both suffering from music piracy. Four possible distinct music acquisition channels are presented and analysed: bricks-and-mortar stores, street vendors, Internet music shops and P2P platforms. Major findings suggest that music quality and perceived benefits of piracy are the most important determinants of music acquisition. The outcome of this research adds new perspectives to the issue of music piracy, and suggests directions for future research. In addition, the research offers important implications for marketers and police makers who could use the findings in order to reduce the piracy phenomenon.

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LIST OF ABBREVIATIONS

A	Attitude construct in Technology Acceptance Model
AGFI	Adjusted Goodness of Fit Index
AMOS	Analysis of Moment Structure
ATM	Automated Teller Machine
ATT	Attitude construct in the Theory of Planned Behaviour Model
ATTB	Attitude construct for Bricks-and-mortar stores
ATTD	Attitude construct for Digital (Internet) music shops
ATTP	Attitude construct for Peer to peer (illegal) downloading
ATTS	Attitude construct for Street Vendors (illegal)
AVE	Average Variance Extracted
CD	Compact Disc
CFA	Confirmatory Factor Analysis
CFI	Comparative Fixed Index
CR	Composite Reliability
DTPB	Decomposed Theory of Planned Behaviour
DVD	Digital Video Disc
EFA	Exploratory Factor Analysis
GDP	Gross Domestic Product
GFI	Goodness of Fit Index
ICC	Inter-construct Correlations
ICEDMM	Issues-Contingent Ethical Decision-Making Model
IDL	Idolatry construct for the Theory of Planned Behaviour Model
IEDMM	Integrationist Ethical Decision-Making Model
IFPI	International Federation of Phonographic Industry
INT	Intention construct in the Theory of Planned Behaviour Model
INTB	Intention construct for Bricks-and-mortar stores
INTD	Intention construct for Digital (Internet) music shops
INTP	Intention construct for Peer to peer (illegal) downloading
INTS	Intention construct for Street Vendors (illegal)
KMO	Kaiser-Meyer-Olin measure of sampling adequacy
MCFA	Multi-group Confirmatory Factor Analysis
MGDB	Model of Goal Directed Behaviour
MP3	Motion Picture Experts Group audio layer 3
MRS	Market Research Society
NFI	Normed Fit Index
NVivo	A qualitative data analysis computer software
OLS	Ordinary Least Squares
ONS	Office of National Statistics
P2P	Peer to peer
PBC	Perceived Behaviour Control construct in the Theory of Planned Behaviour Model
PBCB	Perceived Behaviour Control construct for Bricks-and-mortar stores
PBCD	Perceived Behaviour Control construct for Digital (Internet) music shops
PBCP	Perceived Behaviour Control construct for Peer to peer (illegal) downloading

PBCS	Perceived Behaviour Control construct for Street Vendors (illegal)
PBP	Perceived Benefits of Piracy construct for the Theory of Planned Behaviour Model
PLM	Price of Legitimate Music construct for the Theory of Planned Behaviour Model
PLP	Perceived Likelihood of Punishment construct for the Theory of Planned Behaviour Model
PNFI	Parsimony Normed Fit Index
P-P plot	Probability to probability plot
PQM	Perceived Quality of Music construct for the Theory of Planned Behaviour Model
PC	Personal Computer
RMSEA	Root Mean Square Error of Approximation
RMSR	Root Mean Square Residual
RQ	Research Question
SN	Subjective Norm construct in the Theory of Planned Behaviour Model
SNB	Subjective Norm construct for Bricks-and-mortar stores
SND	Subjective Norm construct for Digital (Internet) music shops
SNP	Subjective Norm construct for Peer to peer (illegal) downloading
SNS	Subjective Norm construct for Street Vendors (illegal)
SPSS	Statistical Package for Social Sciences
SQRTAVE	Square Root of The Average Variance Extracted
SRMR	Standardised Root Mean Square Residual
TAM	Technology Acceptance Model
TF	Totally Free
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
VCD	Video Compact Disc

1. INTRODUCTION

1.1. Rationale for the Current Research

The aim of this study is to utilize the Theory of Planned Behaviour (TPB) in order to shed some new light on the main factors that drive people in acquiring music from various channels. Apart from the traditional bricks-and-mortar stores that used to sell vinyl records, cassette tapes and/or CDs, the emergence of the Internet, created a new channel of music provision. This channel gives the opportunity to consumers to download digital music files from the Internet.

With the advanced compression technologies for storing and transmitting files, mainly through the creation of the MP3[1], the Internet has become a new channel that enables individuals downloading music files efficiently (Rao, 1999; Bockstedt *et al.*, 2005). This fact together with the creation of the peer-to-peer phenomenon brought massive changes on the ways that people acquire music. Legal Internet music shops co-exist with illegal peer-to-peer sites and provide music to a large number of interested customers either with payment or even (in the case of peer-to-peer) free.

These technological advances spurred an even higher interest in the issue of music piracy research. Obviously, music piracy existed before the digital acquisition of music, however it was in a much smaller and controlled state than today. Nowadays, physical piracy (expressed mainly through sales of counterfeit CDs from street vendors) is still an issue, but the music industry's main challenge is to tackle the very high rates of digital piracy and intellectual property infringement that exists on the Internet.

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[1] The MP3 is a compressed file that contains a piece of music (usually a song) of a quality near to the standards of the original copyrighted equivalent.

In general, there are two ways of acquiring music today: physically (buying the actual product, usually in the form of a CD) and digitally (downloading a file via the Internet on your PC at home or work etc.). In each of these channels there are two more channel choices available: the legal one and the illegal (pirate) channel. In terms of the physical channel there is legal acquisition of music, where consumers buy music CDs from traditional bricks-and-mortar stores and illegal acquisition, where a consumer can acquire music by buying a counterfeit CD from an illegal street vendor. Similarly, in the digital channel there is legal acquisition of music through downloading MP3 files from legal Internet music shops, and illegal acquisition through the very extensive digital piracy of music downloading from illegal peer-to-peer sites.

This study aims to examine music acquisition from all those channels described above using the TPB in order to draw conclusions that will help us understand better, what are the factors that lead individuals to acquire music from each of these different channels and hence enabling the music industry to set appropriate policies in order to tackle the piracy phenomenon. The study fills a gap in the literature, because examining all different channels (something that has not been studied in the literature before) will enable us to identify and investigate the uniqueness of the differences in the acquiring behaviour in each separate channel and hence help focus on differences and/or similarities among the different channels. Further to that, the study builds a unique theoretical behavioural model – with strong validation based on the current literature – that is suitable in explaining the influence factors that affect individuals to acquire music from a multiple channel environment.

1.2. Piracy in the Music Industry

The Office of National Statistics (ONS, 2009) reported that in the UK 18 million households have broadband Internet access[2]. According to Palenchar (2009) digital sales have been steadily growing because of the convenience Internet brought to consumers. About half of those who accessed the Internet three months prior to the ONS survey had downloaded (legally and illegally) music and movies, which are the most purchased items by both men and women (ONS, 2009). Therefore, it is evident that digital music downloading is at the core of Internet shopping behaviour.

The rapid increase of fast Internet connections makes file sharing and downloading very easy. The International Federation of the Phonographic Industry (IFPI) estimated that illegal digital downloading makes up 95 per cent of the global music download market, which causes massive losses to the music industry (IFPI, 2010). It is estimated that the potential worldwide losses to the respective industries is around tens of billions US dollars (Mckenzie, 2009; Lysonski and Durvasula, 2008). Peitz and Waelbroeck (2004) suggest that the music industry's sharp revenue fall is at least partly attributed to the widespread use of peer-to-peer sites.

The sharp fall in physical sales is nonetheless accompanied by an increase in digital ones, confusing the overall picture. In the USA, the revenues from physical music sales decreased by 1,611.6 millions (51.2%), but digital sales have increased by 607 millions (30.4%) in 2012 compared to 2008. Moreover, in the UK the sharp fall in physical sales from 2008 to 2012 (48.3%) has been accompanied by a massive increase in the digital sales (157.6%) (IFPI, 2013).

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[2] According to the latest statistics (ONS, 2013) this figure is now 21 million (83%) households.

According to Hunt *et al.* (2009) only 20 per cent of the UK population has purchased music online. However, illegal file sharing is widespread with an estimated 95 per cent of music downloads being done illegally. IFPI (2009) suggests that almost one in five people across Europe are engaged in frequent illegal music downloading.

Therefore, peer-to-peer file sharing poses a big challenge for the music industry to achieve ways to eliminate this extensive illegal downloading behaviour and to find ways to direct music downloaders (or digital consumers) towards paid services. LaRose and Kim (2007) suggest that this can be done with the help of prosecutions and public information campaigns. The present study aims to identify the key driving factors for all possible channels (physical and digital, legal and illegal) and hopes to shed additional light on the issue.

1.3. Multiple Channels and the Music Industry

Multi-channel retailing is a marketing strategy that offers customers a choice of ways to buy products. Possible channels include the Internet, traditional bricks-and-mortar stores, television, catalogues etc., (Stone *et al.*, 2002). According to Choi and Park (2006) multi-channel retailing offers a wider array of shopping experiences and values for both consumers and retailers. With the emergence of the Internet, the power and flexibility of electronic shopping has changed massively the expectances of modern consumers and created a new generation of customers that tend to shop across all channels.

Since consumers are looking for ways to maximize the utility and benefits that come from shopping and minimize the costs associated with it, in terms of money, time

and energy spent, the choice of various channels is viewed in general as something positive in the relevant multi-channel literature (Neslin *et al.*, 2006). Also, they might use different channels in different ways: for example they might use the Internet for seeking information and the traditional bricks-and-mortar stores for buying the product and vice versa. Since the shopping experience includes entertainment and social interactions some consumers might prefer different channels based on the value they give to these factors. Some consumers might prefer the bricks-and-mortar stores in order to have social interaction with other people that share common interests, while some others might prefer the comfort of their home in order to make their purchases from the Internet in a much faster way (Li *et al.*, 1999).

Multi-channel consumers can be broadly defined as those who shop from more than one channel. According to Goel (2006) these consumers tend to spend four times as much than customers who confine themselves only to one channel for all of their purchases. Multi-channel consumers usually refuse to stick to one channel because they always want to explore the various opportunities to compare products, benefits, prices etc. So they usually hop between bricks-and-mortar stores to the Internet and vice versa in order to find what is best for them (Crawford, 2005).

In terms of retailers, the larger options given from the different channels makes it crucial to view their business holistically and try to provide to their customers more than one channel choices (Shern, 2000). It is important to obtain knowledge about the benefits and costs associated with the different channels, understand why different consumers prefer different channels and try to lure them to the optimal channel instead of waiting for the customers to choose (Myers *et al.*, 2004).

However, although multi-channel theory and literature focuses on all those aspects for most products, concerning music, the emergence of the Internet as a new channel has changed substantially consumer's purchase intention. Although the Internet was and is indeed a new market for existing music retailers to explore (possibly with the creation of their own Internet music shops), in the music industry a large illegal activity in the form of digital music piracy, takes place through the peer-to-peer websites.

Thus, instead of providing retailers an additional means of selling their music products, the digital piracy phenomenon has led to a massive drop on physical music sales creating larger problems for the industry. Music consumers now have the choice to download illegally with no extra monetary cost, the songs they like from an illegal digital channel. Therefore, the examination of the acquisition of music through different channels has to take into consideration the piracy phenomenon and address it properly, since it is not just another channel of consumers' acquisition of music.

The literature so far focused only on the aspect of digital music piracy without viewing it in a multi-channel framework as described above. Therefore, a more holistic view is required in order to address the issue in all its perspective and help for a better understanding concerning the needs of the customers, the differences and similarities in terms of music acquisition and how these differences are addressed from the various different channels. A study of this kind will provide better insights and will help the music industry identify its weak and strong position in order to tackle the issue appropriately.

1.4. Research Aim and Objectives

The aim of this study is to address the following research problem: What factors affect consumers' music acquisition in a multi-channel framework? The research will

address this problem, by developing and testing an amalgamated model of the antecedents of music acquisition from various music channels. The proposed model integrates new constructs that play a particular role for the case of music acquisition into the theoretical framework of the TPB. The results of the present study are expected to contribute to the literature of music acquisition and TPB. By addressing the above stated research problem, this study aims to achieve the following four objectives.

1. To develop a model of the determinants of music acquisition from various music channels, based on the TPB as a foundation.

2. To test the empirical validity of the proposed research model in two European countries, both suffering from music piracy.

3. To identify any differences and/or similarities, which emerge from various demographic indicators such as gender, income and country of study.

4. To ascertain the relationship between and disparities among those who acquire music using legal and illegal music channels.

Therefore, the preliminary research questions (RQ) associated with this study are the following:

RQ1: Can the Theory of Planned Behaviour be applied to music acquisition from various music channels in order to enhance our understanding of the behaviour?

RQ2: Do gender, income and country of study moderate the relationship among specific proposed model constructs?

Chapter 3 presents an analytical conceptual model where the research questions are articulated and a formal and complete set of research hypotheses is discussed based on these research questions.

1.5. Research Structure

The remainder of this study is structured as follows. Chapter 2 discusses in detail the literature related to behavioural intention theories, such as the Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB), the Decomposed Theory of Planned Behaviour (DTPB) and the Model of Goal Directed Behaviour (MGDB). Also, it critically reviews the relevant multi-channel literature as well as the ethics theories related to music acquisition and the current research on the issue of music piracy.

Chapter 3 deals with the construction of the conceptual framework and the research hypotheses involved in the study. The conceptual model explains analytically all the hypotheses to be tested and analysed.

Chapter 4 presents the research design and methodology applied to empirically test the proposed conceptual model of music acquisition from various music channels. This chapter discusses the philosophical foundation of research and the research strategy that is undertaken. It also provides an analytical discussion of the steps taken to data collection, sampling issues and the ethical considerations in this research.

Chapter 5 presents the scale development and item creation for the instrument that will be used in this research. An exploratory study including expert judging, a short pilot study and a quantitative calibration study for the development of the scales and the reliability and purification of the items is presented.

Chapter 6 reports the data analysis and the results of the main study using the data analysis tools, which are explained and justified in Chapter 4. Results reported include data screening methods, confirmatory factor analysis (CFA) and structural equation modelling (SEM) analysis. This chapter also reports the reliability and validity of constructs together with hypotheses testing.

Chapter 7 continues the empirical research presenting results with respect to the effect of demographic moderators such as gender, country of study and income.

Lastly, chapters 8 and 9 present the discussion and conclusions of the current study. Chapter 8 provides an overview of the research and discusses the findings related to the results drawn from testing the research hypotheses. Chapter 9 presents the theoretical, managerial and policy implications of the research together with limitations and directions for future research.

2. LITERATURE REVIEW

2.1. Introduction

This chapter provides a thorough discussion of the theories and concepts addressed in this study. The chapter first presents all the relevant theories explaining behavioural intention together with a short presentation of the multi-channel theory. Then a thorough literature review of the studies that address the different forms of piracy, such as software, DVD's/VCD's, counterfeits and most importantly music piracy, either physical or digital, is presented. After a comprehensive review of each area, the aim is to identify gaps in the previous studies in order to highlight the valuable contributions of this research.

2.2. Intention Theories

There are a number of studies in the context of social psychology that apply consumer related intention-based models, which use behavioural intentions to describe a behaviour. The first intention-based model reviewed is the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975). Following this theory Ajzen (1985, 1988, and 1991) extended TRA by proposing the Theory of Planned Behaviour (TPB). Later, Davis (1986, 1989) and Davis *et al.* (1989) proposed the Technology Acceptance Model (TAM), which is another adaptation of the TRA. Among these three intention models TPB has become one the most important behavioural models today (Mathieson, 1991). However, Taylor and Todd (1995a) criticized TPB, so they introduced the Decomposed Theory of Planned Behaviour (DTPB) in an effort to better understand the behaviour.

Table 2.1: Critical Comparison of the Behavioural Intention Theories		
Theory	**Proposed Constructs**	**Critique**
Theory of Reasoned Action (TRA)	Behavioural intention Attitude Subjective Norm	• Can not explain spontaneous, impulsive, habitual behaviour • There is no distinction between goal intention and behavioural intention • Does not take into account the presence of choice alternatives in the intention formation process • There is no distinction between what one intents to do and what actually does
Theory of Planned Behaviour (TPB)	Behavioural beliefs Attitudes towards behaviour Normative beliefs Subjective norms Control beliefs Perceived behavioural control Behavioural intention Actual behaviour	• The causal relationship between Attitude and Behavioural Intention is not clear • Most of the research is correlational and not causal • Ignores external variables, such as demographics, personal traits etc. that might play a vital role in determining behaviour • It overlooks emotional variables such as threat, fear, mood, impulsive behaviour and negative or positive feeling • Does not take into account behaviours that are influenced by their personal emotion and have affect-laden nature
Technology Acceptance Model (TAM)	Perceived usefulness Perceived ease of use Attitude Behavioural intention	• Questionable heuristic value • Limited explanatory and predictive power • Triviality • Lack of any practical value
Decomposed Theory of Planned Behaviour (DTPB)	Perceived usefulness Perceived ease of use Compatibility Peer Influence Superior Influence Self-efficacy Resource and technology facilitating conditions TPB constructs	• Similar to the criticisms of TRA, TPB and TAM • Its main focus is in technology acceptance and assumes work based relationships • It lacks the simplicity of TPB
Model of Goal Directed Behaviour (MGDB)	Behaviours Attitudes Intentions Desires Perceived behavioural control Frequency of past behaviour Recency of past behaviour Subjective norms Positive and negative anticipated emotions	• Ignores the role of habits • Goals can be formed subconsciously in some cases • It is a complex model that requires the measurement of a large number of constructs • It lacks the simplicity of TPB

Last, based on the TBP the Model of Goal-Directed Behaviour (MGDB) was proposed by Perugini and Bagozzi (2001). The sections below present analytically all the theories mentioned above. Also, Table 2.1 presents all the theories and provides a critical comparison among them.

2.2.1. Theory of Reasoned Action

One of the first intention models was established in the field of social psychology by Fishbein and Ajzen (1975). They started their work in the late 50s where they merged various theories that dealt with attitude in order to develop a new theory that would explain human behaviour. They first proposed the theory of reasoned action (TRA) in 1967, however they made lots of developments over the years. TRA is a well-developed and confirmed intention model that has explained behaviour in various research fields (Sheppard *et al.*, 1988).

The TRA presumes that consumers are rational, so they are aware of all the information available to them, whereas the main predictor of the actual behaviour is intentions and not attitude (Ajzen, 2002; Fishbein and Ajzen, 1975). According to TRA a person's intentional behaviour derives from:

a) Attitude towards the performance of the behaviour

b) Subjective Norms

Figure 2.1 portrays the Theory of Reasoned Action.

Attitude towards a behaviour refers to the degree (either positive or negative) to which the performance of an individual's behaviour is valued. Since attitude is created by the individual's beliefs about the actual behaviour, it can be expressed as the following equation:

$$A_B = \sum_{i=1}^{n} b_i e_i \qquad\qquad (2.1)$$

where, A_B denotes the attitude towards the behaviour under investigation B, b_i denotes the belief held about B (that is, the probability that will held to the consequence or outcome B), e_i denotes the individual's evaluation of the outcome B and n denotes the number of beliefs the person holds about the attitude. Ajzen and Fishbein (1980) argued that a person's attitude towards any behaviour could be predicted accurately from her/his beliefs and the assessment of these beliefs.

Figure 2.1: Graph of the TRA
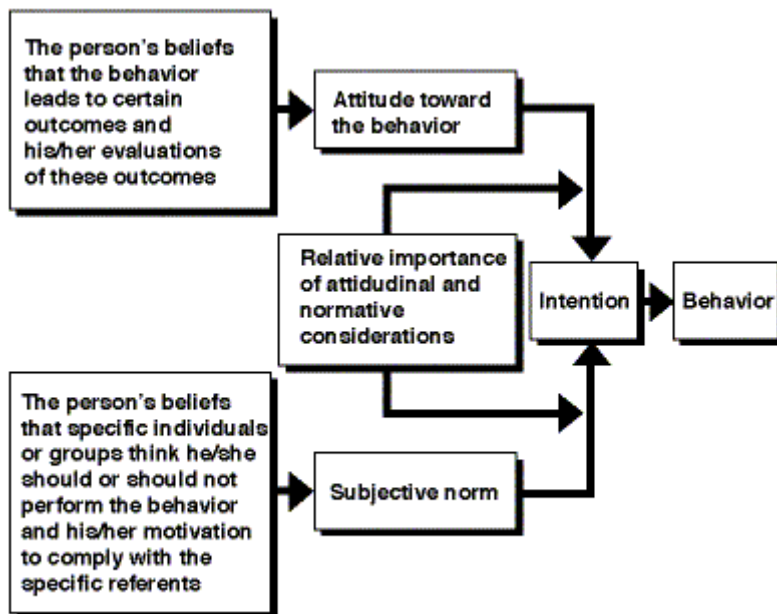
Source: Ajzen and Fisbein (1980) p. 8

Subjective norms refer to the effect that social environment has on the behaviour. More precisely, it refers to the individual's perception on what most people who are important to her/him think for the behaviour itself.

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Following TRA, the general subjective norms are predicted by the perceived expectations of a specific individual(s) or group(s) and by the person's willingness to follow these expectations. The above can be expressed with the following equation:

$$SN = \sum_{i=1}^{n} n_i m_i \qquad (2.2)$$

where, n_i denotes the normative belief (an individual's belief that the important others in her/his life think she/he should or should not perform the behaviour), m_i denotes the motivation to comply with referent i and n is the number of relevant referent.

Intention refers to the person's willingness to perform a specific behaviour. Intention is considered the closer antecedent of behaviour.

According to TRA the two determinants of behavioural intention are attitudinal and normative factors, which are presented, in the following equation.

$$B \propto I = A_B W_1 + (SN)W_2 \qquad (2.3)$$

where B denotes the behaviour, I is the intention to perform the behaviour, A_B is the attitude towards performing the behaviour, SN is the subjective norm, W_1 is the empirical determinant weight of attitude and W_2 is the empirical determinant weight of subjective norms.

As with most theories, the TRA has received major criticism on several grounds. The first major critique was done by Sheppard *et al.* (1988). Sheppard *et al.* (1988) found that TRA imposes limiting conditions on the use of attitudes and subjective norms to predict intentions and on the use of intentions to predict the performance of behaviour. These are the following: First, the theory fails to make a distinction between a goal intention (think of someone who wants to lose weight) and a behavioural intention (think of someone who takes a diet pill). Second, TRA ignores the role of

choice when there are alternatives present. In cases of choice the nature of the intention formation process may change dramatically, something that is ignored by this framework. Finally, there is no clear distinction among intentions and estimates. Sometimes, what someone intents to do might be completely different by what he/she actually does.

Bentler and Speckart (1979) and Langer (1989) also criticised the TRA suggesting that TRA explains only volitional behaviours; thus excluding a wide range of behaviours such as those that are spontaneous, impulsive, habitual, the result of cravings, or simply scripted or mindless. This criticism was acknowledged also from Ajzen (1985) who agreed that the most important restraint of the theory is derived from the hypothesis that behaviour is under volitional control. Based on this criticism Ajzen (1985, 1991) developed the Theory of Planned Behaviour trying to resolve this drawback. This theory is discussed in the next section.

2.2.2. Theory of Planned Behaviour

Ajzen (1985, 1991), presented the theory of planned behaviour (TPB) in an attempt to describe behaviour that is not completely under volitional control. This theory also proved to be effective in explaining behaviour in various research fields. The TBP is effectively an extension of the TRA, where perceived behavioural control (PBC) has been added. PBC is added in order to account for circumstances, where an individual does not have total control over the behaviour she/he performs. Ajzen (1991) suggests that both Intentions and PBC are significant in predicting behaviour, but in some occasions of certain conditions one may be more important than the other. More

precisely, in circumstances where prediction of behaviour of intentions is not under volitional control, PBC can be used to predict behaviour directly.

PBC suggests that a person's incentive is influenced by how difficult the behaviours are perceived to be, as well as how successful the individual can or cannot perform the behaviour. If the person has strong beliefs about the present factors that will facilitate behaviour, then the individual will have a high-perceived behavioural control over the behaviour. Equally, the person will have a low perception of PBC if she/he holds strong control beliefs that hinder the behaviour. The perception can reflect past experiences, anticipation of upcoming circumstances and the attitudes of the influential norms that surround the individual.

Similar to the way attitude and subjective norm was defined through equations *(2.1)* and *(2.2)*, PBC is defined as follows:

$$PBC = \sum_{i=1}^{n} c_i p_i \qquad (2.4)$$

where *c* denotes control factors and *p* denotes the power of the factor or the strength of the belief. The TBP can be expressed through diagram in Figure 2.2.

As can be observed from Figure 2.2, behaviour is a function of salient (behavioural, normative, control) beliefs related to the behaviour. Ajzen (2006) defines these beliefs as follows:

Behavioural belief is an individual's belief about the consequences of a particular behaviour. It is based on the subjective probability that the behaviour will produce a given outcome. Normative belief is an individual's perception about the particular behaviour that is influenced by the beliefs or the judgment of significant others (e.g. parents, friends, people they look up to). Control belief is an individual's belief about certain factors that may facilitate or hinder the performance of the

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behaviour. Therefore, it is closely related to the concept of self-efficacy. Actual behavioural control is the degree of a person's abilities, resources and other fundamentals to perform the behaviour.

Figure 2.2: Graph of the TPB
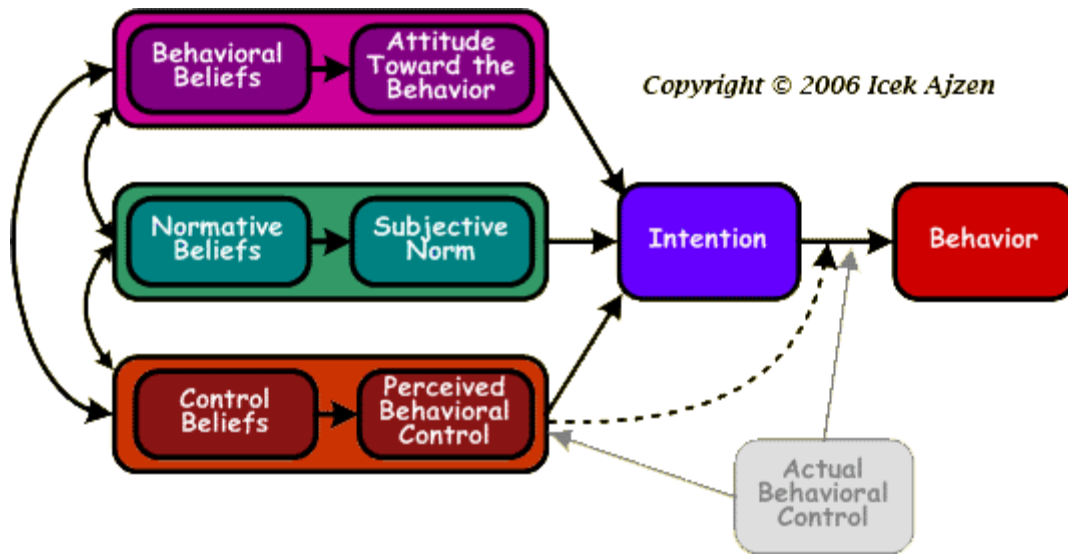
Source: Ajzen (2006) [online]

Research regarding the predictive validity of the TPB using meta-analysis provide strong support of the theory (Conner and Armitage, 1998). The theory provides a good explanation of the informational and motivational influences on behaviour, it is easy to comprehend, and can be applied to a wide range of empirical cases. There are, however, criticisms on various grounds. First, the theory is presented as causal, mainly due to the claimed cause and effect relationship between the constructs of attitude and intention. More specifically, the TPB predicts that attitude partially determines behavioural intention, which in turn is a predictor of actual behaviour. However, empirical applications of TPB consistently apply correlational designs, which indicates that a change in one variable causes a change in another, but the direction of causality is

not evident (Conner and Armitage, 1998). Therefore, as pointed out by Conner and Armitage (1998) this does not allow the researcher to test the implicit causal assumption of the theory.

Another criticism is that the TPB is ignoring some important influencing variables on behaviour (Liska, 1984; Bagozzi, 1992). Specifically, it ignores the importance of external variables, such as demographics and personality traits. Ajzen's (1985, 1991) reply to this critique was that the importance of these factors (although crucial) is bound to fluctuate depending on situational contexts; while the proposed TPB constructs remain constant under all circumstances.

The general belief is that TPB is a powerful theory in explaining behaviour but it needs to be enhanced with the addition of independent constructs as determinants of intention that are parallel to the original predictor variables (Conner and Armitage, 1998). Conner and Armitage (1998) suggest the extension of the TPB with six additional variables: salient beliefs, past behaviour/habit, perceived behavioural control versus self-efficacy, moral norms, self-identity, and affective beliefs.

Finally, the TPB overlooks emotional variables such as threat, fear, mood, impulsive behaviour and negative or positive feeling. This can be a major limitation particularly for health related behavioural issues (Dutta-Bergman, 2005), where most people are influenced by their personal emotion and affect-laden nature.

2.2.3. Past Behaviour and Habit

The idea that human behaviour is reasoned is a topic that has been challenged by several academics (Aarts *et al.*, 1998; Fazio, 1990). Therefore a possible addition to the TPB is past behaviour and the role of habits. The TPB focuses only on deliberative

processes and pay no particular attention to the effect of automatic mental processes (such as habits) on behaviour (Fazio, 1990). Habit is defined as the tendency to repeat past behaviour in a stable context (Ouellette and Wood, 1998). There is a stream of research, which examines the effects of habits and habitual behaviour. Aarts *et al.* (1998) suggest that individuals most of the times use a simplified decision rule in forming actual behaviours. For example, they suggest that individuals who travelled frequently in the past using their chosen means of transportation, when deciding for their next trip, they were less likely to search for new information altering the mode of travel and more likely to focus on their initial habitual choice. If human behaviour is habitual, or not completely reasoned, then past behaviour should have a direct impact on actual behaviour. On the other hand, if human behaviour is reasoned, past behaviour should exert an influence on behaviours through intentions, and through attitudes, subjective norms and perceived behaviour control as the TPB suggests.

Ajzen (1991) argues that the effects of past behaviour are mediated by perceived behavioural control because repetition of behaviour may lead to a better perception of how much control an individual has over the behaviour. However, the notion that past behaviour is directly related to intentions and behaviours has been supported by a number of studies. Conner and Armitage (1998) found that past behaviour explained an average of 7.2% of the variance in intentions and 13% of the variance in behaviours. Bamberg, Ajzen, and Schmidt (2003) provided evidence that past behaviour had a direct path to intentions and to behaviours in the context of choice of transportation methods.

With regards to music acquisition, LaRose *et al.* (2005) is the only study that has examined the role of habitual behaviour. Their research focuses only on the illegal acquisition of music in a digital environment, i.e. from P2P platforms. They suggest that

illegal music downloading follows a habitual pattern triggered by an environmental stimulus (e.g., connecting to the Internet) or by recalling a goal (e.g., the desire to possess every Miles Davis recording ever made) and it is performed without further self-instruction. The digital downloaders may evaluate initially their behaviour during the first few times they download songs by their favourite artists, but when they reach downloading session number 100, they no longer evaluate their behaviour and they simply do it by habit. LaRose *et al*. (2005) suggest that this explains why some music fans have seemingly impossibly large collections of music files. The collections are sometimes so large than even the most avid music fan is not able to enjoy listening to them. Thus, in order to examine the role of habits empirically they use a construct that they called "Deficient self-regulation". They used the following items to measure the construct: "I sometimes download files without thinking about why I want them"; "My downloading is out of control"; "I spend so much time downloading that it is interfering with my life"; "Downloading is a habit I have gotten into". They found that the proposed construct had a positive effect on current downloading behaviour but it was non-significant for the prediction of future downloading intentions.

However, although there might be a case for habitual behaviour regarding downloading music from the Internet without a fee, there is no argument to suggest that acquiring music legally or paying in order to buy music from street vendors may follow a habitual or impulsive pattern. Although for some music fans, the illegal music downloading from the Internet might indeed reach the extreme case of acquiring music that cannot be "consumed"; the idea of having individuals who are addicted to the illegal downloading of music so as to do it in a strictly habitual way is something that can be challenged. If music fans really want to have the entire music collection of their

favourite artist(s) no matter how large this may be, then the process of trying to obtain the entire collection is not habitual. On the contrary it might include a series of actions that surely will involve search for music on the Internet (mainly in the P2P sites) but also search for buying rare records from e-bay, or bootlegs from dedicated music shops, street vendors that might have rare bootleg recordings etc. Therefore, this behaviour cannot be considered as habitual, but as a really deliberate process as the TPB suggests. All these issues will be examined during the construction of the theoretical model for this study.

2.2.4. The Role of Impulsive Behaviour

One of the criticisms that the TPB has received is that it ignores the role of emotional and impulsive factors in the decision making process (Herrnstein, 1990). Therefore, it is possible that some of the variance in behaviour left unexplained by the TPB, is because some people perform some behaviour on impulse and not being based on deliberative processing (Churchill *et al.*, 2008). Some people may be more disposed to make speedy, impulsive, non-reflective decisions (Eysenck, 1993; Evenden, 1999), since different individuals have differences in their degree of impulsivity (Evenden, 1999). Impulsivity has been associated with the inability to wait, and the insensitivity to the long-term consequences of action (e.g. Cloninger *et al.*, 1991; Evenden, 1999). In the literature it has been argued that impulsivity may influence various behavioural outcomes, such as: educational achievement, antisocial behaviour, drug and alcohol use/abuse, eating disorders, and risky sexual behaviours (Claes *et al.*, 2005; Lynam and Miller, 2004; Spinella and Miley, 2003).

Ajzen and Fishbein (2005) suggest that even behaviours that are characterized by impulsiveness (e.g. unprotected sex) can be predicted by cognitive predictors such as those included in the TPB. However, there is a research strand that believes that there are situations in life that impulsiveness will override any previous deliberation and significantly contribute to the prediction of behaviour over and above TPB predictors (Churchill *et al.*, 2008). This will be particularly true of behaviours that are not adequately characterized by a deliberative decision-making processes, such as engaging in unprotected sex or consuming certain food items. Churchill *et al.* (2008) develop a model that includes a measure of impulsivity alongside the traditional TPB constructs. They show that the inclusion of this new construct significantly increases the explained variance in high-calorie snack consumption beyond that explained by age, gender, body mass index (BMI), dietary restraint, intentions, attitudes, SNs and PBC.

Therefore, from the above discussion, it is apparent that people do not always engage in elaborate decision-making processes before acting, and balanced reasoning can sometimes be subverted by self-serving impulses. However, such case of impulsive decision-making is not applicable to the case of music acquisition as such. Usually, people when buying music they do it through a more elaborative process such as the ones that the TPB describes.

2.2.5. Technology Acceptance Model

Davis (1986) provided an extension of TRA introducing the Technology Acceptance Model (TAM). This model aims to explain the determinants of computer acceptance among users. TAM contrary to TRA replaces behavioural beliefs with two

new technology acceptance measures: perceived ease of use (E) and perceived usefulness (U). A graphical representation of TAM is provided in Figure 2.3.

Figure 2.3: Graph of the TAM
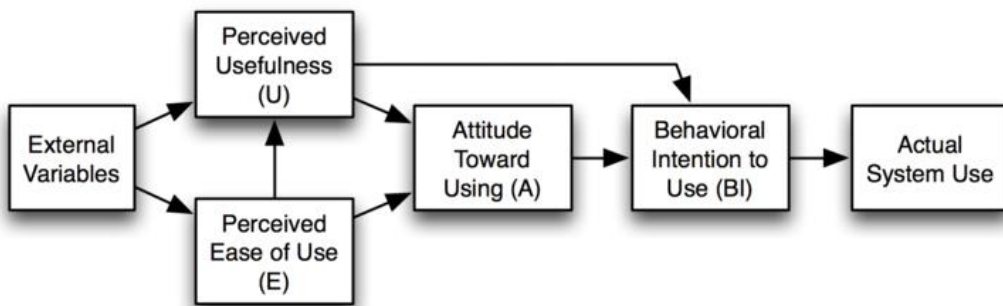
Source: Davis (1986) p. 985

Perceived ease of use refers to the degree to which a person believes that using a particular system would be effortless. Perceived usefulness, on the other hand refers to the degree to which a person believes that using a particular system would enhance her/his job performance. TAM does not include subjective norms as determinant of behavioural intention. Although in Figure 2.3 the model includes attitude (A) as a construct, after empirical evidence that showed that this construct does not fully mediate the effect of perceived ease of use on intention and the perceived usefulness link with intention was more significant, the construct was later on excluded (Davis *et al.*, 1989). TAM suggests that perceived usefulness is affected by perceived ease of use because the easier a technology is to use, the more useful it can be. Consistent with TRA, TAM suggests that the effect of external variable on intentions is mediated through the two

new constructs. These external variables can be "designed characteristics", "training", "computer self-efficacy" etc.

Despite its frequent use in empirical studies concerning technology acceptance, the TAM has been heavily criticised. According to Chuttur (2009) the main criticisms involve its questionable heuristic value, limited explanatory and predictive power, triviality, and lack of any practical value. Bagozzi (2007) claims that TAM can explain only 40% of a technological system's use. Also, Benbasat and Barki (2007) suggest that the attempts by several researchers to expand TAM in order to adapt it to the constantly changing IT environments has created a theoretical confusion among researchers.

Since the current research deals with music acquisition from various music channels, where the use of technology is limited to only two of them is not deemed as appropriate to use TAM for this purpose. Also, the use of technology in music acquisition is quite basic in order to be addressed in a very analytical manner.

2.2.6. Decomposed Theory of Planned Behaviour

Taylor and Todd (1995a) proposed an extension to the TPB. They suggested decomposing the three constructs that affect behavioural intention into detailed components. This theory was labelled Decomposed Theory of Planned Behaviour (DTPB). The theory can be summarized in Figure 2.4.

Taylor and Todd's (1995a) decomposition was based on past research that established a consistent relation among the three characteristics of innovation (perceived usefulness, complexity and compatibility) and adoption decisions. In another study of the same nature, Taylor and Todd (1995b) combined the variables of TAM and

Diffusion of Innovation Theory – developed by Rogers (2003); for an analytical exposition see Rogers (2003) – in measuring the attitude construct of TPB.

Figure 2.4: Graph of the Decomposed TPB
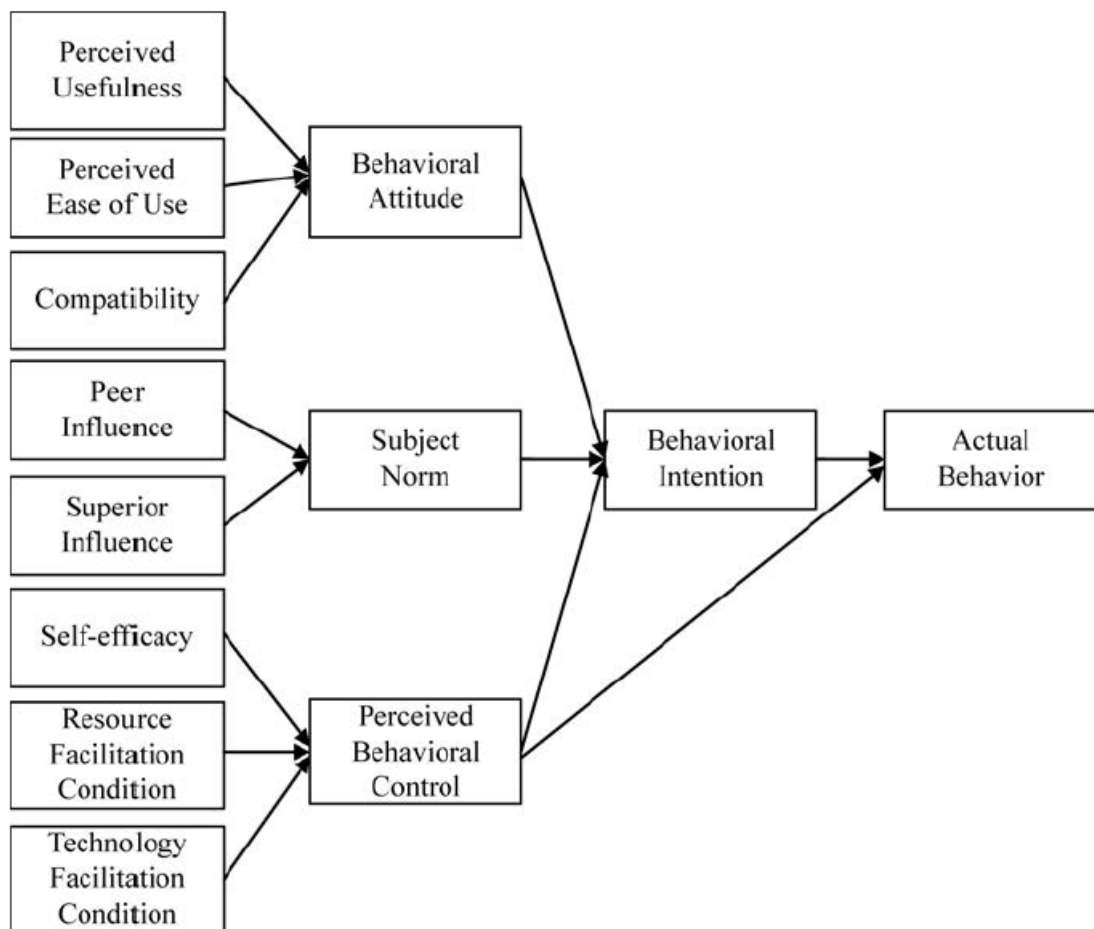
Source: Adapted from Taylor and Todd (1995b) p. 146

Taylor and Todd (1995a) aimed at examining the appropriateness of TRA, TPB and DTPB in explaining consumer behaviour. Using Structural Equation Modelling methodology they found that TRA and TPB are predicting behaviour significantly but

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DTPB was explaining behaviour even better. So, they recommend the use of DTPB as the right instrument for marketing implementation strategies.

Taylor and Todd (1995a, b) explained the better predictive power of DTPB mainly because of the following reasons: first the decomposition of SN to peer and superior influence, second the inclusion of efficacy and resource factors for PBC and third the measures of common constructs in similar fashion in all three models, which facilitated the comparison of TRA, TPB and TAM.

In the current research, it is assumed that all individuals have both the resources and the ability to acquire music from all the various channels. Furthermore, there is no reason to decompose the SN for music acquisition in *peer influence* and *superior's influence*, simply because there is no work relationship involved here. Therefore, the decomposition of SN and PBC is regarded as unnecessary and will not be tested in this research. However, the research will decompose the attitude construct in an attempt to identify its antecedents. The constructs that will be used to decompose attitude will derive from the existing literature on music piracy and from ideas regarding attributes/determinants of the multi-channel theory, presented later on in the thesis.

2.2.7. Model of Goal Directed Behaviour

Perugini and Bagozzi (2001) proposed an alternative model based on the TPB called the Model of Goal-Directed Behaviour (MGDB). This model introduces three additional sets of constructs in order to explain better purposive behaviour and its affective implications. The model is graphically presented in Figure 2.5.

Figure 2.5: Graph of the MGDB
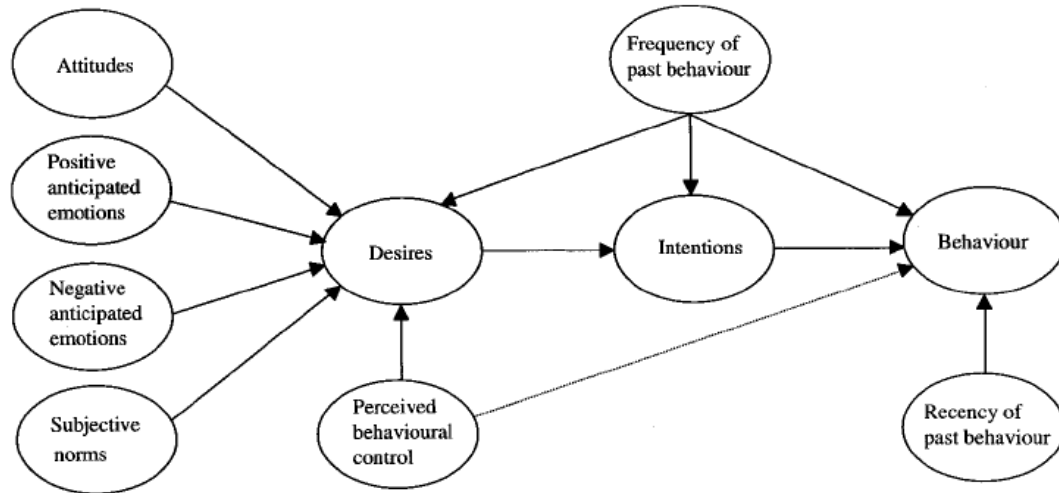
Source: Perugini and Bagozzi (2001) p. 80

The first addition to the TPB is the incorporation of anticipated emotions (both positive and negative), which together with attitude, SN and PBC affect desires (instead of intentions as in TPB). Bagozzi *et al.* (1998) suggest that the effects of the anticipated emotions are based on the argument that individuals, when deliberating to act or not in goal directed situations, take into account the emotional consequences of both engaging and not engaging in the behaviour.

A second addition of the MGDB is the role of past behaviour. According to Oullete and Wood (1998) past behaviour affects both intentions and future behaviour. Perugini and Bagozzi (2001) included both cases in their model suggesting that the more frequent and recent the past participation of the individual, the more positive the intention of participating in the behaviour in the future. The third augmentation is the addition of desires as a medium among attitudes, anticipated emotions, SNs and intentions. Desires are also found to partially mediate the effects of PBC.

The MGDB has received criticism from Aarts and Dijksterhuis (2000a, 2000b) since it ignores the role of habits and planning as well as the fact that there are goals, which are formulated non-consciously and affect behavioural intentions. Another drawback of the MGDB is that it is much more complex (compared to the better-established TPB) requiring the measurement of a larger number of constructs and the gathering of more sophisticated data (Leone *et al.* 1999). This model although an extension to TPB, it complicates issues further and is not applicable in the case of music acquisition that the current study aims to examine. A TPB model with the inclusion of the attributes/determinants of the multi-channel theory and attributes related to music acquisition is later on suggested as the preferred method of research.

2.3. Multi-channel Theory

One of the most dramatic trends in the shopping environment and correspondingly in the marketing literature was the emergence of various shopping channels through which customers can interact with firms. The new theory that deals with this issue is called multi-channel customer management (Neslin *et al.*, 2006) and it involves the design, deployment, coordination and evaluation of the multiple channels. The aim is obviously to enhance customer value through effective customer acquisition, retention and development (Schierlhoz *et al.*, 2006).

The definition of a channel is basically a customer contact point or a medium through which the firm and the customer can interact (Rangaswami and Van Bruggen, 2005). Hence, a channel can be the Internet, kiosks, ATMs, call centres, catalogues and traditional bricks-and-mortar stores.

According to Neslin *et al.* (2006) from the viewpoint of the firm managers, the emergence of multiple channels created new challenges and opportunities that can be summarized as follows:

(a) *Data integration across channels:* the firm should get hold of data that depicts which channel(s) each customer accessed during each stage of the decision process (both search and purchase). Ideally, the firm should collect information about competitor's channels as well.

(b) *Understanding Customer Behaviour in a Multi-channel Environment:* the firm should understand the ways customers choose channels and the impact of this choice has on their overall buying patterns.

(c) *Channel Evaluation:* after data collection and understanding customer's decisions, the firm should evaluate the performance of each channel and explore the possibility of synergies among channels.

(d) *Allocating Resources Across Channels:* The firm should decide about the optimal channel mix and efficient allocation of resources across channels.

(e) *Coordinating Channel Strategies:* The firm should decide whether channels should be independent or integrated, whether channels should be designed around segments or functions and manage the research shopper phenomenon.

The current study addresses the issue of music acquisition from multiple channels. The study does not concentrate on the objectives of a particular firm but views the music industry and its various channels as a whole. Therefore, only aspect (b) understanding consumer behaviour in a multi-channel environment is applicable here. Thus, the questions that need to be addressed are the following: What determines

customer channel choices? What channel attributes are important? Are there distinct segments of consumers who use various channels and combination of channels? (Neslin *et al.*, 2006). The research will concentrate on analysing those three issues.

The area of what determines customer channel choice has been researched extensively. Neslin *et al.* (2006) summarized and presented the literature suggesting there are six basic determinants, which influence channels choice. These are marketing efforts, channel attributes, channels integration, social influence, situational variables and individual differences.

Particular attention in the literature has to be given on the channel attributes that will now be addressed. Verhoef *et al*. (2007) stresses the importance of price, search effort, information comparability, service, risk, purchase effort, negotiability, privacy, speed of purchase and enjoyment. Further studies, suggested some more attributes are important for channels choice decision-making. Bourke (2000) added ease of use and security; Montoya-Weiss *et al.* (2003) added information quality and aesthetic appeal; Inman *et al.* (2004) suggested channel category associations, raising the number of attributes influencing channel choice to 18 in total. For the purpose of this study, it is considered carefully where to include some or all of this attributes as possible determinants of channel choice for music acquisition.

Another aspect of multi-channel theory is the issue of consumer segmentation. Since individual differences affect the choice of a channel, it is natural to believe that there might be clearly defined segments that prefer one or more particular channels. Keen *et al.* (2004) distinguish between four different segments. These are: the *generalists*, who care about everything, the *formatters* who care about particular channel preferences, the *price sensitive's* who care mainly about price and *experiencers*,

who tend to use the channel they have used before. Knox (2005) finds clear differences among customers and categorizes them as *multi-channel* versus *single-channel* ones. Thomas and Sullivan (2005) identify five segments according to product type impact, customer lifestyle and price sensitivity. Finally Cockrill and Goode (2012) in a paper exploring DVD pirating intentions, segment consumers to four different types of pirates. These are serious pirates ('Devils'), opportunists ('Chancers'), receivers ('Receivers') and non-pirates ('Angels'). Their results suggest that these different types of behaviour need to be tackled with varied anti-pirating measures.

In terms of the current research, consumer segmentation is important since the study wants to differentiate among physical versus digital consumers (which relates to *formatters*) and legal versus illegal consumers. Obviously special emphasis and caution should be given to the fact that there might be consumers who acquire music from more than one channel and therefore do not correspond easily to one of the above segments. All these issues will be addressed in the empirical research later.

2.4. Ethics Theories

There are three general models that describe ethical decision making in the literature. In these models ethical decision is being influenced by personal and situational factors. The first is Kohlberg's theory (1969, 1976), which shows that individual factors such as age, education and socio-economic status correlate with the moral stage of development and therefore affect socio-moral perspectives and reasoning. The second is Trevino's (1986) Integrationist Ethical Decision-Making Model (IEDMM), which suggests that a person's decision to act either ethically or

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unethically is being determined mainly by environmental characteristics. Finally, the third is Jones' (1991) Issues-Contingent Ethical Decision-Making Model (ICEDMM), which states that a person's perception towards ethical issues will affect her/his ethical judgment and that, will eventually affect her/his ethical behaviour. After presenting shortly those three models, a discussion about ethics theory with regards to marketing is provided, followed by a literature review of the piracy and ethics studies.

According to Kohlberg's (1969, 1976) theory of moral development, moral reasoning is the basis for ethical behaviour. Moreover, moral development theory has six identifiable developmental stages, where each one is more appropriate at responding to moral dilemmas than its predecessor. Kohlberg (1969, 1976) determined that moral development is principally concerned with the concept of justice and continues throughout a person's lifetime.

Following, Trevino's (1986) IEDMM, ethical or unethical behaviour is influenced by the organization's ethical environment characteristics, which occur within a social context. Victor and Cullen (1988) suggest that organizational ethical climate is responsible for an employee's behaviour. This means that the cognitive moral development stage of an individual will determine how an individual thinks about ethical dilemmas and will affect the decision about what is right or wrong in a situation. However, Trevino (1986) also suggests that the cognitions of right and wrong are not enough to explain ethical decision making behaviour. Additional individual and situational variables interact with cognitive components in order to determine how an individual is likely to behave in an ethical dilemma situation.

Jones' (1991) ICEDMM states that ethics related situations vary in terms of moral intensity. According to Lin *et al.* (1999) the moral intensity itself plays a significant role on moral decision making in organizations. The higher the moral intensity of the ethics related situation, the higher the effect on the ethical decision-making will be. So, an individual's perception toward ethical issues will determine her/his behavioural decisions. To connect this with piracy (an ethics related issue), the more an individual believes that piracy is unethical; the higher the possibility the individual considers piracy behaviour negatively. Thus, this will affect her/his decision-making towards music piracy.

The neutralization theory developed by Sykes and Matza (1957) suggests that individuals may engage in a behaviour they know is wrong by disavowing their deviance and presenting themselves as normal. To validate their unethical activities, individuals learn techniques in order to neutralize whatever misgivings they might originally have had about acting wrongfully. To achieve this neutralization five types of justifications are given by Sykes and Matza (1957):

(a) Denial of Responsibility (it is not my fault)

(b) Denial of Injury (no harm will result from my actions)

(c) Denial of Victim (nobody got hurt)

(d) Condemnation of Condemners (how dare they judge me, considering how corrupt and hypocritical they themselves are)

(e) Appeal to Higher Loyalties (there is a greater and a higher cause)

Ingram and Hinduja (2008) used this theory in an empirical examination of music piracy. They found that greater acceptance of the techniques associated with denial of responsibility, denial of injury, denial of victim and appeal to higher loyalties affects significantly piracy participation. Hence, the connection of neutralization with music piracy suggests that individuals do not really view music piracy as an unethical or wrong doing behaviour.

An ethical decision making model in marketing theory is that of Hunt and Vittel's (1986). This model is based on the reasoning process used by individuals. It suggests that ethical judgments are being determined by deontological and teleological evaluations when it comes to issues of ethical content. These ethical judgments affect the individual's behaviour through her/his moral intention. In general, deontology refers to the distinction between right and wrong, while teleology concerns good and evil and addresses the end results of people's actions in terms of their good or bad consequences.

In terms of deontology, Gopal and Sanders (1998), Thong and Yapp (1998) and Sang *et al.* (2008) utilize Hunt and Vittel's (1986) model as a theoretical background in their studies of digital piracy. The concepts of justice and moral obligation have also been used as ethical factors affecting digital piracy. Haines and Haines (2007) suggest that the perception of fairness and justice of an act and feelings of quilt for performing the act are influenced by moral intentions. Cronan and Al-Rafee (2008) in a TPB study suggest that moral obligation plays an important role on piracy intention. Finally, Yoon (2011) proposes an integrated model of TPB and normative ethics theories − this time including both deontological and teleological perspectives − as an appropriate framework for examining digital piracy in China.

All the above-mentioned models and studies suffer from the same weakness. They assume that an individual must recognize that a particular behaviour is involved in ethical and moral decision context. If the individual fails to recognize a moral issue then she/he will fail to employ moral decision making schemata (Jones, 1991). There is evidence that many individuals do not understand digital piracy is unethical. Strikwerda and Ross (1992) show that many people do not consider using illegal computer software as a wrong act. They suggest that people feel this way because the person they copy the software from, still has the product and therefore nothing is lost or stolen. It is easy to understand that in terms of digital file-sharing through peer-to-peer sites the issue of morality and ethicality in acquiring the file is even weaker, since users are sharing their files at their own will. Based on that, the current study framework concludes that in examining the situational factors of moral and ethical behaviour of illegal acquisition of music, alternative theoretical approaches are needed in order to derive the determinants of digital piracy.

2.5. Previous Research on Piracy

Piracy has been identified from two perspectives in the empirical literature: physical piracy (that refers to the illegal reproduction of hard goods or physical products such as CDs for music, DVDs for films and other software piracy) and digital piracy (which is the diffusion of digital cultural products over the Internet mainly through P2P file-sharing networks).

The literature on piracy over the last 30 years had developed from software piracy, to physical music piracy and finally to digital music piracy. Most piracy studies that were conducted before the turn of the millennium were based on the traditional software

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piracy, in terms of illegal copyright of protected software duplication with the use of floppy disks. This was due to the fact that the Internet was at its infancy with very slow, due to narrow bandwidth, connections so downloading was time consuming. There were no studies dealing with piracy conducted over the Internet (Hinduja, 2003). Other piracy studies have focused on the traditional piracy, for example, of photocopying books and on duplication of music records initially on cassette tapes and then on CDs (Burke, 1996; Ang *et al.*, 2001).

At the macro level, the literature concluded that the rate of physical software piracy is mainly correlated to social and economic characteristics. Husted (2000), Fisher and Rodrigueuz (2005) and Rodriguez (2006a, 2006b) show that physical piracy rates are negatively related with the GDP per capita and income inequality. These studies suggest that it is the middle class who is mainly associated with high rates of physical piracy. Other studies have concentrated on the importance of having institutions that favour the enforcement of property rights and copyright laws in reducing physical software piracy. Those studies found that countries with a higher collective culture (i.e. countries that favour sharing over individual ownership) have also higher piracy rates (Marron and Steel, 2000; Moores, 2003; Banerjee *et al.*, 2005).

At the micro level and in terms of illegal software duplication, several studies have attempted to profile the individuals that are likely to engage in piracy. Those studies have inconsistencies among them regarding the demographics of software pirates. According to Solomon and O'Brien (1990); Wood and Glass (1995); Sims *et al.* (1996) and Rahim *et al.* (1999) pirates tend to be male, young and very experienced computer users, while Harrington (1989); Sacco and Zureik (1990) and Wong *et al.* (1990) found that those demographics are not important factors influencing engagement

in piracy. Other factors that were examined by these early studies included the level of parental income, geographical location and the possible effect of copyright laws, again with inconsistent results.

A different strand in the literature focused on ethical decisions regarding software piracy engagement (Gopal and Sanders, 1998; Kievit, 1991; and Im and Van Epps, 1991). These studies were based on the assumption that the individual's awareness regarding the society's legal and ethical behaviour affects the decision to participate in software piracy. The results from these studies suggested that many participants (many samples are college students) found that copying software is ethically acceptable (Cohen and Cornwell, 1989) and that there is a general consensus on the acceptability of intellectual property theft, since there are no negative consequences (Oz, 1990; Solomon and O'Brien, 1990, Rahim *et al.*, 1999). These results initially weakened the case for using ethical reasoning in explaining music piracy. There was a second wave of studies regarding this matter that followed, which will be discussed analytically later on, in this section.

With the arrival of the new era of Internet, the focus of piracy studies has shifted to the area of digital piracy. In early 2000, with the first generation of broadband Internet and the advancement of networking technologies, the Internet became widely available to millions of users. Since then the illegal transfer of copyright protected materials has massively increased. However, since the file size of commercial software was generally quite large, the trend of Internet piracy shifted from software to digital music.

In the digital music piracy literature, there are two main categories of theoretical

research. The first deals with intention based theories (such as the Theory of Reasoned Action, the Theory of Planned Behaviour etc.; Ajzen, 1985, 1988 and 1991) and the second deals with ethical decision-making. The intention based theories and models try to explain individual behavioural intentions using specific psychological factors, such as attitude and subjective norms. On the other hand, the ethical decisions studies try also to explain individual behavioural intentions, however the underlying assumption here is that behavioural intentions are affected by self-ethical choices. The details of the theoretical foundations of those theories were explained in the previous sections of this chapter.

When summarizing the results of the first strand of theories and models, it can be observed that Kwong and Lee (2001, 2002) were the first to use the theory of planned behaviour in an Internet music piracy context. They developed an extended TPB model identifying that there is a perceived equitable relationship between a record company and the end consumer. They also found that there is a deterrence effect of laws, which have a significant effect on the consumers' attitude to digital music piracy. Colbert *et al.* (2003) concentrated on the closing of Napster (the most popular P2P network) in 1999 and its effects on digital piracy. They found that the closing did not affect significantly music consumption (through buying legal CDs). Contrary, it provoked a greater propensity to look for substitute music-downloading services and hence, this led to the spawn of P2P networks.

Walsh *et al.* (2003) examined changes in the legal online purchase of music in Germany. They found that the variety of music available on the site and the time advantage were the most significant factors in driving users interest to buy music online. Bhattacharjee *et al.* (2003) found that the type of music downloaded, as well as

the speed of broadband Internet connection, were the most important factors that explained digital music piracy. They also went on to examine and contrast the demographic profile of software and music pirates. They found that males displayed a higher tendency to pirate than females and that younger individuals tend to pirate music on the Internet more than older individuals. The latter result is similar for individuals who pirate software. However, younger individuals constitute a minor consumer segment of software buyers, while they comprise a significant portion of the music industry's consumer base, which results in a larger threat for the music industry. d'Astous *et al.* (2005) found that the attitude of individuals towards music piracy depended on frequency of past behaviour, personal consequences and ethical predispositions. Amoroso and Guos' (2006) study focused on the theory of technology acceptance model and they demonstrated that individual intention to pirate online music was heavily affected by the degree of acceptance of relative technologies. Al-Rafee and Cronan (2006) developed an alternative model that examined the factors influencing an individual's attitude toward digital music piracy. The constructs tested included moral judgment, affective beliefs, cognitive beliefs, perceived importance, subjective norms and various demographics. Cronan and Al-Rafee (2008) later added past piracy behaviour and moral obligation as the possible determinants of digital piracy and then found that those two factors together with the PBC construct of the TPB explain 71% of the intention to pirate digital products. Also, Plowman and Goode (2009) used a TPB model to examine the role of price and quality perceptions on the downloading intensity. Their main result can be summarized as price is an important factor for both heavy and light downloaders while quality is important only for heavy downloaders. Finally, Dilmperi *et al.* (2011) distinguished the determinants of a music pirate and a

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genuine consumer of music with particular attention to age, gender, income, music preference and music experience and attendance at live performances. In their findings they concluded that the majority of consumers who attended live concerts were more likely to be women, have income higher than £2000 and listen to rock, electronic and jazz music. Music consumers who purchase recorded music are more likely to be older, males, have monthly income more than £2000, listen to jazz and have a tendency to analyse the music they listen to, while illegal downloaders (pirates) on the other hand, are younger, listen to pop, electronic and classical music and enjoy imaginal responses.

With regards to the ethical decisions literature, the study of Gopal *et al.* (2004) examined music piracy from an ethical position, which was incorporated also in a behavioural model. The main result was that the intention to swap music online illegally was negatively related to the ethical standards of the individual. Meaning that individuals with higher ethical standards tend to pirate less. LaRose and Kim (2007) also constructed a model based on the social cognitive theory. The main result suggests that the constructs descriptive norms and prescriptive norms had no direct impact on behavioural intention, but a mediating effect through the deficient self-regulation construct. This finding contradicts the theory of planned behaviour and is in favour of social cognitive theory. Chen *et al.* (2008) developed a model that incorporated factors such as consumption value, fashion and moral standards in order to explain the behavioural intention of digital music piracy. They found consumption value to be significant, but morality and fashion to play no important role in affecting illegal music downloads. Shang *et al.* (2008) also developed a model, which examined the intentions of digital music piracy, and they found that it was affected by the individual's ethical judgment, which, in turn, was based on social factors and technological factors.

Furthermore, in terms of social factors Cockrill and Liu (2013) examined the western popular music consumption in China. Their findings suggest that social and political restrictions (mainly censorship) on music have prevented the development of a normal Chinese music market and created a market that is almost entirely based on illegal downloading.

In a similar framework, Chiou *et al.* (2005a) developed a model to examine the antecedents of music piracy intentions – focusing mainly on the effect of idolisation and perceived proximity – on both illegal downloading of music from peer-to-peer files and pirated music product purchasing. Idolisation was based on the idea that ethical individuals will tend to pirate less in order not to harm their idols, while the perceived proximity was defined as the closeness or relatedness of an individual to the music industry. The idea here is that since for most people music is an important part of their lives the demise of the music industry will then have an effect on their lives as well. Their results suggested that idolisation negatively affected the intention to buy pirated music products. On the other hand perceived proximity affected the behavioural intention to download music illegally from P2P sites only. For the issue of artist idolisation, Chiou *et al.* (2011) conducted a study examining artist adoration together with the effect of perceived risk of getting caught. To achieve that, they administered a questionnaire that described two different hypothetical cases of an imaginary individual who in the first case had high artist adoration and there was a high risk of getting caught and in the second case had no particular artist adoration and the risk of being caught was quite small. Different individuals answered to the same set of questions for the two different scenarios trying to imagine how they would react if they would be in the situation of the imaginary individual in the scenario provided. The results for artist

adoration were inconclusive but the perceived risk of getting caught was found to negatively affect their intention to illegal music downloading. Yoon (2011) proposed an integrated model that combines TPB and ethics theory in order to explain better digital piracy. Yoon (2011) incorporated ethics in the TPB from a deontological perspective (including moral obligation and justice) and from a teleological perspective[3] (including perceived benefit and perceived risk). The results show that moral obligation and justice play a negative role on the intention to pirate, while perceived benefit is affecting positively the intention to pirate and perceived risk affects negatively attitude towards digital piracy.

Recently a third stream of literature has focused on the deterrence effect to digital piracy. Hill (2007) examined the causes of digital piracy with relevant factors that led to individuals engaging in digital piracy. Additionally, he examined the consequences of piracy from the perspective of copyright holders, providing various suggestions in dealing with piracy. Jain (2008) examined the impact of digital piracy on prices and quality of the pirated product. He concluded that business organizations tended to have stronger copyright enforcement only when there is a stronger network effect associated. Taylor *et al.* (2009) used Perugini and Bagozzi's (2001) model of goal directed behaviour in order to examine empirically the intention to digital music piracy. The major difference of Taylor's (2009) model compared to other intention based models was that the behavioural intention was affected by motivation and past behaviour, while motivation itself was also affected by emotions, attitudes, and subjective norms. Finally, Zhang *et al.* (2009) examined digital piracy from a

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[3] Deontology refers to the central role of duty and moral obligation in behavior. Teleology refers to the intended outcomes, the aims or the goals of a certain action.

criminology point of view. The results of this study can be summarized to the fact that risk taking and punishment certainty were strong predictors of digital piracy. Additionally, Zhang *et al.* (2009) posited that self-efficacy (one's ability to complete digital piracy, duplicating music or movie files from other disks etc.) affected the punishment certainty and digital piracy behaviour.

2.6. Summary and Conclusions

Summarizing there are three strands in the literature that develop models in order to explain digital piracy behaviour, all are based on one aspect or another of the behavioural intention model. The first strand is focused on the behavioural intention toward piracy, the second is focused on ethical predisposition and the third is focused on the deterrence effect to digital piracy. Although all three approaches indicated important factors affecting digital piracy behaviour, each strand of research covers only one of the areas, while they focus only on the digital piracy behaviour phenomenon.

The contribution of the current study is that it will address the issue of music acquisition in a multi-channel framework examining not only the illegal (digital piracy) channel that most of the studies have examined so far. The current study will examine and compare the aforementioned channel with those of physical piracy (from street vendors) and those dealing with the legal acquisition of music, both physical and digital. These are the bricks-and-mortar stores and the Internet music shops. In this attempt, the next chapter presents the conceptual model based on the Theory of Planned Behaviour for music acquisition and the relevant testable hypotheses that originate from this model.

3. CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

3.1. Introduction

This chapter presents the model development that will be used in the empirical part of this study. Based on the literature presented in chapter two, the research proceeds by building a model based on the Theory of Planned Behaviour (TPB) with additional constructs. The researcher believes that these constructs are appropriate to explain music acquisition. Furthermore, the model will include various music acquisition channels that have not been researched in relation to digital piracy previously. In the following section of this study the proposed research model is presented together with discussion and justification of all research hypotheses that will be examined.

3.2. Development of the Research Model

The research model used for this study is based on the TPB. This theory is a very powerful and predictive tool for explaining human behaviour. It has been used successfully in a very large number of empirical studies addressing human behaviour in the past (Conner and Armitage, 1998; Sheeran *et al.*, 2003). Furthermore, it is has been specifically tested in explaining illegal behaviour like de-shopping (King *et al.*, 2008; King and Dennis, 2006), software piracy (Peace *et al.*, 2003) and music piracy (Kwong and Lee, 2001, 2002; d'Astous *et al.*, 2005; Chiou *et al.*, 2005b; Plowman and Goode, 2009) and it has been proved to be an appropriate theory for explaining illegal behaviour. Since two of the channels (illegal street vendors and illegal P2P platforms)

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that will be incorporated in the empirical examination refer to illegal acquisition of music (physical piracy and digital piracy), TPB is considered to be the appropriate model to base this analysis.

There are two more intention-based theories that could have been used for this analysis. These are the DTPB and the MGDB presented in chapter 2. As it was mentioned in section 2 the DTPB decomposes both attitude and PBC. However, such decomposition was not deemed as necessary for this case. This is because, according to Ajzen (1991) PBC includes both self-efficacy and facilitating conditions, while attitude is decomposed based on the perceived characteristics of innovation. In the proposed model, attitude is decomposed using variables deriving from attributes related to the multi-channel theory and the issue of music acquisition. Similarly, the MGDB is not used either, for two main reasons. First, according to Ajzen (1991) past behaviour will not significantly improve the prediction of later behaviour. Only when habit is defined independently of past behaviour can then be added as an explanatory variable to the TPB, while music acquisition does not follow any habitual pattern. Second the MGDB is very complex by itself and with the addition of the attributes related to multi-channel and music acquisition will make the model very hard to be estimated through Structural Equation Modelling.

Also, since the aim is to examine music acquisition in a multi-channel framework ethical theories are excluded. Those theories have been extensively used in previous research that dealt with the illegal channels and piracy. Piracy is considered as an illegal activity and there have been cases before, where consumers have been accused (mostly in the USA) of committing illegal activity (Cassavoy, 2003; The Associated Press, 2009; Vijayan, 2010; The Rolling Stone, 2012; Clair, 2013).

However, in the current case even for the piracy-involved channels those theories are excluded because they assume that the individual, who engages in this behaviour, recognises it as unethical or illegal. Music piracy nowadays is so widespread and common and those who acquire music illegally (mostly downloading MP3 files from P2P platforms) do not acknowledge involvement in neither unethical nor illegal behaviour (Dilmperi *et al.*, 2011). Jones (1991) suggests that if the individual does not recognize that she/he is involved in an unethical behaviour she/he will fail to follow the moral decision-making. Thus, in the current theoretical model no such constructs were included, since they are perceived not to be valid for either the legal or the illegal channels.

The TPB was first developed from the Theory of Reasoned Action (TRA), proposed by Fishbein and Ajzen (1975). The TRA suggests that if impulsive actions are excluded, a person's behaviour derives from its intention. This intention is produced by its attitude over an action and by the subjective norms of the person's social circle. Ajzen (1991) extended the TRA model by adding the variable of "perceived behavioural control", which involves the ease or difficulty a person is facing in order to perform an action. So, attitude is defined as an individual's feelings regarding a specific behaviour (Ajzen, 2002) where the more positive the attitude, the greater the intention to perform an action. The subjective norms are the expectations that arise from the individual's surroundings and can be viewed as social pressures (Ajzen, 2002). Last, perceived behavioural control refers to the person's perception of how easily an action can be performed. In the current research setting, in order to proceed to piracy a person needs to have access to the appropriate technology. This construct includes implicitly

characteristics such as Internet connection speed and Internet experience, which have been used as explicit variables in previous studies.

Based on the above the starting point of the proposed model is the TPB model in its simple form, presented in Figure 3.1. In this model the factors explaining the "Behavioural Intention" are "Attitude Toward the Behaviour", "Subjective Norm" and "Perceived Behavioural Control".

Figure 3.1: A Simple Model of TPB
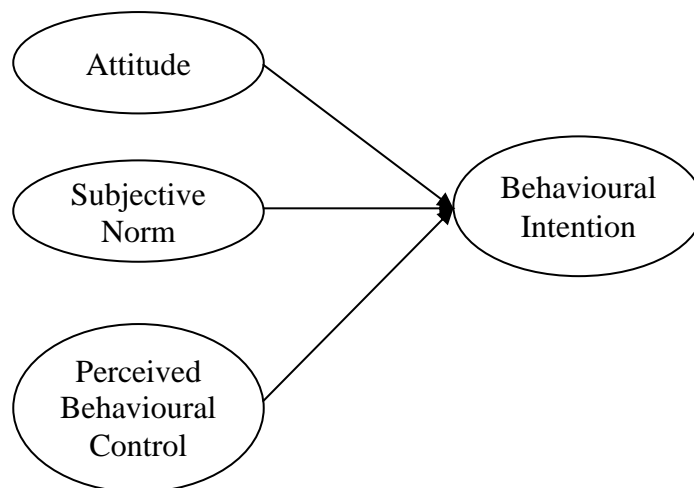
Since the main topic of this research is the music industry, and the behaviour under examination is that of music acquisition, this simple model is augmented through the introduction of multiple-channels from which music can be acquired. In general, there are four distinct channels for music acquisition:

(a) Traditional bricks-and-mortar stores that sell (mainly) CDs,

(b) Street vendors that sell counterfeit CDs,

(c) Internet music stores that sell MP3 files (either just a song or the whole CD as an album)

(d) Peer-to-peer Internet platforms that allow users to download MP3 files (either just songs or the whole CD album or even whole collections of one artist etc.) without a fee.

The first two of the above four channels deal with a physical product (the music CD) and hence from now on they are called as *physical music consumption*, while the last two deal with a digital product (the MP3 file) and they are called *digital music consumption*. Furthermore, channels (a) and (c) are those who are legal (the consumers pay a fee in a legal market in order to obtain the music product) while channels (b) and (c) are illegal (in the case of street vendors they pay in order to obtain a counterfeit – or pirated – CD in a "black market" and in the case of peer-to-peer sites they simply illegally download files without having to pay any fee – the digital music piracy phenomenon).

Since the aim of the research is to examine all four possible channels of music acquisition the TPB model is tested four times – once for each channel. Therefore, "Attitude", "Subjective Norm", "Perceived Behavioural Control" and "Behavioural Intention" are different for every channel under examination.

Further to the three standard TPB factors that affect behavioural intention, it is necessary to include factors that specifically deal with music acquisition. These additional factors emerged from an extensive literature review on multi-channel attributes, technological, economic and legal aspects, issues that relate specifically to

piracy (either physical or digital) and the possible effects of singer/band idolisation in changing the music consumption patterns.

Based on the above, the final research model contains common TPB constructs, and the additional constructs described above. Also, the research proposes that there is a moderating relationship derived from the demographic factors. The model is presented in Figure 3.2. The model shows clearly that all five additional factors affect the attitude construct. An analytical discussion of the model and the hypotheses deriving from it will be presented in the following sections.

Figure 3.2: A TPB Model for Music Acquisition
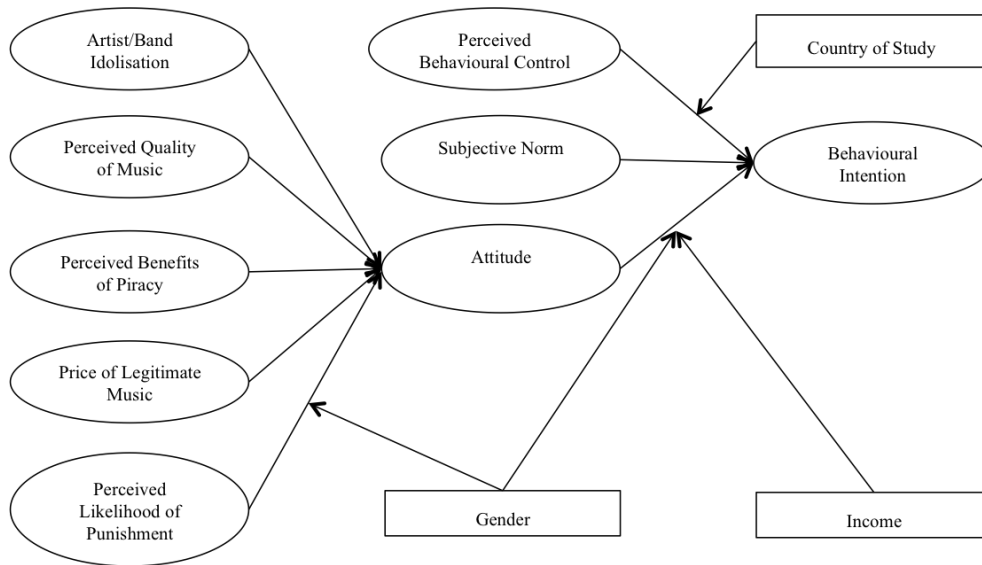
3.3. Research Questions

The proposed model in Figure 3.2 is a general model for which the empirical research will take place. The current research seeks to answer specific questions relating

to the relationships of the above model. Following the discussion in Chapter 1, the first research question associated with this model is the following:

RQ1: Can the Theory of Planned Behaviour be applied to music acquisition from various music channels in order to enhance our understanding of the behaviour?

This question can be broken down to a set of more specific research questions, with each one of them related to the proposed model constructs. Thus, the following analytical research questions emerge:

RQ1.1: Can the model of TPB explain the behavioural intention to acquire music from various music channels?

RQ1.2: What effect does the perceived quality of pirated music have on the attitude of acquiring music from various music channels?

RQ1.3: What effect does the perceived benefits of pirating music have on attitude of acquiring music from various music channels?

RQ1.4: Is the price of legitimate music important in affecting the attitude of acquiring music from various music channels?

RQ1.5: Can the perceived likelihood of punishment affect the attitude of acquiring music from various music channels?

RQ1.6: Will consumers' idolisation towards a singer/band affect their attitude toward acquiring music from various music channels?

Also, this study wants to investigate the impact of some demographics as moderators to the relationships among the constructs of the proposed model. Marketing studies examining consumer behaviour are generally interested in studying demographics such as gender, age distribution, ethnic mix and educational levels, together with economics related variables such as income status or purchasing power parity. In particular, this study wishes to answer also the following research question:

RQ2: Do gender, income and country of study moderate the relationship among specific proposed model constructs?

The above question can be broken down to four sub questions as follows:

RQ2.1: Does gender moderate the relationship between attitude to acquire music and behavioural intention?

RQ2.2: Does gender moderate the relationship between attitude to acquire music and perceived likelihood of punishment?

RQ2.3: Does income moderate the relationship between attitude to acquire music and behavioural intention?

RQ2.4: Does country of study moderate the relationship between attitude to acquire music and perceived likelihood of punishment?

3.4. Research Hypothesis

The research hypotheses that derive from the above research questions can be divided into two categories: the relations among the TPB model constructs and the effects of moderators.

3.4.1. Research Hypotheses for Theory of Planned Behaviour Constructs

This set of hypotheses cover the relations among the independent variables in the traditional TPB model (Attitude, Subjective Norms and Perceived Behavioural Control) and the dependent variable (Intention). They result from *RQ1.1*, which involves examining the statistical significance of the traditional TPB constructs on the Behavioural Intention of music acquisition from all four different channels.[4] The set of hypotheses associated with the attitude construct are the following:

H_{1B}: Attitude towards buying CDs from bricks-and-mortar stores will positively affect individuals' behavioural intentions to buy CDs from bricks-and-mortar stores.

H_{1S}: Attitude towards buying counterfeit CDs from street vendors will positively affect individuals' behavioural intentions to buy counterfeit CDs from street vendors.

H_{1D}: Attitude towards downloading from Internet music stores will positively affect individuals' behavioural intentions to download from Internet music stores.

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[4] Since these constructs are applicable to all four distinct channels of music acquisition, in order to formulate the research hypotheses associated with them there are four different hypotheses, one for each channel. Subscripts B, S, D and P denote the channels bricks-and-mortar stores, street vendors, digital music shops and P2P platforms, respectively.

H$_{1P}$: Attitude towards downloading from P2P sites will positively affect individuals' behavioural intentions to download from P2P sites

Similarly, the research hypotheses regarding subjective norm for each music channel are postulated as follows:

H$_{2B}$: Subjective norm towards buying CDs from bricks-and-mortar stores will positively affect individuals' behavioural intentions to buy CDs from bricks-and-mortar stores.

H$_{2S}$: Subjective norm towards buying counterfeit CDs from street vendors will positively affect individuals' behavioural intentions to buy counterfeit CDs from street vendors.

H$_{2D}$: Subjective norm towards downloading from Internet music stores will positively affect individuals' behavioural intentions to download from Internet music stores.

H$_{2P}$: Subjective norm towards downloading from P2P sites will positively affect individuals' behavioural intentions to download from P2P sites.

Finally, the research hypotheses with regards to the perceived behavioural control can be summarized as follows:

H$_{3B}$: Perceived behavioural control towards buying CDs from bricks-and-mortar stores will positively affect individuals' behavioural intentions to buy CDs from bricks-and-mortar stores.

H₃S: Perceived behavioural control towards buying counterfeit CDs from street vendors will positively affect individuals' behavioural intentions to buy counterfeit CDs from street vendors.

H₃D: Perceived behavioural control towards downloading from Internet music stores will positively affect individuals' behavioural intentions to download from Internet music stores.

H₃P: Perceived behavioural control towards downloading from P2P sites will positively affect individuals' behavioural intentions to download from P2P sites.

Furthermore, *RQ1.2 to RQ1.6* deal with the five new constructs and their effects on Attitude towards acquiring music. An analytical discussion of the constructs and their associated hypotheses is provided in the next sections.

3.4.2. The Perceived Quality of Music

One technological factor that changed massively the music industry and the consequent music consumption was the introduction of digital music files (such as the MP3). The consumption of music moved drastically from the physical consumption in the traditional bricks-and-mortar stores channel to consumption via digital channels such as the Internet music shops and growth of the illegal music downloading through peer-to-peer sites.

Music quality is expected to play a pivotal role in music consumption. It is logical to believe that issues related to the quality of the digital product, or in other words whether the digital product is the same, similar, worse or better than the

traditional physical product, will play a role in its consumption. In general if the digital product is worse than its physical counterpart then this should affect the acquisition of music from digital channels and should enhance the physical channels.

However, the difference is not only between the physical and digital channels. There is a need to examine differences that emerge through technology, between legal versus illegal music acquisition. For example, if the area of physical piracy is only examined first, the question is whether the counterfeit CD (copied CD) sold from street vendors is of the same quality like the original CD, sold in bricks-and-mortar stores. Similarly, in terms of digital piracy, issues like viruses or corrupted files etc. might differentiate the illegal digital product from its legal counterpart. So people might consider the MP3 file from a well respected Internet music shop to be of better sound quality and free of any malware (viruses or spyware) than that of an unknown peer-to-peer website. Thus, it is clear that the quality of music may affect the acquisition of music from all different channels.

According to Gopal and Sanders (2003), consumers have different beliefs about the sound quality of digitized music. They suggest that the sound quality of an original CD provided by the traditional bricks-and-mortar store channel is superior to that of compressed digital version, because when music is compressed in order to be converted to the MP3 format the audio bit rate falls (see also Lam and Tam, 2001). Das (2000) also suggests that the download process itself may lead to corruption of the files and incomplete downloads (especially in a peer-to-peer environment in the case of not so many users) further leading to a deterioration of the sound quality. Thus, the audio quality of digital music downloaded illegally from the Internet may be lower than that of legal downloads or of the original CD leading the consumers to the legal physical or

digital channels (Gopal *et al.*, 2002; Fetscherin and Zaugg, 2004). However, there are consumers that might not be concerned about such small differences as well as consumers who think that there are no differences whatsoever.

The literature on the perceived quality of online music is in disagreement if there is any effect on consumer's willingness to download music. Gopal *et al.* (2002) showed that the perceived quality of online music had a significant negative impact to the number of music files downloaded on the Internet. Also, Fetscherin and Zaugg (2004) provided evidence suggesting that the difference in the quality of online music files has discouraging effects on music downloading.

On the other hand, Ang *et al.* (2001) suggested that the perceived quality of online music has no effect on the number of MP3 files downloaded from the Internet. Gopal and Sanders (2003) examined the issue through an online survey. They found that over 60 percept of the respondents had experienced corrupted downloads frequently or at least occasionally. However, despite this, 90 percept of the respondents said that the quality of compressed music is almost identical to that provided from an original CD. This may indicate that music consumers may have become accustomed to this level of quality and now accept it as it is, or even that the circumstances under which the music is played (MP3 players, PCs, iPods etc. compared to top-notch quality stereo equipment) are themselves of not sufficient quality.

This literature debate has been previously addressed empirically in a TPB framework by Kwong and Park (2008) and Plowman and Goode (2009). Kwong and Park (2008) created a new construct that they labelled as "Perceived Usefulness" and they included it in a TPB model affecting the Attitude construct. Their study was

examining music consumption only from the legal digital channel and they wanted to examine how useful was this channel in terms of saving time (fast speed downloads) and providing MP3 files that are of superior quality (better) and pollution free compared to those of the peer-to-peer sites. The results of their study suggest that there is a strong positive influence meaning that the higher the quality of the service (speed and MP3 files quality) the more likely the consumer is to subscribe to an Internet music store. Plowman and Goode (2009) on the other hand examined only the illegal digital channel, expecting to find that the worse the perceived quality of digital music files, the less the intention to download from peer-to-peer sites. Their results were non-significant, not providing evidence on the matter under examination.

From the above analysis it is evident that the issue is still unresolved. The current study will attempt to address it in a more appropriate manner, examining all four channels and quality issues not only regarding digital files versus the physical product but also within physical products themselves (such as counterfeit CDs versus original CDs). Thus, the hypotheses associated with this construct are stated as follows:

H$_{4B}$: The lack of perceived quality of pirated music will positively affect individuals' attitude to buy CDs from bricks-and-mortar stores.

H$_{4S}$: The lack of perceived quality of pirated music will negatively affect individuals' attitude to buy counterfeit CDs from street vendors.

H$_{4D}$: The lack of perceived quality of pirated music will positively affect individuals' attitude to buy music from Internet music stores.

H$_{4P}$: The lack of perceived quality of pirated music will negatively affect individuals' attitude to download music from P2P sites.

3.4.3. Perceived Benefits of Piracy

Attitude towards acquiring music is certainly strongly connected with the utility that is derived from consuming music. This utility is not only associated with the act of listening to the music, but it may include other aspects as well. For example a first issue is that of collection. There might be consumers that want to have a good record collection in general, or all albums of specific bands, artists and/or music genres they particularly like. This might lead to an increase in the physical product consumption, since some of these consumers consider it as preferable to collect all physical products (CDs or Vinyl) and have them stored chronologically. It even might lead to an increase in the digital consumption buying bundles of products or illegally downloading the whole collection of an artist/band from other music collectors in peer-to-peer environments.

Also, closely connected to the case above is the issue of rarity in music. There are music consumers that might like to get their hands on rare music that is hard to be obtained through the traditional channels, since it might not be so popular. This rare music might be easier to be obtained from pirated products, either physical (copied counterfeit CDs) or digital (from peer-to-peer files obtained from music collectors in a vast cyber-community including consumers from all over the world).

Finally, there might be utilitarian aspects that have to do with how easy was the acquisition of music in terms of time and in terms of money. Internet connection speed might allow users to download the songs they like very easily and therefore they might prefer to download music files (legal or illegal) than obtain music from the time

consuming traditional bricks-and-mortar store. Additionally, physical piracy might seem as easier since street vendors sometimes wonder around popular areas (such as pubs, bars, coffee shops etc.) "advertising" the counterfeit products, saving thus time from potential consumers.

Limayem *et al.* (2004) was the first to use a notion of perceived benefits (they call it "beliefs concerning positive consequences") in a digital piracy framework examining the behavioural intention towards software piracy. They find that these positive consequences have significant effects on software piracy intentions. Chen *et al.* (2008) examines the issue of consumer utility (expressed as saving time and money) with regards to music consumption. They argue that since the downloading of MP3s from illegal peer-to-peer sites is cheaper and faster there is higher utility associated with digital files compared to the physical copyrighted CD. Therefore, they suggest that there should be a positive effect stemming from this gained utility to the intention to download illegal music. Their empirical analysis supports this idea. Finally, Yoon (2011) examines the issue of digital piracy from an ethical angle and includes the perceived benefits of piracy of digital products as part of a "teleological perspective". Among those benefits are time, money, more digital products and an improvement in the work performance of the pirate (something that is closely related to digital software piracy). Yoon (2011) finds that there is a positive and significant relationship among the perceived benefit of piracy to both the attitude and the intention to piracy.

In this study, the perceived benefits from piracy are included examining the issues of collection, time, money and rarity explained above. This has not been done extensively before and it has not been examined with respect to neither physical piracy or to legal channels of obtaining music. Furthermore, the "perceived benefits from

piracy" construct is in line with the attributes of "search effort" and "speed of purchase" presented in the multi-channel theory (Verhoef *et al.*, 2007).

In the light of the literature discussion provided above the following research hypotheses will be examined:

H$_{5B}$: The perceived benefits of piracy will negatively affect individuals' attitude to buy CDs from bricks-and-mortar stores.

H$_{5S}$: The perceived benefits of piracy will positively affect individuals' attitude to buy counterfeit CDs from street vendors.

H$_{5D}$: The perceived benefits of piracy will negatively affect individuals' attitude to buy music from Internet music stores.

H$_{5P}$: The perceived benefits of piracy will positively affect individuals' attitude to download music from P2P sites.

3.4.4. The Price of Legitimate Music

Economic factors, such as price can be the most important determinant in a pattern of consumption for every product. Hence, music consumption should be affected by the prices that are available from the various different channels. Especially, when there are illegal channels that allow music acquisition to take place with no charges (such as the illegal downloading from peer-to-peer sites) the whole issue of price differentials becomes all the more important.

Chiang and Assane (2002) identified price as a key motivational factor in explaining the acquisition of music through illegal downloading. Molteni and Ordanini (2003) conclude that the fact that music is provided for free in peer-to-peer sites is one of the most commonly acknowledged reasons that lead people to illegal music downloading. Gopal *et al.* (2002) used a consumer intention survey to examine the choices of consumers under various circumstances. They found that there is a strong positive association among the price of music CDs and the level of music files downloaded illegally. Lesk (2003) provides evidence that suggests the average price of legal music CDs has steadily risen since the late 1990s accompanied by an even greater increase in the number of online music files that were downloaded.

Ang *et al.* (2001) examined the effect of price on physical music piracy. They found that the lower price of counterfeit CDs was a significant determinant influencing consumers to buy pirated products despite the inferior quality and/or function. They suggested that the music industry should consider alternative pricing policies in order to tackle both physical and digital piracy.

Plowman and Goode (2009) distributed nine questionnaires to subjects that included nine different (hypothetical) prices of legitimate music. Then they asked the subject to answer - for each hypothetical price - how inclined they would be to buy it from a music store compared to downloading it from the Internet. They found that there is a strong negative association between price and likelihood to buy a CD and positive relationship between price and likelihood to download the CD.

Price is also a common theme in the software piracy literature (Moores and Dhillon, 2000; Gopal and Sanders, 2000 and Gopal and Sanders, 2003). Al Rafee and

Cronan (2006) included cognitive beliefs as determinants of the attitude to digital piracy. They found that the most salient belief within those cognitive beliefs was that consumers thought they could save money by pirating digital media (software, music etc.) together with the belief that digital media in general is considered to be overpriced.

Therefore there is ample evidence to suggest that price should be included in the model. Drawing from both bodies of literature this issue is examined through questions that tackle all different channels, examining the free acquisition of music, the cheaper prices of counterfeit CDs, the rising prices of legal CDs etc. Finally, the price of legitimate music construct is closely related to the attribute "price" presented in the multi-channel theory (Verhoef *et al.*, 2007).

Based on the above, the hypotheses related to price of legitimate music are stated below:

H$_{6B}$: The price of legitimate music will negatively affect individuals' attitude to buy CDs from bricks-and-mortar stores.

H$_{6S}$: The price of legitimate music will positively affect individuals' attitude to buy counterfeit CDs from street vendors.

H$_{6D}$: The price of legitimate music will negatively affect individuals' attitude to buy music from Internet music stores.

H$_{6P}$: The price of legitimate music will positively affect individuals' attitude to download music from P2P sites.

3.4.5. *Perceived Likelihood of Punishment*

The empirical literature examining music and software piracy has extensively focused on the perceived effectiveness of deterrence using deterrence theory. The deterrence theory is being used mainly in criminology and it aims to explain the effect of deterrence against an individual's desire to commit a crime. Deterrence theory focuses on disincentives or sanctions against committing a deviant act and the consequent effects on deterring others from committing those acts (Blumstein *et al.*, 1978). The idea is that anti-social behaviour can be deterred through punishment and/or threat of punishment.

The effects of deterrence have been examined before in the literature. Kwong and Lee (2002) includes a construct called "deterrence effect of legislation" in a standard TPB model and find that it has strong negative effects on both attitude and behavioural intention to exchange songs on the Internet. Peace *et al.* (2003) applies deterrence theory examining whether "punishment certainty" and "punishment severity" will affect attitude towards software piracy. They find a negative effect as well. Moores and Dhaliwal (2004) Moores and Chang (2006) and Moores *et al.* (2009) include the Perceived Likelihood of Punishment together with the Fear of Legal Consequences as possible determinants of the attitude towards software piracy. They conclude that there is a negative relationship for both constructs, but significant only for the second of the two.

Record companies have reacted with a strong fight against the explosion of online music downloads (Hall, 2002; Iser and Toma, 2003). The initial reaction was to take legal actions against some of the most popular peer-to-peer sites like Napster. However, they soon realized that a range of different more effective strategies is

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necessary in order to tackle the problem effectively. Some industry groups are even prosecuting individuals who use peer-to-peer sites in order to provide uncopyrighted material, however with little effect only, since in most cases it caused bad publicity and alienated at least a part of the public (Bakker, 2005). There is a lot still to be done on that aspect since there are a large number of individuals, who does not consider the piracy of music as an unethical unlawful behaviour.

However, it is evident that since music piracy (physical or digital) is an illegal behaviour, deterrence theory should be included in order to help explain the behavioural intentions of individuals. Drawing from the recent theoretical and empirical literature the study use measures that capture the deterrence effect of legislation on all four music channels. For the two illegal channels (music piracy) it is expected that the fear of punishment will reduce the acquisition of music from them, while the opposite case is true for the two legal channels. Finally, this construct is connected with the "risk" attribute of Verhoef *et al.* (2007) multi-channel theory.

Consequently, the hypotheses developed with regards to perceived likelihood of punishment are the following:

H$_{7B}$: The perceived likelihood of punishment will positively affect individuals' attitude to buy CDs from bricks-and-mortar stores.

H$_{7S}$: The perceived likelihood of punishment will negatively affect individuals' attitude to buy counterfeit CDs from street vendors.

H$_{7D}$: The perceived likelihood of punishment will positively affect individuals' attitude to buy music from Internet music stores.

H_{7P}: The perceived likelihood of punishment will negatively affect individuals' attitude to download music from P2P sites.

3.4.6. Idolisation

Although, it is quite clear that music piracy is very extensive and reduces volume of CD sales that record companies were experiencing in the past, there are still reasons that encourage people to buy music. Idolatry is considered to be as one of the main reasons why people still buy music. This is explained in two bodies of literature: the consumer ethics literature and the social identity theory.

According to the consumer ethics literature, the attribution of harm influences the consumers' decision to engage in a behaviour that is considered as unethical (Muncy and Vittel, 1992; Fullerton *et al.*, 1996). A consumer is more willing to commit an unethical behaviour when she/he thinks that the provider suffers little or no economic harm from the consumer's action. Therefore, consumers who believe that music piracy harms their favourite bands/artists may be less likely to engage in music piracy and therefore buy the product.

The empirical research on this hypothesis is however unsupportive. Levin *et al.* (2007) examined the effect of harm attribution in the attitude towards illegal downloading and found that it wasn't significant. In another study, d' Astous *et al.* (2005) tested three different antipiracy arguments among 139 young adults and they concluded with the argument that "harm for the artists" was not significant. Lysonski and Durvasula (2008) showed that the respondents did not alter their illegal downloading intentions, when they were told that illegal downloading hurts the less

financially successful artists. Finally, Chiou *et al.* (2011) examined the role of artist adoration in interaction with the perceived risk of getting caught through two different scenarios about a music fan named "Allen". Allen in the first scenario was described as a huge fan of the band Linkin Park and in the second scenario as a music fan of no particular band. The results showed no clear-cut differences in the responses obtained from the two different cases with regards to downloading behaviour.

Following the social identity theory, idolatry can be viewed as a process of identification. According to Madrigal (2001) identification is an individual's emotional connection or attachment to a sponsored property. Wann *et al.* (2000) suggest that individuals would become fans of a sports team because of the need of identification. This can lead them to associate themselves with the team. Therefore, the need to possess related merchandises is a symbol of this identification (Kwon and Armstrong, 2002). An idol can be an athlete, a politician, a movie star, a pop singer or even a figure in a cartoon or comic (Chiou *et al.,* 2005a). Apart from identification, idolatry can be expressed also through modelling. Modelling reflects the desire to act like the idol. This includes imitative behaviour in terms of dress, hairstyle, speech etc. (Raviv *et al.*, 1996) Since people idolise a singer/band they would enthusiastically gather merchandise related to their idol, and therefore, can be an important factor affecting their willingness to buy their idols music CD instead of obtaining it illegally.

In the empirical literature, Wilson and Sherrel (1993) suggest that people would prefer to purchase CDs because of loyalty to the artist. Ouellet (2007) based on both qualitative and quantitative surveys, found that consumer responses towards a specific performer play an important role in explaining the choice to either buy or illegally download.

Thus, according to the social identity theory, individuals that show high idolatry wish to own commodities related to their idols in order to express identification and support. According to Chiou *et al.* (2005a) buying legal CDs instead of downloading or buying counterfeit CDs has a special meaning for those who exhibit high idolatry. The copyrighted music CD most of the times provides not only music but also higher quality packaging including photos of the artist/band, lyrics etc. Therefore, according to North and Oishi (2006) buying is not because of the love for music itself but also an example of behavioural evidence. People with high idolatry, even if they had the opportunity to obtain a downloaded/counterfeit edition of the CD of their idol, they still would like to buy the licensed edition for the reasons explained above.

Therefore, a construct to capture idolatry is included and its possible effects on all four channels of music acquisition are considered. Also the effects of idolatry are examined both on general behavioural intention towards music acquisition and on specific intention to acquire the music of their specific artist/band they idolise. The set of hypotheses regarding idolisation are summarised as follows:

H$_{8B}$: Idolatry positively affects an individuals attitude to buy a specific singer's/ band's music CD from bricks-and-mortar stores.

H$_{8S}$: Idolatry negatively affects an individuals attitude to buy a specific singer's/ band's counterfeit music CD from street vendors.

H$_{8D}$: Idolatry positively affects an individuals attitude to buy a specific singer's/ band's music CD from Internet music stores.

H$_{8P}$: Idolatry negatively affects an individuals attitude to download a specific singer's/ band's music CD from P2P sites.

Table 3.1 presents each construct's definition and coding together with their proposed hypothesized relationship.

Table 3.1: Constructs, Definitions, Code Name, and their Hypothesized Relationships			
Construct	**Code**	**Definition**	**Hypothesized Relationship**
Attitude	ATT	refers to the degree to which the performance of an individual's behaviour is valued	ATT→INT
Subjective Norm	SN	refers to the effect that social environment has on the behaviour.	SN→INT
Perceived Behavioural Control	PBC	refers to the person's perception of how easily an action can be performed.	PBC→INT
Perceived Quality of Music	PQM	refers to an individual's perception regarding the sound quality differences of the product acquired from the various music channels.	PQM→ATT
Perceived Benefits of Piracy	PBP	refers to an individual's perception of the benefits deriving from the acquisition of illegal music products.	PBP→ ATT
Price of Legitimate Music	PLM	refers to an individual's perception with regards to the pricing of the legal music products.	PLM→ ATT
Perceived Likelihood of Punishment	PLP	refers to an individual's perception that anyone that engages in an illegal action will be caught and prosecuted.	PLP→ ATT
Idolatry	IDL	refers to an individual's degree of admiration, identification and modelling behaviour of their favourite singers/bands.	IDL→ ATT
Behavioural Intention	INT	refers to an individual's intention to perform a behaviour.	

3.4.7. The Effect of Moderators

With respect to gender previous studies have reported that male tend to pirate music more compared to females (Cheng *et al.*, 1997; Moores and Dhillon, 2000; Ang *et al.*, 2001; Kwong and Lee, 2002; Gopal and Sanders, 2003; Molteni and Ordanini,

2003; Wang *et al.*, 2009;) while they also tend to buy more music than females (Wang *et al.*, 2009). Sims *et al.* (1996) examine software piracy and conclude on the same difference in attitude towards piracy among males and females.

However there are also studies with inconclusive results. Al-Rafee and Cronan (2006) based on the idea that females have higher ethical standards than males (Ford and Richardson, 1994) examine the issue of piracy from an ethical decision making perspective. They find that gender does not play a significant role in the attitude towards digital piracy.

In the light of reported evidence from prior research, the following hypotheses about gender are suggested:

H9: Gender moderates the relationship between attitude and behavioural intention such that for males the positive effect is stronger than for females for all music channels.

H10: Gender moderates the relationship between perceived likelihood of punishment and attitude, such that for males the negative effect is weaker than for females for the two illegal channels.

Another important demographic variable is age. The effects of age in the literature are not that clear. Wang *et al.* (2009) found a negative relation with age and purchase intention meaning that older individuals tend to buy less than younger ones. On the contrary, they found an non-significant effect among age and intention to download illegally. In general there is only non-significant relationships reported to suggest that younger students are more likely to download than older students (Kwong and Lee, 2002; Gopal and Sanders, 2003). Since most of the previous studies are concerned with students and draw samples from student population there are no

significant age differences to be examined. Therefore, since the current research is based on student samples, the effect of age as a moderator is deemed non-significant and not examined.

On the same line, since most studies focus on student samples, the moderating effect of income has not been extensively researched. Kwong and Lee (2002) and Gopal and Sanders (2003) examined the moderating effect of income and found only non-significant results indicating that income does not play a particular role in music piracy. However, since this research views the issue of music acquisition in a more holistic way, the possible moderating effect of income is examined in order to see whether there are differences between the legal or illegal channels. The research hypotheses associated with this issue are:

H₁₁.₁: Income moderates the relationship between attitude and behavioural intention such that for those with higher income the positive effect will be stronger than those with lower income for the two legal channels.

H₁₁.₂: Income moderates the relationship between attitude and behavioural intention such that for those with higher income the positive effect will be weaker than those with lower income for the two illegal channels.

Finally, since the empirical research will be undertaken in two different countries (UK and Greece) the final demographic moderator that will be examined deals with this possible difference. Each country suffers more from a different type of piracy. According to the latest available evidence of the International Federation of Phonographic Industry (IFPI) in 2010, physical music piracy levels are extremely high (higher than 50%) in countries like Greece, Latvia, Lithuania, Romania and Ukraine. On the other hand, the UK is mainly experiencing problems with on line piracy, while it is

estimated that over the past three years there is a significant loss of nearly £1.1 billion

from illegal downloading (IFPI, 2010). Thus, it is worth exploring whether this

difference is reflected in the current research producing different conclusions through

the following hypotheses:

H₁₂.₁: Participants' country of study moderates the relationship between

perceived behavioural control and behavioural intention, such that for students in the

UK the positive effect is stronger than student's in Greece for the two digital channels.

H₁₂.₂: Participants' country of study moderates the relationship between

perceived behavioural control and behavioural intention, such that for students in the

UK the positive effect is weaker than student's in Greece for the two physical channels.

Table 3.2 presents a summary of all research questions together with their

associated hypotheses and the latent variable that is involved in each case. Finally, a

graphical depiction of the final model with the hypotheses is provided in Figure 3.3.

Table 3.2: List of Research Hypotheses and Latent Variables based on Research Questions		
Research Questions	**Hypothesis**	**Latent Variable**
Can the model of TPB explain the behavioural intention to acquire music from various music channels?	H_{1B}: Attitude towards buying CDs from bricks-and-mortar stores will positively affect individuals' behavioural intentions to buy CDs from bricks-and-mortar stores.	ATTB
	H_{1S}: Attitude towards buying counterfeit CDs from street vendors will positively affect individuals' behavioural intentions to buy counterfeit CDs from street vendors.	ATTS
	H_{1D}: Attitude towards downloading from Internet music stores will positively affect individuals' behavioural intentions to download from Internet music stores.	ATTD
	H_{1P}: Attitude towards downloading from P2P sites will positively affect individuals' behavioural intentions to download from P2P sites.	ATTP
	H_{2B}: Subjective norm towards buying CDs from bricks-and-mortar stores will positively affect individuals' behavioural intentions to buy CDs from bricks-and-mortar stores.	SNB
	H_{2S}: Subjective norm towards buying counterfeit CDs from street vendors will positively affect individuals' behavioural intentions to buy counterfeit CDs from street vendors.	SNS
	H_{2D}: Subjective norm towards downloading from Internet music stores will positively affect individuals' behavioural intentions to download from Internet music stores.	SND
	H_{2P}: Subjective norm towards downloading from P2P sites will positively affect individuals' behavioural intentions to download from P2P sites.	SNP
	H_{3B}: Perceived behavioural control buying CDs from bricks-and-mortar stores will positively affect individuals' behavioural intentions to buy CDs from bricks-and-mortar stores.	PBCB
	H_{3S}: Perceived behavioural control towards buying counterfeit CDs from street vendors will positively affect individuals' behavioural intentions to buy counterfeit CDs from street vendors.	PBCS
	H_{3D}: Perceived behavioural control towards downloading from Internet music stores will positively affect individuals' behavioural intentions to download from Internet music stores.	PBCD
	H_{3P}: Perceived behavioural control towards downloading from P2P sites will positively affect individuals' behavioural intentions to download from P2P sites.	PBCP

What effect does the perceived quality of pirated music have on the attitude of acquiring music from various music channels?	H_{4B}: The lack of perceived quality of pirated music will positively affect individuals' attitude to buy CDs from bricks-and-mortar stores. H_{4S}: The lack of perceived quality of pirated music will negatively affect individuals' attitude to buy counterfeit CDs from street vendors. H_{4D}: The lack of perceived quality of pirated music will positively affect individuals' attitude to buy music from Internet music stores. H_{4P}: The lack of perceived quality of pirated music will negatively affect individuals' attitude to download music from P2P sites.	PQM
What effect do perceived benefits of pirating music have on attitude of acquiring music from various music channels?	H_{5B}: The perceived benefits of piracy will negatively affect individuals' attitude to buy CDs from bricks-and-mortar stores. H_{5S}: The perceived benefits of piracy will positively affect individuals' attitude to buy counterfeit CDs from street vendors. H_{5D}: The perceived benefits of piracy will negatively affect individuals' attitude to buy music from Internet music stores. H_{5P}: The perceived benefits of piracy will positively affect individuals' attitude to download music from P2P sites.	PBP
Is the price of legitimate music important in affecting the attitude of acquiring music from various music channels?	H_{6B}: The price of legitimate music will negatively affect individuals' attitude to buy CDs from bricks-and-mortar stores. H_{6S}: The price of legitimate music will positively affect individuals' attitude to buy counterfeit CDs from street vendors. H_{6D}: The price of legitimate music will negatively affect individuals' attitude to buy music from Internet music stores. H_{6P}: The price of legitimate music will positively affect individuals' attitude to download music from P2P sites.	PLM
Can the perceived likelihood of punishment affect the attitude of acquiring music from various music channels?	H_{7B}: The perceived likelihood of punishment will positively affect individuals' attitude to buy CDs from bricks-and-mortar stores. H_{7S}: The perceived likelihood of punishment will negatively affect individuals' attitude to buy counterfeit CDs from street vendors. H_{7D}: The perceived likelihood of punishment will positively affect individuals' attitude to buy music from Internet music stores. H_{7P}: The perceived likelihood of punishment will negatively affect individuals' attitude to download music from P2P sites.	PLP

Will consumers' idolisation towards a singer/band affect their attitude toward acquiring music from various music channels?	H_{8B}: Idolatry positively affects an individuals attitude to buy a specific singer's/ band's music CD from bricks-and-mortar stores. H_{8S}: Idolatry negatively affects an individuals attitude to buy a specific singer's/ band's counterfeit music CD from street vendors. H_{8D}: Idolatry positively affects an individuals attitude to buy a specific singer's/ band's music CD from Internet music stores. H_{8P}: Idolatry negatively affects an individuals attitude to download a specific singer's/ band's music CD from P2P sites.	IDL
Does gender moderate the relationship between attitude to acquire music and behavioural intention?	H_9: Gender moderates the relationship between attitude and behavioural intention such that for males the positive effect is stronger than for females for the two legal channels.	
Does gender moderate the relationship between attitude to acquire music and perceived likelihood of punishment?	H_{10}: Gender moderates the relationship between perceived likelihood of punishment and attitude, such that for males the negative effect is weaker than for females for the two illegal channels.	
Does income moderate the relationship between attitude to acquire music and behavioural intention?	$H_{11.1}$: Income moderates the relationship between attitude and behavioural intention such that for those with higher income the positive effect will be stronger than those with lower income for the two legal channels. $H_{11.2}$: Income moderates the relationship between attitude and behavioural intention such that for those with higher income the positive effect will be weaker than those with lower income for the two illegal channels.	
Does country of study moderate the relationship between attitude to acquire music and perceived likelihood of punishment?	$H_{12.1}$: Participants' country of study moderates the relationship between perceived behavioural control and behavioural intention, such that for students in the UK the positive effect is stronger than student's in Greece for the two digital channels. $H_{12.2}$: Participants' country of study moderates the relationship between perceived behavioural control and behavioural intention, such that for students in the UK the positive effect is weaker than student's in Greece for the two physical channels.	

Figure 3.3: Proposed Research Model with the Hypotheses
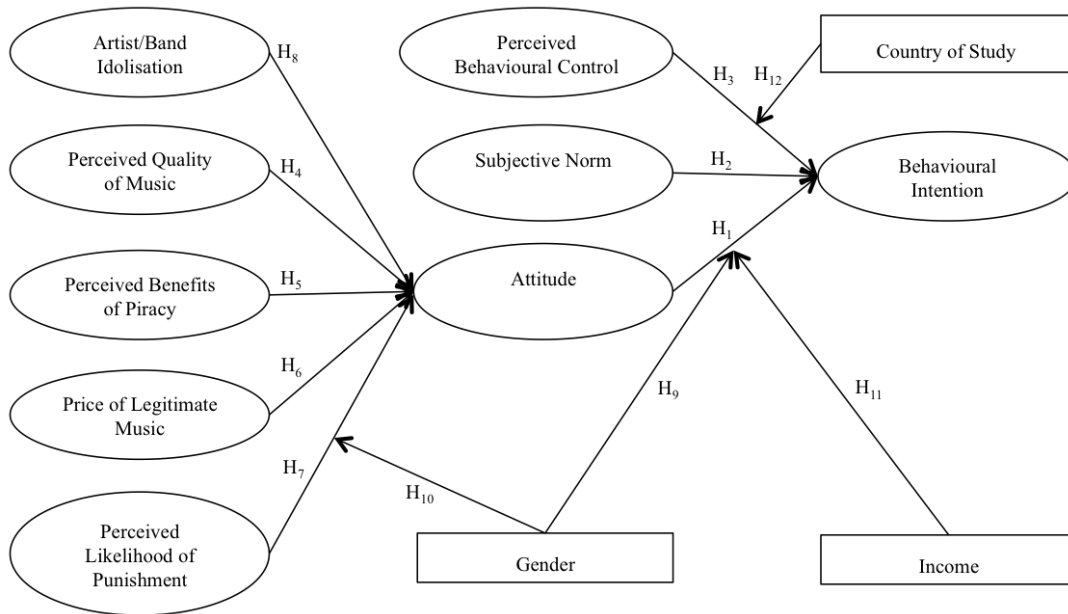
3.5. Summary and Conclusions

Examining the relevant literature, it is observed that the issue of music acquisition through a multi-channel perspective has not been examined so far. The researcher believes that this is worth examining and proposes a conceptual model in order to do this. This model is based on the TPB developed by Ajzen (1991). Drawing from the literature a number of additional constructs from different research areas have been incorporated into the research model with analytical discussion of their justifications. These constructs are: the Perceived Quality of Music (PQM), the Perceived Benefit of Piracy (PBP), the Price of Legitimate Music (PLM) and the Perceived Likelihood of Punishment (PLP). Also, since the aim of the research is to see the effects of specific artist/band idolisation in the general behavioural intention to acquire music the study creates the additional construct named Idolatry (IDL). This

chapter presented analytically the development of the conceptual model adopted for this study together with the associated research questions and hypotheses that will later be examined. The next chapter presents the research design, the scale development and item creation, together with the instrument pre-testing results.

4. RESEARCH METHODOLOGY

4.1. Introduction

In the previous chapter the available literature was reviewed and a theoretical framework for the research was developed. This chapter explains the research approach and methodology that will be used in the empirical analysis. First, the philosophical foundations of research will be demonstrated. Then, an explanation of research methodology and sample selection together with an outline of the statistical techniques used for data analysis will be provided. The rest of this chapter explains and rationalises the methodological approach implemented for the empirical research. Finally, the ethical consideration relevant to the study is discussed followed by the chapter's conclusions.

4.2. Philosophical Foundations of Research

According to Crotty (1998) any researcher should answer two questions before embarking to his/her research: (1) what are the methodologies and the methods that will be used; and (2) what is the justification for the chosen methodologies and methods used.

In general, researchers do not differentiate clearly among the terms "research methodology" and "research methods". However, these are two distinctly different concepts. Research methods refers to the techniques and procedures used in order to gather and analyse data, while research methodology refers to the strategy, plan of action and/or design that underlines the choice and use of the particular research

methods (Payne and Payne, 2006). Thus, the methodological foundation of the research must justify both the choice of research methods and that of methodology.

4.2.1. Positivism versus Interpretivism

Epistemology is a complex Greek word that consists of two words: the first is "episteme" which means "science" and the second is "logos" which can be translated to "theory" or "account". Goldman (1999) understands epistemology as the "theory of knowledge", while Pollock and Cruz (1999) perceive epistemology as a branch of philosophy that studies knowledge.

Thus, exploring and understanding the epistemological paradigm that underlines the study is important, since it constitutes the basis of knowledge the research needs to achieve in order to tackle successfully the research questions. In social sciences there are two dominant epistemological strands: "positivism" and "interpretivism" (Corbetta, 2003).

Positivism refers to the philosophical strand that considers the world as being external to the researcher and consisting of phenomena that can be only observed (Corbetta, 2003). Malhotra and Birks (2003) define positivism as the philosophy of language and logic, which is consistent with an empiricist philosophy of science. Thus, the positivist position is based on the idea that the study of human behaviours and social phenomena should try to be scientific. Therefore, the positivist researcher should select a similar framework to those found in natural sciences, and try to look for law-like generalisations and regularities among elements of the social world from an outsider's point of view (Remeyeni *et al.*, 1998).

On the other hand, interpretivism argues that social reality is not objectively determined (Blaikie, 2007) but it is socially constructed (Husserl, 1969). Hence, the statistical patterns observed in the positivist paradigms are not comprehensible on their own. Therefore, it is essential to uncover the meanings that people attribute to those patterns. Interpretivism deals with placing people in their social contexts (Corbetta, 2003) and stresses the importance of understanding the causal relationships through individual interactions and interpretation (Myers, 1997). In essence, interpretivism provides the researcher with conceptual depth with regards to a particular social phenomenon. However, the qualitative results obtained from interpretivism are often criticised for lack of reliability, validity and generalizability.

Concluding, comparing positivism and interpretivism, it is clear that each paradigm has its own merits and drawbacks. To understand better the differences between the two paradigms Table 4.1 presents their main features regarding key research issues, together with some terminology often used to describe the two different research strands.

Table 4.1: Paradigm Features and Alternative Names		
Issue	**Positivist**	**Interpretivist**
Reality	Objective and singular	Subjective and multiple
Relationship of research and respondent	Independent of each other	Interactive with each other
Values	Value-free = unbiased	Value-laden = biased
Researcher languages	Formal and impersonal	Informal and personal
Researcher/Research design	Simple determinist Cause and effect Static research design Context-free Laboratory Prediction and control Reliability and validity Representative surveys Experimental design Deductive	With free will Multiple influences Evolving design Context-bound Field/ethnography Understanding and insight Perceptive decision making Theoretical samplings Case studies Inductive
Alternative paradigm names	Quantitative Objectivist Scientific Experimentalist Traditionalist	Qualitative Subjectivist Humanistic Phenomenological Revolutionist

Source: Malhotra and Birks (2003) p.139

4.2.2. Deductive versus Inductive

Apart from the positivist versus interpretivist divide, researchers often build and test theories based on two more different approaches: the deductive approach versus the inductive approach. The first is concerned with positivists who try to prove their legitimacy of their approach through deduction. Similarly, the second is concerned with the interpretivists that try to prove their legitimacy through induction. The deductive approach involves starting with the context of a well-developed theory and then moves forward towards seeking concrete empirical evidence. On the other hand the inductive approach begins with little or no theory and moves towards more abstract generalisations and ideas developing their theory based on the combination of events they have observed (Malhotra and Bircks, 2003).

4.2.3. Qualitative versus Quantitative

In the previous sections, the philosophy that underlines social research was discussed. The main conclusion was that the approach a researcher decides to use is based on the researchers' perceptions about the social world. The choice of research method is therefore directed by the epistemology of the research. A quantitative approach can be argued to correspond to positivism, while a qualitative approach is more closely associated with interpretivism (Teddlie and Tashakkori, 2003).

Quantitative techniques include questionnaire surveys and quantitative observation techniques. For example, recording and counting the behavioural patterns of people, objects and events systematically in order to obtain information about the phenomena of interest. On the other hand, qualitative techniques consist of particular observation, informal interviews and formal interviews. Quantitative approaches rely heavily on representative samples in order to obtain numerical data and examine associations among different variables, while qualitative approaches do not rely on representative samples and have findings based upon a single case or only a few cases. Quantitative studies concentrate on testing theoretical hypotheses to generalise the results to a broader population (inferential statistics) while qualitative studies focus on detailed social interactions and the specificity of the reality that social actors generate.

A more detailed exposition of the differences among qualitative and quantitative research approaches is given in Table 4.2.

Table 4.2: Comparison between Qualitative and Quantitative Approaches		
	Quantitative Research	**Qualitative Research**
Purpose	Deductive: Verification and outcome oriented Precise measurement and comparison of variables Establishing relationships between variables Interface from the sample to population	Inductive: discovery and process oriented. Meaning Context Process Discovering unanticipated events, influences and conditions Inductive development of theory
Research Questions	Variance questions Truth of proposition Presence or absence Degree or amount Correlation Hypothesis testing Causality (factual)	Process questions How and why Meaning Context (holistic) Hypotheses as part of conceptual framework Causality (Physical)
Research Methods		
Relationship	Objectivity/reduction of influence (research as an extraneous variable)	Use of influence as a tool for understanding (research as part of process)
Sampling	Probability sampling Establishing valid comparisons	Purposeful sampling
Data Collection	Measures tend to be objective Prior development of instruments Standardisation Measurement/testing-quantitative/categorical	Measures tend to subjective Inductive development of strategies Adapting to particular situation Collection of textual or visual material
Data Analysis	Numerical descriptive analysis (statistics, correlation) Estimation of populations variables Statistical hypothesis testing Conversion of textual data into numbers or categories	Textual analysis (memos, coding, connecting) Grounded theory Narrative approaches
Reliability/Validity	Reliable Technology as instrument (the evaluator is removed from the data)	Valid Self as instrument (the evaluator is close to the data)
Generalisability	Generalisable The outsider's perspective Population oriented	Ungeneralisable The insider's perspective Case oriented

Source: Maxwell and Loomis (2003) p. 260 and Steckler *et al.*, (1992) p. 2

4.2.4. Research Approach Adopted in this Study

The aim of the current research is to identify the factors that influence music acquisition from multiple music channels. Based on various theories and models in the field of consumer behaviour, a model of music acquisition was developed together with a number of testable hypotheses. In order to empirically test and validate these hypotheses, the study adopts a positivist/quantitative approach. According to Collis and Hussey (2013) the normal process when following a positivistic approach is to study the

literature to establish the appropriate theories and construct hypotheses that can be tested empirically. Therefore, this approach is consistent with the topic under examination.

The study does not follow an interpretivist approach for two main reasons. Firstly, after a thorough investigation of literature in the field, the research hypotheses are formulated. However, these hypotheses will be tested by collecting quantitative data through self-administered questionnaires. Thus, the researcher, during all the research process, is detached from the problem realm (Collis and Hussey, 2013). Secondly, the researcher position remains neutral during all the research process.

Finally, it should be noted that the positivist/quantitative approach is appropriate because it gives a clear theoretical focus, provides easily comparable data and allows the researcher to collect the necessary data efficiently and economically (Collis and Hussey, 2013). Concluding, based on all the afore-mentioned reasons this research is following a positivist/quantitative approach to examine the topic of music acquisition in multiple-channels.

4.3. Research Design

Following Sekaran (2003), research design involves a series of rational decision making choices regarding: the purpose of the study (exploratory, descriptive, causal), the type of investigation, the extent of researcher interference, the time horizon and the level to which the data will be analysed (unit of analysis). In addition to the above, the researcher has to make certain decisions regarding the research setting, sampling design, the data collection method, the necessary sample size required and the data analysis

procedures that will be followed. The above topics will be analysed in the following sub-sections.

4.3.1. Purpose of the Study

According to Churchill (1999) and Aaker (1997) research design is categorised as exploratory, descriptive or causal. The main importance in exploratory research is to discover ideas and seek potential alternatives and related variables that should be considered. The role of descriptive research is to provide a true picture of some feature of the market environment. Finally, causal research is used when the researcher is attempting to show that a variable instigates or influences other variables. Even though these three design types seem as different processes, the differences between them are not easily distinct (Churchill, 1999).

The purpose of the present study is to describe consumers' behaviour towards music acquisition from multiple channels. This study employs the deductive approach in the sense that it uses an existing theory (that of TPB) by testing it in a new context (that of music acquisition in a multi-channel framework). In addition, the theory will be tested by accepting or rejecting hypotheses, while empirical data that can be measured will be collected and analysed.

4.3.2. Research Setting and Unit of Analysis

For the research setting it is sensible to choose a place where music acquisition is observed and measured. The researcher following the approach used by previous studies (Chang, 1998; Cronan and Al-Rafee, 2008; Gopal and Sanders, 2000, 2003; Wang *et al.*, 2009; Cockrill and Goode, 2012; among many others) believes that universities provide a sensible research setting for the current study. Since one of the

aims is to examine the music acquisition from digital channels, universities provide particular facilities (i.e. high speed Internet connections in the halls and the university premises) that enable users to engage in this act. Also, according to Cheng *et al.* (1997), university students are considered the most appropriate target population to test digital piracy. Based on the above, universities will provide the most appropriate sampling setting whereas the unit of analysis will be the undergraduate university student.

Since the empirical analysis will be carried out on student population, the data collection for the quantitative study will be conducted on the university premises (classes, lecture rooms, the refectory etc.). Furthermore, the data collection will be completed at the individual level. Further details about the data collection procedure are given later on, in Chapter 5 (for the calibration study) and in Chapter 6 (for the main empirical study).

4.3.3. Sample Design and Data Collection

Following Churchill (1999), the sampling procedure involves 6 different steps. It starts by defining the population and identifying the relevant sampling frame. Then the sampling procedure and the appropriate sample size must be determined. Finally, the sampling unit must be specified and the collection of the data from the designated elements follows.

The definition of a population includes a complete collection of the people that are being studied in accordance to the research objectives (Aaker, 1997). Identifying the population accurately and precisely is a significant starting point of every research since sampling is supposed to obtain information and make inferences about the population.

In the current research the target population includes consumers of music who reside in two European countries, namely UK and Greece. According to IFPI (2013) Greece is one of the highest EU countries in terms of physical piracy, while the UK has high figures of digital music piracy. Based on the above, the population of this study consists of undergraduate university students in UK and Greek institutions[5].

Because of the nature of this study, a population frame cannot be achieved since it is necessary to ensure participants anonymity and confidentiality. Therefore, the application of probability sampling techniques that eliminates biases cannot be obtained. Thus, the study in an attempt to eliminate sampling error adopts a convenience sampling technique asking all participants to fill-in the questionnaire a few minutes before or after a certain lecture/class. Also, particular effort is made to ensure that the sample selection will not be formed on the basis of any judgement.

The data for present study will be collected using a cross sectional questionnaire survey. The survey approach is considered most appropriate technique because is faster, inexpensive, efficient, and can be administered to a relatively large sample (Churchill, 1995, Sekaran, 2003). The cross-sectional study is performed when data are gathered only once from a specific population. Malhotra and Birks (2003) suggest that cross-sectional design can be either single or multiple. This research will use a multiple cross-sectional design by collecting the data from various samples of the population only once.

The sample size decision is made in accordance to the statistical technique that will be used later in the analysis. Although in general large sample sizes tend to produce

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[5] The UK Universities are City University (London) and the University of Lincoln (Lincoln). The Greek Universities are the University of Macedonia (Thessaloniki) and the National and Kapodistrian University of Athens (Athens).

more reliable results, the sample size decision must be based on a number of factors related to the complexity of the model, the expected rate of missing data and the estimation procedure that will be used (Hair *et al.*, 2010). A detailed description of each sample employed and its size will be presented in the following chapters (prior to each of the two empirical studies).

According to Malhotra (2009) there are different methods for data collection in marketing research. Apart from focus groups and in-depth interviews surveys are also popular and widely used. Surveys can be distinguished in two broad categories: non-Internet survey forms and Internet survey methods. The non-Internet surveys can be administered by a variety of techniques, such as door-to-door interviews, mall intercept interviews, telephone interviews, self-administered questionnaires and mail surveys. Since the population of this study consists of students in UK and Greece (there is a wide geographical distribution of the samples), it would not be economical neither time efficient to conduct face-to-face or telephone interviews. The closest alternative is to use email questionnaires but this choice is not possible for the current research. This is because confidentiality and anonymity are important due to the nature of the research (illegal behaviour). Therefore, since the base of music consumers is widely spread and in the absence of a sampling frame due to the lack of census, the current study adopts the convenience sampling approach as mentioned before.

4.3.4. Necessary Sample Size

Determining the required sample size for an empirical analysis is really important in order to obtain accurate results. The role of sample size is crucial in all statistical analysis (Hair *et al.*, 2010). Obviously the more sophisticated the statistical

analysis the larger the necessary sample size is. Therefore, the sample size requirement in this study was based on the selected statistical analysis technique used in every phase of the quantitative study.

In the first phase of the study, Exploratory Factor Analysis (EFA) is being used through the estimation of the Principal Components Analysis (PCA). For PCA, Kass and Tinsley (1979) suggest that a researcher should use between 5-10 participants per variable, up to a total of 300 participants. This is because they argue that after the threshold of 300 the test parameters tend to become stable, regardless the ratio of participants to variables. Tabachnick and Fidell (2007) suggest as well 300 cases while Comrey and Lee (1992) conclude that a sample of 100 is poor, of 300 is good and of 1000 is excellent. However, more recent studies utilized Monte Carlo simulations and found that in various cases parameter stability can be obtained with less than 300 participants depending on the design of the study. Field (2009) concludes that the best "rule" is to use a 5:1 ratio of participants for every item. The current research will adopt this guideline in order to determine the necessary sample size for the PCA.

During the second phase of the quantitative analysis, the research uses Confirmatory Factor Analysis (CFA) followed by Structural Equation Modelling (SEM) and multi-group analysis. CFA, SEM and multi-group analysis, like any other statistical technique, require an appropriate sample size in order to obtain reliable estimates (Hair *et al.*, 2010). Hair *et al.* (2010) suggest that SEM in general requires larger samples compared to other multivariate techniques. Given that larger samples are usually more difficult to obtain, both in terms of effort and cost, the critical question is to identify a sample that will definitely provide trustworthy results. Researchers' opinions regarding minimum sample sizes are varied (MacCallum *et al.*, 2001). However, there are some

general guidelines that can be applied considering mainly the complexity of the estimated model. In general, Hair *et al.* (2010) suggest that larger samples are required in cases where: (a) models have a large number of constructs, (b) some constructs have fewer than three measured/indicator variables and (c) multi-group analysis will be later on conducted requiring an adequate sample for each group. The current research falls in cases (a) and (c) mentioned above. Namely, it involves a relatively large number of constructs (nine) and multi-group analysis will be later on conducted in order to check the possible effect of demographics. In cases like this, Hair *et al.* (2010) suggest a minimum sample size of 500 participants. Thus, since this research takes place in two different countries, the researcher will try to obtain a minimum of at least 250 observations for each country. This sample is deemed adequate both for SEM and for the corresponding multi-group analysis.

4.4. Data Analysis

The current research follows Churchill's (1979) procedure for developing better measures. The research is being conducted in two different phases. During the first (exploratory) phase an extensive literature review on intention-based theories, multi-channel theory and prior research on music piracy, indicated key themes that led to the creation of the research hypotheses, the theoretical model and the scale associated with it. Following that an initial self-administered questionnaire will be created as an instrument for the study. This questionnaire will be subject to face and content validity with expert judging and pilot study examination. In order to purify and validate the scale, a calibration study will be conducted through reliability tests and Exploratory Factor Analysis (EFA).

In the second phase, the research hypotheses of the model will be tested, using Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM). Four possible distinct music acquisition channels will be tested and analysed: bricks-and-mortar stores, street vendors, Internet music shops and P2P platforms. These include both legal and illegal as well as both physical and digital channels, thus providing an overall picture of the industry. After that analysis, the research moves on testing differences that might emerge from demographic variables through multi-group analysis. All these methods are described analytically in the sub-sections below. Table 4.3 provides a brief description of all the stages undertaken in this research and the accompanied research methods used.

Table 4.3: Stages in Research Methodology and Research Activities		
Phase	**Stages**	**Research Activities**
I	**Stage 1** **Scale Generation and Initial Purification**	• Generate initial pool of items • Expert judges and pilot studies to assess face and content validity
	Stage 2 **Scale Refinement**	• Reliability Analysis: Cronbach's Alpha • Exploratory Factor Analysis: Principal Components
II	**Stage 3** **Scale Validation Empirical Results**	• Data Screening • Confirmatory Factor Analysis • Composite Reliability • Convergent and Discriminant Validity • Nomological Validity (SEM)
	Stage 4 **Multi-Group Analysis**	• MCFA • MSEM • Moderator test

4.4.1. Reliability Analysis: Cronbach's Alpha

The reliability of scale refers to the proportion of variance that is attributable to the true score of latent variables (DeVellis, 2003). Scale reliability can generally be classified into three different types of reliability. The first is the internal consistency

reliability. Following Churchill (1979) this can be viewed as the homogeneity of items within a scale. The second is the test-retest reliability that according to Nunnally (1978) is concerned with the stability of item responses over time. The third is the alternative-form reliability. This refers to the extent to which two different statements can be used to measure the same construct at two different times (Netemeyer *et al.*, 2003).

Following Churchill (1979), the researcher assessed the reliability of the scales by estimating their Crobach's alpha coefficients. The coefficient alpha captures the degree of interrelatedness among a set of items that are designed as such in order to measure a single construct (Netemayer *et al.*, 2003). Several authors suggests that a coefficient alpha bigger than 0.8 is excellent; values of alpha ranging among 0.7-0.8 are acceptable ones; while values lower than 0.7 suggest an unreliable scale (see Field (2009), for an extensive discussion). Hair *et al.* (2010) suggests that a coefficient alpha which is greater than 0.7 is highly satisfactory, while Nunnally (1978) suggest that even values among 0.5-0.6 can be considered as satisfactory in the early stages of a research. Finally, with regards to the item-to-total correlations, values greater than 0.35 followed by a coefficient alpha higher than 0.7 indicate reliable items.

4.4.2. Exploratory Factor Analysis

EFA is a useful variable reduction technique, which is used during the initial stage of scale development for refinement and validation. It allows the researcher to have a preliminary understanding of the relationships among the items and their relevant constructs (Churchill, 1979; DeVellis, 2003; Netemeyer *et al.,* 2003). Traditionally, EFA is used when there is absence of theory and very limited knowledge about the constructs under investigation (Gerbing and Anderson, 1988). The current

research employs a model which is established on a solid theoretical background, that of TPB. However, since most of the items adapted from the literature, were reworded and sometimes adapted to a new context (i.e. that of multiple channels) it was deemed necessary to apply EFA in order to further validate the theory.

To reduce the number of items and extract factors, the researcher employed the Principal Component Analysis (PCA) method (Netemeyer *et al.*, 2003, p.121; Hair *et al.*, 2006, p.112). According to Ho (2006) when the factors used in an empirical analysis are correlated, oblique rotation methods are more likely to provide a realistic description of the underlying factorial structure. Therefore, following Field (2009) the oblimin rotation method was used because the constructs were expected to be correlated due to the theoretical predictions of TPB. To assess the factorability of items, the researcher examined three indicators: the Kaiser-Meyer-Olin Measure of Sampling Adequacy, the Barlett's test of Sphericity and the communalities. In the principal component analysis the basic criteria for number of factors extraction used was eigenvalues higher than 1 and the observation of the Scree plots. However, in cases were eigenvalues were suggesting more than 9 factors, the analysis was conducted again restricting the number of factors to be equal to the ones of the theoretical model predictions.

4.4.3. Data Screening

Prior to the main quantitative analysis of the research, all instrument items will be thoroughly examined for data accuracy entry, possible missing values, outliers, as well as for procedures assessing the assumptions of the multiple linear regression model such as normality, homoskedasticity, linearity and multicollinearity. Finally, statistical

remedies for common method bias will also be examined. This section outlines briefly the methods that will be used for this data screening process.

First, *descriptive statistics* such as frequencies, percentages, mean values, standard deviations and coefficients of skewness and kurtosis will be obtained for all the items. Histograms of all the items will be examined in order to see the structure and the frequencies of the responses for each item. According to Sekaran (2003) this analysis is essential in order to get an initial feel of the data.

The next step is to check for possible *missing values* in the obtained data. Missing values is a very common problem in research conducted through self-administered questionnaires. Hair et al. (2010) note that missing values can cause two main problems: (a) minimise the ability of statistical test to imply a relationship in the data set, and (b) create biased parameter estimates. Obviously the degree of significance of the effects of missing values depends on the frequency of occurrence, the pattern of missing observations, and the reasons for the missing values (Tabachnick and Fidell, 2007). Hair et al. (2010) suggest that if the pattern of missing data is systematic, any technique used to treat this missing data could possibly generate biased results. On the other hand, if the missing data is scattered in a random fashion with no distinct pattern, any remedy to treat this problem is assumed to yield acceptable results. Generally speaking there are no clear set guidelines regarding what constitutes a large amount of missing data. Hair *et al*. (2010) suggests that an acceptable level is below 5% of the total. This suggestion is carried out through this research.

Regarding *outliers*, Hair *et al*. (2010) describes them as cases with scores that are distinctively different from the rest of the observations in a dataset. Problematic

outliers can have serious effects on the results of a statistical analysis since they affect both model fit estimates and parameter estimates. To detect possible outliers the box-and-whisker plots of all items will be obtained and examined. Cases with extreme outliers that seem to be problematic will be excluded of the analysis in order to avoid problems.

The next issue is that of *normality*. Normality has to do with the distribution or the shape of the data and how closely this corresponds to the normal distribution (Hair et al., 2010). Violation of normality might affect the estimation process or the interpretation of results especially in SEM analysis. Therefore, prior to every analysis it is good to make sure that the data follow the normal distribution as closely as possible. One approach to diagnose normality is through visual check of the histograms together with a bell-shaped curve of the normal probability distribution. If the observed data distribution largely follows the diagonal lines then the distribution is considered as normal (Hair et al., 2006). Beside the shape of distribution, normality can also be inspected by two multivariate indexes i.e. skewness and kurtosis. The skewness coefficient deals with the symmetry of distribution whereas the kurtosis refers to the measure of the heaviness of the tails in a distribution (also known as peakedness or flatness of the distribution). For perfectly normal distribution, the scores of skewness and kurtosis should be zero. However, Hair et al (2006) suggest that skewness scores outside the -1 to +1 range demonstrate a somehow skewed distribution, while values of the greater than -3 or +3 are indicated as extremely cases of skewness. Similar are the values for the coefficient of kurtosis. In this study, the researcher set the maximum acceptable limit of observation values up to ±3 for both cases. Multivariate normality is also tested with the same method described above but this time for the residuals

obtained from a multiple regression model regarding the main equations of the theoretical model.

The next data screening method has to do with the possible detection of *heteroskedasticity* in the data. Heteroskedasticity means that the variables have unequal spreads for different sub-populations or simply unequal variances (Hair et al., 2010). When this is the case then the obtained results are not consistent. The homoskedasticity assumption in this research is examined both by visual inspection of the scatter plots and through the Levene's test. The Levene's test is a special case for testing possible heteroskedasticity between two groups of variables and it is used in order to detect possible differences among the demographics of the sample.

Another assumption that needs to be checked deals with the issue of *linearity*. Linearity means that the average values of the outcome variable for each increment of the explanatory variable lie along a straight line (Field, 2009). Following Hair *et al.* (2010), the most common way to examine the linearity of the relationships is to examine scatterplots of the independent variables with the dependent variable and try to identify possible nonlinear patterns. Furthermore, Probability-to-Probability (P-P) plots of the residuals will be obtained in order to check for multivariate normality.

The final problem that needs to be addressed in the preliminary data screening process is that of problematic *multicollinearity*. The problem of multicollinearity is present in the data when two or more independent variables are highly correlated. When this is the case the standard regression results are no longer valid because the error variances are inflated giving wrong values of t-statistics (Hair *et al.*, 2010). Multicollinearity is examined through the estimation and inspection of the correlation

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matrix of the independent variables. Correlation coefficients higher than ±0.9 are considered to be highly problematic. On the other hand lower correlations do not seem to create problems.

4.4.4. Confirmatory Factor Analysis

CFA is a very important technique and it is generally applied when there is a background knowledge regarding the underlying structure of the constructs and measurement items (Byrne, 2011). However, as it is done in this research, CFA should be performed after EFA, in order to confirm the scales that were derived by it. In practice, CFA is a technique that is used in order to confirm a priori hypotheses about the relationships among a set of indicator variables (measurement items) and their respective latent variables (constructs). Ultimately, the purpose of this study is to empirically test the theoretical hypotheses of the model. Therefore, CFA is a compulsory stage prior to that.

In general, following Hair *et al.* (2010) there are two broad approaches used in CFA in order to evaluate the measurement model. First, a decision based on some goodness of fit criteria indices and second, evaluating the validity and reliability of the scales. Hence, the researcher used the measurement model in this research in order to assess the unidimensionality, validity and reliability of the measures, which are discussed in this section.

Regarding the goodness of fit indices there are three main types of measures: absolute fit indices, incremental fit indices and parsimonious fit indices (Hair *et al.*, 2010). The absolute fit indices are used in order to assess the ability of the overall model fit. In other words they examine how well the proposed model reproduces the

observed data or fits the sample data. Examples of such indices include the likelihood ratio chi-square (χ^2) statistic, the root mean square residual (RMSR), the standardised root mean square residual (SRMR), the root mean square error of approximation (RMSEA) and the goodness of fit index (GFI). The chi-square statistic is usually very high, indicating that the model should be rejected. However, according to Hair *et al.* (2010) relying only on chi-square statistics for assessing the model specification can be misleading, especially when the sample size is large (higher than 200 observations). Therefore, the chi-square is not used as a sole indicator for model fit. One of the fit statistics to resolve this problem is the χ^2/df ratio or the normed chi-square indicator in an attempt to make it less dependent on sample size. The literature on this index suggests that a value smaller than 5 is on the acceptable range, while values smaller than 3 reflect a good fit (Byrne, 2001; Hair *et al.*, 2010). The RMSR measures the average of the residuals between individual observed and estimated covariance and variance terms. The lower the RMSR and the SRMSR values the better the fit of the model, while higher values represent bad fit (Hair *et al.,* 2010). A value less that 0.05 is widely considered as a good fit, and below 0.8 as an adequate fit. The RMSEA takes into account the error of approximation in the population. In other words, it examines how well the model would fit the population covariance matrix, if it were available. It explicitly tries to correct for both model complexity and sample size. Values smaller than 0.05 for this measure indicate a good fit and values smaller than 0.08 represent a reasonable error of approximation. Finally, GFI should take values higher than 0.9 in order to suggest a good model fit.

The incremental (or comparative) fit indices differ from the absolute ones in the sense that they assess how well a specified model fits relative to some alternative

baseline model (commonly referred to as the null model). The baseline model assumes that all observed variables are uncorrelated. This class of indices represents the improvement in the overall fit by the specification of the related multi-item constructs (Hair *et al.*, 2010). Examples of these indices are the comparative fit index (CFI) and the normed fit index (NFI). These indices take values among the 0-1 range with higher values indicating an overall better fit. Values higher than 0.9 are associated with good model fit (Byrne, 2001; Hair *et al.*, 2010).

Finally, the parsimonious fit indices are designed in order to assess information about which model – from a set of competing models – is the best fitting model. This is done by taking into consideration the degree of complexity of the model. Thus, a parsimonious fit measure can be improved either by a better fit or a simpler model (one that estimates fewer parameter paths). The most common indices of this kind are the parsimony normed fit index (PNFI), which is simply the NFI adjusted for degrees of freedom, and the adjusted goodness of fit index (AGFI), which is again the GFI adjusted for the relative degrees of freedom. Details about all those indices and their respective recommended criteria are given summarized in Table 4.3.

In addition to the goodness of fit criteria described above, CFA requires other standardized estimates as well in order to evaluate the overall measurement model. These criteria include:

(a) The standardized regression weights or factor loadings values to be above 0.5 for each construct in order to be acceptable, and higher than 0.7 for good fit.

(b) The squared multiple correlations to be above the cut off value of 0.5.

(c) The standardized residual covariances to be higher than the threshold value of $|2.58|$.

(d) The modification indices to exhibit low covariances among the measurement errors.

Based on these criteria, items with factor loadings lower than 0.5 and modification indices that reveal high residual covariances accompanied by high regression weights between those error's should be examined as candidates for possible exclusion of the model.

Table 4.4: Goodness of Fit Statistics in CFA and SEM			
Index	**Abbreviation**	**Type of fit measure**	**Recommended criteria**
Chi-square	χ^2	Model fit	p>0.05
Goodness of fit index	GFI	Absolute fit indices	>0.90
Standardized root mean square residual	SRMSR		<0.05 good <0.08 acceptable
Root mean square error of approximation	RMSRA		<0.05 good <0.08 acceptable
Normed fit index	NFI	Incremental fit indices	>0.90 >0.80 acceptable
Comparative fit index	CFI		>0.95 great >0.90 good >0.80 acceptable
Normed chi-square	χ^2/df	Parsimonious fit indices	<5 acceptable <3 excellent
Adjusted goodness of fit index	AGFI		>0.90 good >0.80 acceptable
Parsimony normed fit index	PNFI		>0.90 good >0.80 acceptable

4.4.5. Reliability and Validity Tests

Reliability is considered as the most important determinant that measures the instrument's quality, because it helps the researcher to identify the inconsistencies and their effect on the measurement results. According to Sekaran (2003), reliability is concerned with the consistency, stability and reproducibility of measurement results. Internal consistency reliability is particularly important when there are multiple measurement items for each construct (Bryman and Cramer, 2005).

The reliability of the measures can be assessed by the examination of the consistency of the respondents' answers to all items in the construct (Nunnally, 1978). In order to find out the overall reliability of each of the latent constructs for each music channel, the *Composite Reliability* (CR) index is calculated for each construct with the following formula:

$$CR = \frac{\left(\sum_{i=1}^{n} \lambda_i\right)^2}{\left(\sum_{i=1}^{n} \lambda_i\right)^2 + \left(\sum_{i=1}^{n} \delta_i\right)}$$

where λ denotes the factor loadings (standardized regression weights) of each item i, δ denotes the error variance term for each item i and n represents the number of items. The recommended criterion for the CR index is to be higher than 0.7 for each construct.

On the other hand, validity is related with the accuracy of measures (Sekaran, 2003). Validity can be understood as the ability of a scale to measure what is intended to be measured (Zikmund, 2003). Following Hair *et al.* (2010) validity determines the extent to which a construct and its corresponding measurement indicators are related, as well as the extent to which these set of items actually reflect the construct they are designed to capture. Obviously, the better the fit between the measured items and the theoretical latent construct, the greater is the establishment of validity.

The degree of validity of a construct can be examined by assessing three different types of validity: convergent validity, discriminant validity and nomological validity. The first two types are discussed in this section. The third type is examined through the SEM estimation and it is discussed in the next section.

Convergent validity refers to the extent to which a set of observed variables of a particular construct share a high portion of the variance in common (Hair *et al.*, 2010). The factor loadings of construct, the average variance extracted (AVE), and the construct reliability (CR) estimates are being used in order to assess the degree of convergent validity of each of the constructs (Hair *et al.*, 2010). The AVE is calculated by the ratio of the summation of all squared multiple correlations of a construct's items over the number of items for each construct. The formula is the following:

$$AVE = \frac{\sum_{i=1}^{n} \lambda_i^2}{n}$$

where λ denotes the factor loading (standardized regression weights) of each item *i*, and *n* represents the number of items.

Apart from the use of the above measures, Hair *et al.* (2010) suggest that the standardized factor loading estimates should be 0.7 or higher, the AVE estimation should be greater than 0.5, and reliability estimates should be above 0.7 to show adequate convergent validity. This minimum cut off criteria will be used for assessing the convergent validity for this study.

Discriminant validity refers to the extent to which a latent construct is truly distinct from other latent constructs (Hair *et al.*, 2010). Following Hair *et al.* (2010), in order to test for discriminant validity calculation of the square root of the average variance extracted (SQRTAVE) for each construct is necessary. Then, this SQRTAVE

measure is compared with the inter-construct correlations (ICC). If the SQRTAVE is consistently higher than the ICC for each construct then discriminant validity is supported by the results. This procedure is used to assess discriminant validity in this research.

4.4.6. Structural Equation Modelling

The validity of the model was tested through the SEM estimation technique. SEM is a family of statistical models that aims to clarify and explain relationships among multiple latent variables, usually called constructs (Hair *et al.*, 2010). SEM is known by many other names. Some researchers call it covariance structure analysis; latent variable analysis or even sometimes it is called by the name of the specialized software used for its estimation. The software package used in this study is called Analysis of Moment Structures (AMOS), version 16.

Following Hair *et al.* (2010) SEM allows researchers to examine interrelated relationships among multiple dependent and independent constructs simultaneously. These relationships are expressed in a series of equations, which is similar to a series of multiple regression equations. Constructs are generally unobservable factors that are captured by multiple observable variables, called items. SEM is a multivariate statistical approach that allows the researcher to examine simultaneously both the measurement and structural components of a model (Tabachnick and Fidell, 2007). Thus, SEM is the most appropriate quantitative technique for this research since it involves estimation and testing of multiple independent-dependent relationships that were analytically presented in the theoretical model, which was discussed in Chapter 3.

After estimating the relationships described it the theoretical model; model testing involves evaluating the extent to which the theoretical model fits the data. This is done through the same fit indices that were used in the CFA described above, and presented analytically in Table 4.4.

4.4.7. Multiple-Group Analysis and Moderation Testing

The impact of moderators on the relations among the variables in a theoretical model is investigated through the use of measurement invariance and multiple-group analysis. Measurement invariance is defined as the extend to which items or subscales have equal meanings across different groups (French and Finch, 2008). This is examined through the equivalence of the psychometric properties of the instrument and the steps are the configural invariance followed by metric invariance, factor covariance invariance and measurement error invariance. Configural invariance refers to the investigation of whether the same item is an indicator of the same latent factor for each group, although factor loadings are allowed to differ across the different groups (French and Finch, 2008). Thus, in case there is similar but not identical indicators per construct, allows for variable presentation in each group and therefore configural invariance is achieved. Metric invariance (also known as factor loading invariance) is one step higher than the configural invariance and requires the loadings of each item on the underlying construct to be equal (identical) across the two groups. Similarly factor covariance invariance requires identical covariances among the different factors for both groups and measurement error invariance requires similar error structures for both groups (Hair *et al.*, 2010). Those two final levels of invariance are very hard to achieve and indeed are rarely achieved in most empirical studies (Hair *et al.*, 2010).

Multiple-group or multi-sample confirmatory factor analysis (MCFA) is a common method for examining the different levels of invariance discussed above (French and Finch, 2008). MCFA extends the traditional CFA into a multi-group situation where separate samples for each separate group are collected and then comparisons are made in order to determine their equivalence (or invariance). The basis of the process evolves through a series of empirical comparisons of different models with increasingly restrictive constraints (Hair *et al.*, 2010). The fundamental measure of difference used is the difference in the chi-square values obtained for each comparing model denoted by $\Delta\chi^2$. This measures allows for a comparison between the model that has no restrictions and the restricted one. The basic idea is that if the constrained model has a chi-square that is not substantially higher than the chis-square value of the less constrained model (or if the $\Delta\chi^2$ value among the two comparing models is statistically non-significant) then the constraints can be accepted.

The procedure for the MCFA testing starts with the estimation of the most unconstrained models. These are separate and unique CFA models estimated for each sub-group. Those two models should have χ^2/df, CFI and RMSEA values that indicate a good fit of the model in order to proceed with the rest of the analysis. Then the second step involves the configural invariance testing. In this step estimation of a common model for both groups at the same time is estimated which is free of any constraints. This model should meet appropriate levels of CFA model fit as for the two separate models estimated before. Through this test, researchers confirm that the constructs are congeneric among the groups (Hair *et al.*, 2010). This model sometimes is referred to as the totally free (TF) model because it allows all parameters to be estimated freely of any constraints. This model is also the baseline model that is used for the rest of the

comparisons. In the next steps restrictions are imposed to the TF or baseline model and the difference in the $\Delta\chi^2$ is statistically examined. The first restriction involves the equivalence of factor loadings and it is called metric invariance. Here, first all loadings are restricted to be equal between the two competing groups. If the constraints are accepted then full-metric invariance is achieved. However, if the constrained is rejected, the researcher should proceed by freeing a set of parameter constraints (as less as possible) in an attempt to achieve partial-metric invariance (i.e. at lease some set of factor loadings is the same among the different groups). The next step in MCFA puts equality constraints (for the two groups) on the covariance among the different constructs (called factor covariance invariance) and the final step restricts the error variances to be equal among the different groups as well (called error variance invariance). Throughout all those steps the values of the $\Delta\chi^2$ between the two models are compared and if these values are non-significant then the invariance hypothesis is accepted.

The level of invariance that is necessary to be achieved depends on the nature of the research (Hair *et al.*, 2010). Since the aim of the current research is to examine whether the relationship between two constructs is the same or different across groups, the theory suggests that full configural invariance must be first achieved, followed by full or at least partial metric invariance. Metric invariance is necessary because if it is not achieved then the researcher does not know whether the differences in the relationships among the constructs are due to the nature of the relationship for the two different group or due to differently measured constructs for the two groups. Thus, in the first step of the multi-group empirical analysis (the MCFA), the aim is to achieve at least partial metric invariance.

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After the MCFA, when measurement invariance is established, the structural model estimate is assessed for moderation by another series of model comparison, which is quite similar to the invariance testing described above (Hair *et al.*, 2010). The procedure involves first the estimation through SEM of an unconstrained baseline model that is totally free (TF). This means that this first model has path estimates calculated separately for each group and it is identical to the TF model described above. Another SEM model is then estimated that constraints all measurement weights (factor loadings) to be equal between the two groups. Then, the third model involves constraining the structural weights among the different groups, followed by models constraining the structural covariances of the independent variables, the structural residuals and finally the measurement residuals. All these models are examined in terms of assessing a good model fit as well as the χ^2 values are obtained. Differences among the chi-square values ($\Delta\chi^2$) are then calculated for each competing model and if the difference is statistically non-significant then the constraints are accepted. Again here, as with the MCFA the level of desired invariance is up to either full or partial metric invariance.

After that level of invariance is achieved the test for the moderating effect continues with the estimation of two additional models. The first is the model that has reached the required level of metric invariance and the second is the model that includes the specific constraint in the path estimate of interest that needs to be tested according to the hypothesis stated by the theory. Comparison of the differences of the two models, through the $\Delta\chi^2$ value, indicates whether the model fit significantly decreased (i.e. an increase in chi-square) when the estimates were constrained to be equal for the two groups (Hair *et al.*, 2010). Here, a statistically significant difference between the two

models indicates that the path estimates are indeed different between the two groups and therefore that moderation exists. Contrary, if the models are not significantly different, then there is no support for the moderation hypothesis, since the path estimates are found to be equal among the different groups.

4.5. Ethical Conduct of the Research

The current research deals with the examination of the acquisition of music of different individuals in a multi-channel framework. Since two of the four channels (illegal street vendors and peer-to-peer platforms) have an illegal nature, the research needs to take a thorough ethical approach when being conducted. Ethical dilemmas can be surpassed by utilising appropriate methods, as it will be discussed in this section.

First of all, it is important to address the possible influence the researcher may have in creating awareness of and thus encouraging unethical behaviour. Malhotra and Miller (1998) examined the importance of taking an ethical approach in an empirical research that involves the public. They suggest that it is the researcher's job to protect the participants and also to protect the study from possible unethical practises. However, the research should also be complete, should not be misleading and should not be biased. The research helps participants to understand that their behaviour is illicit and to be aware of other channels involved in music acquisition.

Furthermore, Carrigan and Kirkup (2001) stress the importance that the participants of the research should feel completely assured that they will not be adversely affected, due to their participation to the research. These considerations were carried out throughout the research.

Research in the area of music piracy includes literature research on academic databases, focus groups interviews and data gathering through questionnaires, which deal directly with the issue of privacy. The focus should be upon confidentiality and privacy of the participants of the research. In other words, the participants that may be involved in piracy will be protected by confidentiality.

Apart from the above, ethical considerations must pertain on the whole process of the research related to its appropriateness and based on the possible consequences of its outcome. The research process should pay attention not only to the fair treatment of the research subjects, but also to the responsibility to the society as a whole and the integrity of the data collection, empirical analysis and reporting of the final findings.

4.5.1. Current Research Environment

In order to ensure that the study will be performed in an ethical manner a research protocol was sent to Cranfield University's Research Ethics Committee. Furthermore, a formal risk assessment was conducted concerning all aspects of the study (the researcher, the participants and the university), which is presented in Appendix A.

Apart from the UK, the study took place in Greece. Greece is a European Union country that follows similar regulatory and ethical framework with all the EU countries. Therefore, obtaining approval from the Cranfield's Research Ethics Committee was sufficient for such data collection. The research took place in major UK and Greek Universities and official letters of approval to conduct research in the university premises are presented in Appendix B. Both samples were collected in undergraduate

modules in lecture rooms on reputable university premises, which had the standard security maintained in higher education buildings.

4.5.2. Informed Consent

In order to ensure an ethical approach when asking respondents to reveal information on an illegal behaviour, it is necessary to obtain informed consent. Informed consent ensures that the participants of the research provide open and honest opinions. The consent should ensure that the participation is voluntary and should include a description of the purpose of the study as well as the right to withdraw at any point (Kinnell, 1989).

Following the above, the empirical research was conducted in a fully voluntary basis. In order to ensure that the participants undertaking the research understood its nature, they were handed a form, which explained the purpose and nature of the research. The information sheet that was given to the participants stated clearly "If you don't want to take part, you do not have to give a reason and no pressure will be put on you to try and change your mind. You also have the right to withdraw from the research at any point you like." Furthermore, verbal information was given to all the participants from the researcher about the voluntary participation and the right to withdraw. The researcher's email address was given to all participants for result dissemination purposes.

Additionally, the participants had the opportunity to decline to participate in the research. Prior to the completion of the questionnaire the researcher explained to each participant the purpose of the research, their right to terminate (or pause) the procedure at any time and the process employed in order to protect confidentiality and anonymity.

Oral rather than written consent was sought from the participants. In order to ensure that the participants fully recognised this; the first page of the questionnaire stated clearly "by your completion of this questionnaire, you are giving informed consent for the use of your responses in this research."

4.5.3. Anonymity and Confidentiality

Because of the sensitive nature of the study, anonymity and confidentiality is a crucial element that needs to be tackled. Ensuring confidentiality increase representativeness of the research findings. Furthermore, the participants are more likely to trust the researcher and reveal sensitive information regarding possible illegal actions. Thus, measures that concealed the identity of the research participants were included in order to provide legal protection to them as well as limiting access of this information to other interested parties.

In order to achieve anonymity and confidentiality, the questionnaires did not ask the participants to state their name or contact details. Furthermore, the questions in the survey did not allow participants to be identifiable. The overall control of the data generated resides in secure university premises. Any laptop data are password protected and data stored electronically are encrypted. The possibility of third party identification is therefore impossible. Even in the very rare case scenario, of authorities requiring access to the data, the anonymity and confidentiality measures taken from the researcher would not allow this possibility.

Furthermore, the researcher has been in contact with the Market Research Society (MRS) Codeline Service, who noted that the researcher is required under Market Research Society guidelines to ensure respondent anonymity at all times. The

only exception to the above, under the Data Protection Act, is when one believes that the crime committed is so serious that it morally contravenes the respondent's right to anonymity (MRS suggests this would be rape, murder, child abuse, terrorism).

4.6. Summary and Conclusions

The current study mainly involves a self-administered questionnaire survey, to investigate the relationship among various variables and their effects on music acquisition from various music channels. Thus, the main research follows a quantitative/positivist strand. Prior to that, an exploratory research will be conducted during the initial stages of the research in order to validate the instrument of the main study (Churchill, 1979). The exploratory research that will be used includes expert judging, a pilot study and a calibration study for scale development. All these techniques will be conducted in the hope that the information acquired will help the researcher to understand deeper the research phenomenon, but also to identify additional measurement items for the research setting.

This chapter first discussed the different philosophical research approaches and identified the approach adopted from the current study. Then the research design of the current study is discussed, including the purpose of the research, population of the study, the sampling technique used for the data collection and a description of the data analysis procedures that will be used later on in the empirical research. Finally, the ethical conduct of the research is thoroughly presented. The next chapter presents the empirical results of the exploratory phase of the research.

5. ANALYSIS AND RESULTS OF EXPLORATORY RESEARCH

5.1. Introduction

This chapter discusses the exploratory phase of this research, which involves the scale development and validation for this study. This phase includes expert judging, a pilot study and a quantitative calibration study for the development of the scales and the reliability and purification of the items.

5.2. Scale Development and Item Creation

This section outlines the research design and presents the scale development for the proposed research model. The procedure of scale development is very important since it connects the theoretical framework with the empirical hypothesis testing. Churchill (1979) suggests that scale development is the most critical element for the evaluation of a fundamental body of knowledge in marketing. A scale measurement involves the combination of various collected items into a composite score, which is used in order to reflect the theoretical variables, which are not readily observed.

A very important decision here is the choice between reflective or formative scales. In general, researchers tend to agree that this decision should be based on strong theoretical foundations (Diamantopoulos and Winklhofer, 2001; Fornell *et al.*, 1991). The distinction between reflective and formative is important because the proper justification of the measurement model is necessary in order to have meaningful relationships in the structural model (Anderson and Gerbing, 1988). In reflective measurement, meaning/causality flows from the items to the construct (Bollen, 1989). This suggests that each item is considered as an imperfect reflection of its

corresponding latent construct. Contrary to that, in formative measurement the meaning/causality flows from the items to the construct (Diamantopoulos and Winklhofer, 2001). So, in this case it is the formative indicators that define the construct.

For the purposes of this study, a reflective measurement model approach is adopted. This is because the causality runs from the construct to the indicators and not vice versa. Specifically, following the analysis of Jarvis *et al*. (2003) for choosing the appropriate specification, the following conclusions can be drawn: First, the items that constitute a construct share a high degree of homogeneity and can be used interchangeably within the construct's dimension. Second, there is a high degree of covariation among the items within the construct. Finally, items within each construct (for example SN) are likely to be affected by the same antecedents (significant others) and have similar consequences (increase or decrease in music acquisition from multiple channels).

In order to develop measures for the proposed constructs Churchill's (1979) procedure was followed. This procedure is presented in Figure 5.1.

Figure 5.1: Churchill's (1979) Procedure for Developing Better Measures

Specify domain of the construct	**The Exploratory Phase**
	Literature search
	Qualitative Study:
	
	    Expert Judgment
	    Focus Groups

↓	
Generate Sample of items	Pilot Study – Application of questionnaire
↓	
Collect Data	
↓	
Purify Measure	Coefficient Alpha Exploratory Factor Analysis
↓	
Collect Data	**Main Survey** Quantitative Study: Survey
↓	
Assess reliability and validity	Coefficient Alpha Confirmatory Factor Analysis

Source: Churchill (1979) p. 66

5.2.1. Specification of the domain of the constructs

According to Figure 5.1, researchers should first define clearly what is included in the definition of every construct and what is excluded. Therefore, the first step is to determine clearly the domain of the construct. This step involves specifying the operational definitions and dimensions of focal constructs. Careful consideration of this step enables the researcher to generate items that truly belong to their hypothesised dimensions. Following Churchill (1979), at this step is very important to consult the relevant literature accurately. Given the aim of the present study, the literature review

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comprises of studies that deal with theories of intention, multichannel choices, ethics and music piracy. An extensive analysis of all those theoretical dimensions is analytically presented in Chapter 2.

5.2.2. Generation of Items

Following Churchill (1979), the second step is to generate sample items that capture the specified domain of the constructs. This involves generating measurement items that stem from literature search, exploratory research, experience surveys and focus groups (Churchill, 1979). In order to generate the measurement items, a thorough literature search was utilised. This initial exploratory study involved experts' opinions and a pilot study regarding the constructs (for details of these see sections 5.2.4 and 5.2.5 respectively).

In terms of existing literature search, an initial pool of items was first derived together with the measuring scales associated with them. The adaptation of items from the literature was done with the necessary changes in wording for each case. All relevant items for each construct were identified, but they were kept to a minimum in order to achieve parsimony (DeVellis, 2003). This initial item generation produced a total of 44 items. Table 5.1 presents the constructs, their associated measurement items and the literature sources from which they were obtained. Details for each construct are discussed analytically in the subsections below.

Table 5.1: Constructs' Items and Sources		
Construct	**Measurement Items**	**Sources**
1. Attitude	1.1. Overall my attitude towards acquiring music from each different music channel is good/bad.	Adapted from Fishbein and Ajzen (1975)
	1.2. Overall my attitude towards acquiring music from each different music channel is favourable/unfavourable.	
	1.3. Overall my attitude towards acquiring music from each different music channel is foolish/wise.	
	1.4. Overall my attitude towards acquiring music from each different music channel is positive/negative.	
2. Subjective Norm	2.1. My friends think that acquiring music from the various music channels is a good idea.	Based on Taylor and Todd (1995a,b)
	2.2. My friends' opinion has strong influence on me.	Adapted by Kwong and Park (2008)
	2.3. My family members think that acquiring music from the various music channels is a good idea.	Based on Taylor and Todd (1995a,b)
	2.4. My families' opinion has strong influence on me.	Adapted by Kwong and Park (2008)
	2.5. Musicians who I respect would expect me to acquire music from each different music channel.	Based on Taylor and Todd (1995a,b)
	2.6. The opinion of the musicians I respect has strong influence on me.	Based on Kwong and Park (2008)
3. Perceived Behavioural Control	3.1. Acquiring music from various music channels is entirely within my control.	Adapted by Yoon (2011)
	3.2. I can find easily music channels to acquire the music I want.	Based on Yoon (2011)
	3.3. I know many music channels that provide the music I want.	
4. Perceived Quality of Music	4.1. Sound quality is an important factor when deciding to obtain music.	Adapted by Plowman and Goode (2009)
	4.2. The music files provided by Internet music stores have better quality than those available from P2P sites.	Based on Plowman and Goode (2009)
	4.3. CDs from bricks-and-mortar stores have better sound quality than counterfeit CDs.	
	4.4. CDs from bricks-and-mortar stores have better sound quality than MP3 files from P2P sites.	
	4.5. If MP3 music files were of a lesser quality, I would be more likely to buy a CD from a bricks-and-mortar store than download it.	Adapted by Plowman and Goode (2009)

5. Perceived Benefit of Piracy	5.1. Downloading MP3 files from P2P sites saves me a lot of money.	Based on Yoon (2011)
	5.2. Buying counterfeit CDs from street vendors saves me a lot of money.	
	5.3. Downloading MP3 files from P2P sites saves me a lot of time.	
	5.4. Buying counterfeit CDs from street vendors saves me a lot of time.	
	5.5. If I pirate music, I would posses a larger music collection.	
	5.6. If I pirate music, I will be able to obtain easier rare songs/albums.	Researcher's Item
6. Price of Legitimate Music	6.1. I believe that digital MP3 files are overpriced.	Based on Al- Rafee and Cronan (2006)
	6.2. I believe that music CD's are overpriced.	
	6.3. A rise in the price of music CDs would lead me to engage more in music piracy.	Adapted by Plowman and Goode (2009)
	6.4. A rise in the price of MP3 files from Internet music stores would lead me to engage in more piracy.	Based on Plowman and Goode (2009)
	6.5. I compare prices for the best value of money, when I buy music.	
7. Perceived Likelihood of Punishment	7.1. It is very likely that someone who downloads illegally MP3 files from P2P sites would be caught and prosecuted.	Based on Moores *et al.* (2009)
	7.2. It is very likely that someone who buys counterfeit CDs from street vendors would be caught and prosecuted.	
	7.3. It is very easy for law enforcement authorities to identify owners of illegal MP3 files.	
	7.4. It is very easy for law enforcement authorities to identify buyers of counterfeit CDs.	
	7.5. I do not think that I would get caught, if I buy counterfeit CDs.	
	7.6. I do not think that I would get caught, if I download from P2P sites.	
8. Idolatry	8.1. I like to discuss with my friends about the activities of my favourite singer/band.	Chiou *et al.* (2005a)
	8.2. It is really a wonderful time to attend a concert of my favourite singer/band.	
	8.3. I like to have a talk with those who also like my favourite singer/band.	
	8.4. It is very interesting to know the daily life of my favourite singer/band.	
	8.5. I like to watch or hear the news about my favourite singer/band.	
	8.6. I like to follow the news on Twitter and/or Facebook of my favourite singer/band.	Researcher's Item
9. Intention	9.1. I will acquire music form the channel I prefer for myself.	Based on Wang *et al.* (2005)
	9.2. I will acquire music form the channel I prefer for my friends and family.	
	9.3. I will recommend my friends and family to acquire music form the channel I prefer.	

5.2.2.1. Attitude towards Music Acquisition from Various Music Channels

According to Ajzen's (1985, 1988, 1989 and 1991) TPB, the attitude towards a given behaviour is dealing with the favourableness or un-favourableness feeling toward the performance of a certain behaviour (see Ajzen, 1985). The construct of Attitude, being a construct within the TPB, was adopted by literature regarding TPB. The measurement scales provided by Fishbein and Ajzen (1975) were used for this construct. Based on the above the following items were generated:

1. Overall my attitude towards buying/downloading music from (a) bricks-and-mortar stores, (b) illegal street vendors / (c) Internet music shops, (d) P2P sites, is ...

(a) good/bad,

(b) favourable/unfavourable,

(c) foolish/wise,

(d) positive/negative.

The possible response is a seven point Likert scale from the one extreme to another in each case.

5.2.2.2. Subjective Norms towards Music Acquisition from Various Music Channels

Consumers are susceptible to interpersonal influences and subjective norm is defined as the need to identify with or enhance one's image in the opinion of others through the acquisition and use of various products (Ajzen, 1991). The items for subjective norms usually contain questions about whether "significant others" approve or disapprove the behaviour under examination.

The items to measure subjective norms were adapted from or based on Taylor and Todd (1995a, b) and Kwong and Park (2008). The following items are included with respect to channel a) bricks-and-mortar stores:

1. *My friends think that buying CDs from bricks-and-mortar stores is a good idea.*

2. *My friends' opinion has strong influence on me.*

3. *My family members think that buying CDs from bricks-and-mortar stores is a good idea.*

4. *My families' opinion has strong influence on me.*

5. *Musicians who I respect would expect me to buy from bricks-and-mortar stores.*

6. *The opinion of the musicians I respect has strong influence on me.*

The possible response is a seven point Likert scale ranging from "Strongly Disagree" to "Strongly Agree". Questions 1, 3 and 5 were asked again with the necessary rewarding in order to capture subjective norms for the three remaining channels. Questions 2, 4 and 6 were omitted when examining each channel, as they remain exactly the same for each case.

5.2.2.3. Perceived Behavioural Control towards Music Acquisition from Various Music Channels

According to Ajzen (1985), perceived behavioural control is a measure that shows how easy or difficult it is for individuals to perform the behaviour under examination. Ajzen (2002) suggests the use of both a self-efficacy measure (whether the individuals believe they have the ability to perform the behaviour) and a control measure (whether the individuals believe they have control over performing the

behaviour). Measures used in this questionnaire are based on measures used before by Yoon (2011). The items used with respect to bricks-and-mortar stores are the following:

1. *Buying CDs from bricks-and-mortar stores is entirely within my control.*

2. *I can find easily bricks-and-mortar stores to buy the music CDs I want.*

3. *I can find easily bricks-and-mortar stores that sell the music CDs I want.*

Again all items were rephrased in order to capture the PBCs for all channels of music acquisition. The items again were measured in a seven point Likert scale ranging from "Strongly Disagree" to "Strongly Agree" (since from now this is the case for all other items this information was omitted in order to avoid repetition).

5.2.2.4. Perceived Quality of Music

The perceived quality of music construct is important in this analysis because various channels of music acquisition are examined. If individuals believe that the audio quality of music CDs is superior to that of online music, then it is likely to prefer the physical product compared to the legal or illegal MP3s. Similarly, if they believe that copyrighted CDs or MP3 files bought from bricks-and-mortar stores or Internet music shops respectively are better quality than their counterparts (counterfeit CDs from street vendors or MP3s from P2P sites) then again they might prefer to buy music instead of pirating music. On the other hand, if they feel that there is no difference among various music formats (digital/physical, legal/illegal) then they might be more inclined to download music for free or buy the cheaper product although counterfeit. Finally, since some individuals may not consider sound quality to be important factor when deciding to acquire music another item is required to capture that.

Following the previous studies of Plowman and Goode (2009) that dealt with the issue of quality for digital piracy, the following items were used:

1. *Sound quality is an important factor when deciding to obtain music.*

2. *The music files provided by Internet music stores have better sound quality than those available from P2P sites.*

3. *CDs from bricks-and-mortar stores have better sound quality than counterfeit CDs.*

4. *CDs from bricks-and-mortar stores have better sound quality than MP3 files from P2P sites.*

5. *If MP3 music files were of a lesser quality, I would be more likely to buy a CD from a bricks-and-mortar store than download it.*

5.2.2.5. Perceived Benefits of Piracy

The perceived benefits of piracy construct is important in this study because it is possible for individuals to believe that by pirating music, they save either money (because it is free for P2P sites and cheaper for counterfeit CDs from street vendors), or time (faster to download a song than going to the bricks-and-mortar store; easier to obtain a CD from a street vendor because she/he wonders around in public areas trying to promote her/his products). Another possible benefit of piracy is the belief that through piracy one can have a larger music collection, mainly because it is free, but also because some P2P users are collectors of music and they give the entire collection of an artist, readily available for every other user. Finally, a benefit of piracy that has not been examined before in the literature is the belief that one can obtain easily rare music that

might be hard to find to the restricted space of a bricks-and-mortar store. Therefore, the following items adopted from Yoon (2011) were used:

1. *Downloading MP3 files from P2P sites saves me a lot of money.*

2. *Buying counterfeit CDs from street vendors saves me a lot of money.*

3. *Downloading MP3 files from P2P sites saves me a lot of time.*

4. *Buying counterfeit CDs from street vendors saves me a lot of time.*

5. *If I pirate music, I would possess a larger music collection.*

6. *If I pirate music, I will be able to obtain easier rare songs/albums.*

5.2.2.6. Price of Legitimate Music

Two issues need to be examined here. The first is whether the acquisition of music from the legal channels is considered overpriced from the perspective buyers and the second is whether a rise in the price of the product acquired through the legal channels, will lead individuals to obtain the product from the cheaper/free illegal channel. The second is the idea whether price comparison is important for music acquisition. Based on that and on the literature of Plowman and Goode (2009) the following items are included:

1. *I believe that digital MP3 files are overpriced.*

2. *I believe that music CD's are overpriced.*

3. *A rise in the price of music CDs would lead me to engage more in music piracy.*

4. *A rise in the price of MP3 files from Internet music stores would lead me to engage in more piracy.*

5. *I compare prices for the best value of money, when I buy music.*

5.2.2.7. Perceived Likelihood of Punishment

Assessing the possible deterrent effect of legislation, the perceived likelihood of punishment from the illegal action for individuals acquiring music through the illegal (pirate) channels is examined. The perceived likelihood of punishment is defined as the perception that anyone that engages in an illegal action (music piracy in this case) will be caught and prosecuted. This is closely connected with the effectiveness of the law enforcement authorities and the fear of being caught. Hence based on the relevant literature of Moores *et al.* (2009) the following six items for this construct were included:

1. *It is very likely that someone who downloads illegally MP3 files from P2P sites would be caught and prosecuted.*

2. *It is very likely that someone who buys counterfeit CDs from street vendors would be caught and prosecuted.*

3. *It is very easy for law enforcement authorities to identify owners of illegal MP3 files.*

4. *It is very easy for law enforcement authorities to identify buyers of counterfeit CDs.*

5. *I do not think that I would get caught, if I buy counterfeit CDs.*

6. *I do not think that I would get caught, if I download from P2P sites.*

5.2.2.8. Idolatry

As discussed extensively in Chapter 3 specific singer/band idolisation can change the decision to acquire music from different channels for reasons of identification and for not wanting to hurt their idol singers/bands.

Following mainly the study of Chiou *et al.* (2005a), the research tries to determine the degree of idolatry of the respondents with respect to singers/bands using the following set of questions:

1. *I like to discuss with my friends about the activities of my favourite singer/band.*

2. *It is really a wonderful time to attend a concert of my favourite singer/band.*

3. *I like to have a talk with those who also like my favourite singer/band.*

4. *It is very interesting to know the daily life of my favourite singer/band.*

5. *I like to watch or hear the news about my favourite singer/band.*

6. *I like to follow the news on Twitter and/or Facebook of my favourite singer/band.*

5.2.2.9. Behavioural Intention towards General Acquisition of Music

According to Ajzen's (1985, 1988, 1989, 1991) TPB, intention to perform a given behaviour (in this case to acquire music) is a central factor in the theory. Intention is assumed to capture the motivational factors that influence behaviour and they are an indication of the amount of effort individuals are planning to exert in the future in order to perform the behaviour. Following Wang *et al.* (2005) the following three items were included:

1. *I will buy music CDs form a bricks-and-mortar store for myself.*

2. *I will buy music CDs form a bricks-and-mortar store for my friends and family.*

3. *I will recommend my friends and family to buy music CDs form bricks-and-mortar stores.*

Since the aim is to capture intention for all four channels the above three items were rephrased accordingly.

5.2.3. Instrument Development

After this analysis an initial self-administered questionnaire was developed as the instrument for this study (see Appendix C). The questionnaire consists of a total of 12 pages. The first page is a cover letter that indicates the purpose of the study and provides contact details for the researcher and the principal supervisor. The second page provides some important definitions, and the last page explains that the questionnaire will be used for academic purposes and asks for the consent of the participants. The remaining 9 pages include demographic questions and questions specifically related to the constructs of the empirical research.

After the important definitions, questions 1-5 deal with the demographics of the participants, while the next five questions (6-10) deal with their preferences and frequency of acquiring music. This can be used in order to characterize the individuals as downloaders/non-downloaders, heavy downloaders/light downloaders, legal downloaders/illegal downloaders, and digital pirates/physical pirates.

Questions 11-81 deal with items that measure each of the constructs discussed in section 5.2.2. Since there will be a different set of questions for each music channel four distinct acronyms were introduced to differentiate easily among the different channels. Namely, B is used for the bricks-and-mortar channel, S for the street vendors channel, D for the digital Internet music shops channel and P for the P2P platform channel. Thus, the participants were asked about their "Attitude" toward music acquisition (ATTB, ATTS, ATTD, ATTP; see questions 11-14), the perceptions about the significant others (such as friends, family etc.) or "Subjective Norms" about music acquisition (SNB, SNS, SND, SNP; see questions 15-29) and their perceived ability or

the "Perceived Behavioural Control" towards music acquisition (PBCB, PBCS, PBCD, PBCP; see questions 30-41).

Then next set of questions was dealing with the participants' "Perceived Quality of Music" (PQM; see questions 42-46), "Perceived Benefits of Piracy" (PBP; see questions 47-52), the role of the "Price of Legitimate Music" (PLM; see questions 53-57), "Perceived Likelihood of Punishment" (PLM; see questions 58-63) and "Idolatry" (IDL; see questions 64-69).

Finally, questions regarding the participants' "Behavioural Intention" to acquire music from each music channel were also asked. Therefore four separate cases as defined above (INTB, INTS, INTD, INTP; see questions 70-81) exist for this set of questions as well.

5.2.4. Expert Judging of the Instrument

The initial pool of items obtained from the literature (see section 5.2) was subjected to face validity. Although face validity is subjective in nature, it is essential in order to provide an indication for the appropriateness of the items that will be used in the questionnaire. In order to establish the face validity a number of experts were asked to provide feedback. Furthermore, a pilot study was conducted in order to assess the content validity of the instrument. A detailed analysis of those two methods is provided in the sections below.

In order to assess the face validity of the instrument, the researcher asked for feedback from two panels of experts in the field of the research. The first panel consisted of five academics that have a vast experience in consumer marketing research and research conducted with surveys and questionnaires similar to ours. The second

panel consisted of five music industry practitioners who have worked extensively on the area of music piracy. All panel members were provided with a questionnaire in order to comment and evaluate the items' representation of the construct domain. Details about the names and affiliations are provided below.

Academic Experts	Industry Experts
Professor Charles Dennis, Professor in Marketing and Retailing at Lincoln Business School	Mr Nick Stefanakis, Manager at International Federation of Phonographic Industry, Greece
Professor Hugh Wilson, Professor of Strategic Marketing at Cranfield School of Management	Mr Chris Green, Manager at British Phonographic Industry
Professor John Kehagias, Professor in Marketing at Hellenic Open University	Mr Gregoris Savvidis, Director of VIM records Music Journalist and Radio Producer
Dr Andreas Andronikidis, Assistant Professor of Marketing at University of Macedonia	Mr Jeremy Banks, Director of Anti-piracy at International Federation of Phonographic Industry, UK
Dr Emmanuella Plakoyannaki, Assistant Professor of Marketing at Aristotle University	Sarah Davis, Music Consultant at Universal Music Group

The researcher utilised all comments from both panels and made all necessary modifications (i.e. paraphrasing, rephrasing, deleting or adding items) that were proposed. The process is detailed below.

A number of academics, suggested to change the Likert scale structure and instead of numbers (1 to 7) to put either dots or empty boxes for the respondents to tick them. Therefore, following this suggestion – to make it easier for the participants – boxes to tick with brief explanations above them were used in the questionnaire instead of numbers. Additionally, some academics found confusing the fact that the first three constructs were based on a Likert scale that was ranging from "bad" to "good", "foolish" to "wise", etc. Thus, the end points above the boxes are now consistently ranging from "Strongly Disagree" to "Strongly Agree" for all items. The use of this

type of Likert scale is consistent with previous studies in music piracy (Kwong and Lee, 2001, 2002; Al-Rafee and Cronan, 2006; Plowman and Goode, 2009, Yoon, 2011).

Most academics commented on items 1.1 to 1.4 (the items regarding the Attitude construct). Specifically, one academic suggested that items 1.1, 1.3 and 1.4 should be rephrased as follows: "Overall, I believe buying music from bricks-and-mortar store is", while three academics couldn't see any major difference among the characterisations "harmful/beneficial" and "bad/good". Following the experts' suggestions, this point was addressed restructuring the questions concerning Attitude, to be in accordance and to look consistent with the "strongly disagree – strongly agree" structure. The new structure follows that of Taylor and Todd (1995 a) as well as Kong and Lee (2002).

Another point that was raised by both academics and practitioners had to do with the items concerning the "Subjective Norm" construct. More specifically, they suggested excluding items 2.2 (My friends' opinion has strong influence on me), 2.4 (My family's opinion has strong influence on me) and 2.6 (The opinion of the musicians I respect has strong influence on me). After a more detailed exploration of the relevant research papers that use these items, it emerges that the seminal papers of Taylor and Todd (1995 a, b) do not contain such questions. These questions were added by Kwong and Park (2008) and they are not generally accepted/used by most researchers. Therefore, following the comments the questions were excluded from the questionnaire. For the same construct, two academics suggested to include items that will be differently phrased for the legal and illegal channels, approving and disapproving the behaviour respectively. After a thorough literature search the addition of two additional items was decided. These items are phrased as follows: (If I acquire music from legal/illegal channels, most people who are important to me would approve/disapprove)

Cheng *et al.* (2009); (Most people who influence my behaviour think that I should/shouldn't acquire music from legal/illegal channels) adapted from Wang *et al.* (2009).

There was a comment from one academic with regards to the Price of Legitimate Music construct. Specifically, item 6.5 (I compare prices for the best value of money when I buy music) should be excluded, since it was a general question regarding price comparisons and it was captured by the previous set of questions in the construct. Similarly, there were two suggestions of rephrasing the questions regarding Intention and one item of the Idolisation construct. Following the comments, item 6.5 was deleted from the questionnaire; items 9.1, 9.2 and 9.3 were rephrased adding the words "In the future…" at the beginning (this was also in accordance with Chiou *et al.*, 2005a); and item 8.2 (It is really a wonderful time to attend a concert of my favourite singer/band) was changed as follows "Attending concerts by my favourite singer/band is wonderful".

Another point raised from an academic was that it is not necessary to explain to the respondents what each set of questions is about. Thus, the suggestion was to delete all the explanatory statements above each set of questions and simply change that with the phrase: "To what extent you agree with the following?"

Most practitioners suggested the inclusion of the university logo in the first page of the questionnaire in order for the whole research to look official. This point again was taken under consideration and Cranfield University's logo was added to the first page of the questionnaire. Moreover, there were a few comments about typos and about shortening the research description in the first page in order to make the questionnaire briefer. All those points were taken into account and the required actions were implemented.

Finally, there was a comment from an academic, expert in channel choice theory, which had to do with modelling behaviour as a four-way choice. The suggestion was to add an additional question between questions 5 and 6 in the questionnaire asking clearly: "Which of the following do you think you are most likely to use when next obtaining music?" with four answer options, one for each channel. Following that this question was added to the questionnaire.

Here, it is important to state that all industry practitioners contacted, were very encouraging and highly interested both in the nature of the research and its expected results. Especially, the representative of the International Federation of Phonographic Industry endorsed the research pointing out its importance for the future of the industry (see letter of support in Appendix D).

5.2.5. Pilot Study

In order to further assess the content validity of the instrument two pilots were conducted – one in Greece and one in the UK – consisting of university students.

Pilot studies offer advantages in terms of generating measurement items. Having people discussing together in a group, produces a wider range of information, insight and ideas compared to private interviews (Malhotra and Birks, 2003). Pilot study discussions ensure clarity of statements and comprehension of construct measurement. They also help to reveal the adequacy of the statements that measure the model constructs and to avoid unclear terms and ambiguities. Furthermore, according to Craig and Douglas (2000) when a construct and its associated measures are applied in different research settings, particular attention should be paid to whether it is applicable and equivalent of a similar nature to the different settings. Therefore, it was important to

check whether the constructs that were created with the help of the literature review were applicable for both Greece and the UK.

For this reason, two separate pilot studies were conducted, one for each country case. According to Miles and Hubermean (1994) exploratory investigations are less concerned with reaching a group of subjects that represent the target population. Therefore, participants were recruited on the basis of convenience criteria. Ten students of a Greek Business School and nine of a UK School of Social Sciences were used as the sample population for each country case. This is in accordance with Churchill's (1979) suggestion of pilot studies consisting ideally of 8-10 respondents. For the details of the respondents see Tables 5.2 and 5.3 for the Greek and UK sample respectively.

Table 5.2: Details of the Greek Pilot Study			
Target Population	Sampling Units	Greek Universities	
	Sampling Elements	University Students	
Sampling Technique		Convenience Sampling of Students	
Sample Size Required		8-10	
Sample Size Used		10	
Participants Profile		**Number**	**Percentage**
Sex	Male	4	40%
	Female	6	60%
Age	18-22	6	60%
	23-26	3	30%
	27 and above	1	10%

Table 5.3: Details of the UK Pilot Study			
Target Population	Sampling Units	UK Universities	
	Sampling Elements	University Students	
Sampling Technique		Convenience Sampling of Students	
Sample Size Required		8-10	
Sample Size Used		9	
Participants Profile		**Number**	**Percentage**
Sex	Male	5	55.5%
	Female	4	44.5%
Age	18-22	5	55.5%
	23-26	3	33.3%
	27 and above	1	11.2%

The narrative data from the pilot study discussions was prepared for analysis by turning the raw data (stored in audio-tapes) into processed data (write-ups) in order to be easily analysed (Tashakkori and Teddlie, 1998). Following Procter (1997), transcribed notes and key words from the recording were analysed from the written text. Such an analysis could have utilised specific software programmes like NVivo to provide a useful aid in filling and indexing the data in order to identify relationships between the themes (Silverman, 1993). However, since the pilot involved a very small number of participants, computer software was not deemed as necessary. Each of the respondents completed the initial version of the questionnaire and provided general feedback about the process (e.g. time of completion, clarity of arguments and wording of measures). In general, the respondents found that the questionnaire was clear, easy to comprehend and easy to complete. Following that, specific comments regarding minor modifications to the instrument were made. These are described analytically below.

Both pilot studies, found item's 3.1 wording as unclear and confusing. Specifically, when the researcher mentioned this item a student asked the following question:

What is the meaning of the phrase "within my control". I don't seem to understand it.

(UK University, Participant No. 3)

The researcher asked the rest of the respondents if they felt the same and most of them suggested that the term "within my control" was not something they could comprehend. The researcher explained the term in accordance to the TPB Perceived Behavioural Control idea and after a discussion all students agreed that the question should be posed differently. For that reason, following Taylor and Todd (1995 a) the wording of item 3.1 have changed as follows: "I have the resources, knowledge and ability to buy CDs from bricks-and-mortar stores". After that modification all participants felt that the question was easy to understand and were able to answer it.

On the same line, both pilot studies had problems differentiating among the terms "harmful/beneficial", "bad/good" etc., that were used in order to capture the Attitude construct. Particularly, a student commended as follows:

I really can't realise the difference between having a "positive attitude" and a "favourable attitude".

(Greek University, Participant No. 9)

On the same line another student commended:

For me good and favourable attitude means exactly the same.

(UK University, Participant No. 2)

This point was also raised from the experts and was described in the previous section. The new items for the Attitude construct, adopted from Taylor and Todd (1995a) and Kong and Lee (2002) include end points ranging from the "strongly disagree – strongly agree".

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Most participants from both pilot studies required a further explanation with regards to the "quality" term in items 4.2 (The music files provided by Internet music stores have better quality than those available from P2P sites) and 4.5 (If MP3 music files were of a lesser quality, I would be more likely to buy a CD from a bricks-and-mortar store than download it). Specially a student stated:

What do you mean with the term quality in this question? Is it referring to the song's quality?

(Greek university, Participant No. 6)

This was clearly an omission since items 4.1, 4.3 and 4.4 indicate clearly that the questionnaire is concerned about the quality of sound. Therefore, items 4.2 and 4.5 were rephrased in order to include the word "sound" before quality.

From the Greek pilot study the following minor points were raised. First, the participants demanded to include in the list of possible music genres an additional category, that of "Greek Popular Music". Also, they asked for the income levels to be stated in monthly terms (which is most common in Greece) instead of annual terms (most common in the UK).

Similarly, from the UK pilot study, the participants suggested to change the appearance of questions 7-10 by highlighting in bold the various music channels that these questions were referring to. They also suggested adding in a line, the name of their preferred artist/band before the questions of the "Idolatry" construct, in order to associate their responses to their actual favourite artist/band.

Based on the results of this preliminary exploratory analysis, items were modified as described above from both experts and pilot studies comments. Table 5.4

presents the modified set of items, after face validity together with item codes for short

description.

Table 5.4: Constructs and Measurement Items After Face Validity			
Construct		Item Wording	Code
Attitude	Bricks-and-mortar Stores	Buying CDs from bricks-and-mortar stores is a good idea.	ATTB1
		Buying CDs from bricks-and-mortar stores is a wise idea.	ATTB2
		I like the idea of buying CDs from bricks-and-mortar stores.	ATTB3
		Buying CDs from bricks-and-mortar stores would be pleasant.	ATTB4
	Street Vendors	Buying CDs from illegal street vendors is a good idea.	ATTS1
		Buying CDs from illegal street vendors is a wise idea.	ATTS2
		I like the idea of buying CDs from illegal street vendors.	ATTS3
		Buying CDs from illegal street vendors would be pleasant.	ATTS4
	Internet Music Shops	Buying music from Internet music shops is a good idea.	ATTD1
		Buying music from Internet music shops is a wise idea.	ATTD2
		I like the idea of buying music from Internet music shops.	ATTD3
		Buying music from Internet music shops would be pleasant.	ATTD4
	P2P Sites	Downloading music from P2P sites is a good idea.	ATTP1
		Downloading music from P2P sites is a wise idea.	ATTP2
		I like the idea of downloading music from P2P sites.	ATTP3
		Downloading music from P2P sites would be pleasant.	ATTP4
Subjective Norm	Bricks-and-mortar Stores	My friends think that buying CDs from bricks-and-mortar stores is a good idea.	SNB1
		My family members think that buying CDs from bricks-and-mortar stores is a good idea.	SNB2
		Musicians who I respect would expect me to buy from bricks-and-mortar stores.	SNB3
		If I buy music CDs from bricks-and-mortar stores, most people who are important to me would approve.	SNB4
		Most people who influence my behaviour think that I should buy music CDs from bricks-and-mortar stores.	SNB5
	Street Vendors	My friends think that buying counterfeit CDs from street vendors is a good idea.	SNS1
		My family members think that buying counterfeit CDs from street vendors is a good idea.	SNS2
		Musicians who I respect would expect me to buy counterfeit CDs from street vendors.	SNS3
		If I buy music CDs from street vendors, most people who are important to me would not approve.	SNS4
		Most people who influence my behaviour think that I should not buy music CDs from street vendors.	SNS5

		My friends think that downloading from Internet music stores is a good idea.	SND1
Subjective Norm	Internet Music Shops	My family members think downloading from Internet music stores is a good idea.	SND2
		Musicians who I respect would expect me to download from Internet music stores.	SND3
		If I buy MP3 files from Internet music shops, most people who are important to me would approve.	SND4
		Most people who influence my behaviour think that I should buy MP3 files from Internet music shops.	SND5
	P2P Sites	My friends think that downloading from P2P sites is a good idea.	SNP1
		My family members think downloading from P2P sites is a good idea.	SNP2
		Musicians who I respect would expect me to download from P2P sites.	SNP3
		If I download music from P2P sites, most people who are important to me would not approve.	SNP4
		Most people who influence my behaviour think that I should not download music from P2P sites.	SNP5
Perceived Behavioural Control	Bricks-and-mortar Stores	I have the resources, knowledge and ability to buy CDs from bricks-and-mortar stores.	PBCB1
		I can easily find bricks-and-mortar stores to buy the music CDs I want.	PBCB2
		I know many bricks-and-mortar stores that sell the music CDs I want.	PBCB3
	Street Vendors	I have the resources, knowledge and ability to buy counterfeit CDs from street vendors.	PBCS1
		I can easily find street vendors to buy counterfeit CDs I want.	PBCS2
		I know many street vendors that sell counterfeit music CDs.	PBCS3
	Internet Music Shops	I have the resources, knowledge and ability to buy music from Internet music stores.	PBCD1
		I can easily find Internet music stores to buy the music I want.	PBCD2
		I know many Internet music stores that sell music.	PBCD3
	P2P Sites	I have the resources, knowledge and ability to download music from P2P sites.	PBCP1
		I can easily find P2P sites to download the music I want.	PBCP2
		I know many P2P sites that offer music for people to download.	PBCP3
Price Quality of Music		Sound quality is an important factor when deciding to obtain music.	PQM1
		The music files provided by Internet music stores (e.g. iTunes) have better sound quality than those available from P2P sites.	PQM2
		CDs from bricks-and-mortar stores have better sound quality than counterfeit CDs.	PQM3
		CDs from bricks-and-mortar stores have better sound quality than MP3 files from P2P sites.	PQM4
		If MP3 music files from Internet music stores were of a lesser quality, I would be more likely to buy a CD from bricks-and-mortar stores.	PQM5
Price of Legitimate Music		I believe that digital MP3 files are overpriced.	PLM1
		I believe that music CD's are overpriced.	PLM2
		A rise in the price of music CDs would lead me to engage more in music piracy.	PLM3
		A rise in the price of MP3 files from Internet music stores would lead me to engage more in music piracy.	PLM4

		Downloading MP3 files from P2P sites saves me a lot of money.	PBP1
Perceived Benefits of Piracy		Buying counterfeit CDs from street vendors saves me a lot of money.	PBP2
		Downloading MP3 files from P2P sites saves me a lot of time.	PBP3
		Buying counterfeit CDs from street vendors saves me a lot of time.	PBP4
		If I pirate music, I would possess a larger music collection.	PBP5
		If I pirate music, it would be easier to obtain rare songs/albums.	PBP6
Perceived Likelihood of Punishment		It is very likely that someone who downloads illegally MP3 files from P2P sites would be caught and prosecuted.	PLP1
		It is very likely that someone who buys counterfeit CDs from street vendors would be caught and prosecuted.	PLP2
		It is very easy for law enforcement authorities to identify owners of illegal MP3 files.	PLP3
		It is very easy for law enforcement authorities to identify buyers of counterfeit CDs.	PLP4
		I do not think that I would get caught, if I buy counterfeit CDs.	PLP5
		I do not think that I would get caught, if I download from P2P sites.	PLP6
Idolisation		I like to discuss with my friends the activities of my favourite singer/band.	IDL1
		Attending concerts of my favourite singer/band is wonderful.	IDL2
		I like to talk with those who also like my favourite singer/band.	IDL3
		It is very interesting to know the daily life of my favourite singer/band.	IDL4
		I like to watch or hear the news about my favourite singer/band.	IDL5
		I like to follow the news on Twitter and/or Facebook about my favourite singer/band.	IDL6
Intention	Bricks-and-mortar Stores	In the future, I will buy music CDs from bricks-and-mortar stores for myself.	INTB1
		In the future, I will buy music CDs from bricks-and-mortar stores for my friends and family.	INTB2
		I will recommend my friends and family to buy music CDs form bricks-and-mortar stores.	INTB3
	Street Vendors	In the future, I will buy counterfeit CDs from street vendors for myself.	INTS1
		In the future, I will buy counterfeit CDs from street vendors for my friends and family.	INTS2
		I will recommend my friends and family to buy counterfeit CDs from street vendors.	INTS3
	Internet Music Shops	In the future, I will buy music from Internet music stores for myself.	INTD1
		In the future, I will buy music from Internet music stores for my friends and family.	INTD2
		I will recommend my friends and family to buy music from Internet music stores.	INTD3
	P2P Sites	In the future, I will download music from P2P sites for myself.	INTP1
		In the future, I will download music from P2P sites for my friends and family.	INTP2
		I will recommend my friends and family to download music from P2P sites.	INTP3

5.3. Scale Purification

5.3.1. Data Collection and Sample Description

Following the previous analysis for item generation, a calibration study was conducted in order to purify the measurement scales. According to Churchill's (1979) procedure for developing better measures presented in Figure 5.1 the third and fourth steps involve the reliability and validity testing of the scale items.

Since the empirical research will be conducted in both Greece and the UK, the questionnaire was translated in Greek using the method of back translation (Brislin, 1970 and 1980). Back translation is a widely used procedure for cross cultural survey studies. An accredited bilingual translated the questionnaire from English to Greek. The Greek version was then checked by a bilingual academic, for terminology checking. Upon satisfactory review, a second accredited person back translated the Greek version into English. The final copy was compared to the initial English questionnaire in order to check the validity of the translation process. Only a few minor changes were necessary and therefore the translation was considered to be accurate. Immediately after that a pilot study was conducted involving two samples of ten individuals for each country case, in order to make sure that the participants were able to comprehend and fill-in the questionnaire in the proposed time limit without facing any problems. The results were highly satisfactory, since all individuals have not reported any problems.

According to Malhotra and Birks (2003) the participants of the calibration study should be drawn from the same population as the participants of the main survey. This is necessary because the participants should be similar in terms of background, characteristics, attitudes and behaviour of interest and knowledge about

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the topic. However, since the purpose of the calibration study is mainly to purify and validate the scale; the use of the Greek population was deemed as more appropriate and adequate. This is because the instrument was written first in English and then it was translated in Greek, as it was explained above. Therefore, if there were any problems, those would have appeared clearly in the Greek rather than the UK sample.

Regarding sample size, Malhotra and Birks (2003) suggest that the calibration survey requires a small number of respondents (around 15-30). However, in order to contact exploratory factor analysis (EFA) a larger sample size is necessary. Hair *et al.* (2010) suggest that the required sample size is one that has at least more participants than the number of items (in this case 42 for each channel). Kass and Tinsley (1979) recommended having among 5-10 participants per item, while Field (2009) suggests a sample between 100 and 200 is usually good enough. Furthermore, according to Yu and Cooper (1983) the response rate for questionnaires distributed in person is generally around 81.7%. Therefore, 250 questionnaires were distributed in order to make sure that 200 of them will be appropriate in order to use them in the pilot study analysis.

The questionnaires were distributed in three separate days in lecture rooms immediately after the end of the lecture. The researcher was in an agreement with the lecturer, who kindly asked the students to take part in the research. The researcher explained to the students the nature of the research and pointed out that it was entirely on a voluntary basis. In order to eliminate potential problems with difficult questions and wording, the researcher asked kindly the participants to point out any item that they might find either confusing or difficult to answer. There were no further improvements to items in the questionnaire. After the distribution of the questionnaires, 227 filled in questionnaires were returned to the researcher in person.

The 227 filled in questionnaires were checked for missing values and 27 of them were excluded from the analysis. This left us with 200 usable questionnaires of a nicely balanced sample in terms of age and gender. Details about the sample and the respondents are presented in Table 5.5.

Table 5.5: Participant Details of the Pilot Study			
Target Population	Sampling Units	Greek Universities	
	Sampling Elements	University Students	
Sampling Technique		Convenience Sampling of Students	
Sample Size Required		200	
Distributed Questionnaires		250	
Possible Response Rate (Expected Questionnaires)		81.7% (205)	
Response Rate (Returned Questionnaires)		90.8% (227)	
Sample Size Used		200	
Participants Profile		**Number**	**Percentage**
Sex	Male	96	48.0%
	Female	104	52.0%
Age	18-20	70	35.0%
	21-23	103	51.5%
	24 and above	27	13.5%
Monthly Income (1€=£0.805)	0-499	135	54.0%
	500-699	38	15.2%
	700-899	8	3.2%
	900-1099	9	3.6%
	1100 and above	10	4.0%
Digital Piracy (number of MP3 files downloaded illegally during the last month)	None	58	29.0%
	1-50 MP3 files	90	45.0%
	51-100 MP3 files	23	11.5%
	More than 100 files	29	14.5%
Physical Piracy (number of CDs purchased illegally during the last month)	None	102	61.0%
	1 CD	48	24.0%
	2 CDs	43	11.5%
	3 CDs	5	2.5%
	More than 4	2	1.0%
Employment	Unemployed	152	76.0%
	Part-time	29	14.5%
	Full-time	19	9.5%

5.3.2. Reliability Analysis: Coefficient Alpha

The next step in the analysis is to check the reliability of the scales (Churchill, 1979). In general, there are three types of scale reliability tests. The first deals with internal consistency reliability and examines the homogeneity of the items that comprise a scale (DeVellis, 2003). The second is the test-rested reliability that deals with the fluctuation of items responses over different periods of time (Nunnally, 1978). Finally, the third examines the extent to which two different statements can be used in order to measure the same construct in two different time settings (Netemeyer *et al.*, 2003). However, several researchers consider scale reliability being mainly internal consistency reliability (DeVellis, 2003; Melewar, 2001). In order to assess internal consistency reliability, the Cronbach's coefficient alpha and the item-to-total correlation measures are used (Churchill, 1979; Cronbach, 1951).

Therefore, the analysis starts by calculating the coefficient alpha and item to total correlations for the "Attitude" construct for all possible music channels. The results are presented in Table 5.6. From these results it is evident that all four constructs are reliable having alpha values higher than 0.8. Particularly, three of them have alpha values even higher than 0.9. What is more important is that even if any of the items are excluded from the analysis the overall construct value of the alpha coefficient does not improve. This suggests that all items are important for the construction of the construct and none of them should be deleted. Furthermore, from the table, it is clear that all item-to-total correlations are quite high as suggested from the theory.

Table 5.6: Reliability Results for the Attitude Construct			
Constructs	**Cronbach's alpha if (α) deleted**	**Corrected item-to-total Correlation**	
		Before Deleted	**After Deleted**
Attitude for Bricks-and-mortar (ATTB)		*α = 0.830*	
ATTB1	0.778	0.672	-
ATTB2	0.796	0.632	-
ATTB3	0.745	0.741	-
ATTB4	0.818	0.589	-
Attitude for Street Vendors (ATTS)		*α = 0.925*	
ATTS1	0.896	0.844	-
ATTS2	0.898	0.842	-
ATTS3	0.899	0.836	-
ATTS4	0.915	0.786	-
Attitude for Internet Music Shops (ATTD)		*α = 0.955*	
ATTD1	0.935	0.909	-
ATTD2	0.942	0.886	-
ATTD3	0.940	0.893	-
ATTD4	0.946	0.871	-
Attitude for P2P Platforms (ATTP)		*α = 0.943*	
ATTP1	0.925	0.864	-
ATTP2	0.922	0.874	-
ATTP3	0.918	0.885	-
ATTP4	0.936	0.830	-

Continuing the analysis, the "Subjective Norm" construct was examined. The results are reported at Table 5.7. With regards to the first channel (Bricks-and-mortar), although the Cronbach's alpha is sufficiently high (0.814), the item SNB3 has a very small item-to-total correlation (0.266), which is below the acceptable level of 0.35 and above. Furthermore, the analysis suggests that if SNB3 is dropped from the set of items the Cronbach's alpha value will be improved. Indeed as it can be seen from the last column of Table 5.7, the Cronbach's alpha is now equal to 0.872 and all item-to-total correlations are quite high. Similar is the case for the fourth channel (P2P platforms), where both indicators (Cronbach's alpha if deleted and item-to-total correlation) suggest that item SNP3 should be dropped again. Finally, for the remaining two channels although the item to total correlation is bigger than 0.35, it seems to be much smaller compared to the rest correlations and since the alpha after the exclusion of the item was getting higher, the third item of the "Subjective Norm"

construct was dropped for all four channels in order to have consistency among the various channels constructs.

Table 5.7: Reliability Results for the Subjective Norm Construct			
Constructs	Cronbach's alpha if (α) deleted	Corrected item-to-total Correlation	
		Before Deleted	After Deleted
Subjective Norm for Bricks-and-mortar (SNB)		$\alpha = 0.814$	$\alpha = 0.872$
SNB1	.749	.702	.734
SNB2	.719	.800	.807
SNB3	.872*	.266**	dropped
SNB4	.749	.696	.715
SNB5	.774	.615	.662
Subjective Norm for Street Vendors (SNS)		$\alpha = 0.844$	$\alpha = 0.850$
SNS1	.794	.722	.734
SNS2	.776	.787	.763
SNS3	.850*	.498	dropped
SNS4	.818	.638	.631
SNS5	.820	.628	.645
Subjective Norm for Internet Music Shops (SND)		$\alpha = 0.851$	$\alpha = 0.896$
SND1	.798	.742	.806
SND2	.784	.806	.789
SND3	.896*	.376	dropped
SND4	.805	.722	.698
SND5	.805	.718	.789
Subjective Norm for P2P Platforms (SNP)		$\alpha = 0.791$	$\alpha = 0.860$
SNP1	0.727	.645	.733
SNP2	0.691	.753	.739
SNP3	0.860*	.276**	dropped
SNP4	0.713	.690	.681
SNP5	0.748	.586	.669

* denotes possible improvement by item deletion

** denotes value of item-to-total correlation lower than the minimum acceptable level

Tables 5.8 and 5.9 present the reliability test results for the "Perceived Behavioural Control" and "Intention" constructs respectively. Regarding the PBC the results suggest that for the first two channels the exclusion of PBCB1 and PBCS1 induces a slight increase in the Cronbach's alpha coefficient (from 0.791 to 0.842 for bricks-and-mortar; from 0.702 to 0.718 for street vendors). However, since in both cases the values of the alpha coefficient are quite high and are accompanied by

sufficiently high values of item-to-total correlations the final decision at this stage was to include all three items in the construct. Also, this helps to keep the structure of the constructs similar in all channels. The results for the third and the fourth channel were clear of any problems and the constructs were highly reliable. For the "Intention" construct the coefficient alpha was very high (bigger than 0.9) for all four channels. Therefore, there was no need for construct purification there either.

Table 5.8: Reliability Results for the Perceived Behavioural Control Construct			
Constructs	**Cronbach's alpha if (α) deleted**	**Corrected item-to-total Correlation**	
		Before Deleted	**After Deleted**
Perceived Behavioural Control for Bricks-and-mortar (PBCB)		*α = 0.791*	
PBCB1	.842*	.533	-
PBCB2	.628	.723	-
PBCB3	.683	.667	-
Perceived Behavioural Control for Street Vendors (PBCS)		*α = 0.702*	
PBCS1	.718*	.421	-
PBCS2	.449	.646	-
PBCS3	.637	.496	-
Perceived Behavioural Control for Internet Music Shops (PBCD)		*α = 0.887*	
PBCD1	.880	.739	-
PBCD2	.789	.841	-
PBCD3	.851	.767	-
Perceived Behavioural Control for P2P Platforms (PBCP)		*α = 0.952*	
PBCP1	.929	.898	-
PBCP2	.914	.920	-
PBCP3	.945	.878	-

* denotes possible improvement by item deletion

Table 5.9: Reliability Results for the Intention Construct			
Constructs	**Cronbach's alpha if (α) deleted**	**Corrected item-to-total Correlation**	
		Before Deleted	**After Deleted**
Intention for Bricks-and-mortar (INTB)		*α = 0.934*	
INTB1	.893	.877	-
INTB2	.910	.856	-
INTB3	.908	.858	-
Intention for Street Vendors (INTS)		*α = 0.932*	
INTS1	.885	.883	-
INTS2	.898	.866	-
INTS3	.923	.835	-
Intention for Internet Music Shops (INTD)		*α = 0.920*	
INTD1	.879	.843	-
INTD2	.900	.817	-
INTD3	.873	.851	-
Intention for P2P Platforms (INTP)		*α = 0.942*	
INTP1	.912	.884	-
INTP2	.908	.889	-
INTP3	.927	.865	-

With regards to the remaining constructs the reliability test results are presented in Table 5.10. From the five constructs, "Idolatry", "Price of Legitimate Music" and "Perceived Benefits of Piracy" have very high values of alpha coefficients (0.858, 0.829 and 0.805 respectively). IDL and PLM do not require any changes, whereas for PBP the Cronbach's alpha value if item PBP4 is deleted increases slightly from 0.805 to 0.807. This change was not deem as necessary, since the item-to-total correlation was 0.426 and the increase in alpha was very small. For PQM the alpha coefficient is 0.720 and all item-to-total correlations are sufficiently high. Thus, this construct did not require any change at all, either. However, PLP showed some problematic items that had very low item-to-total correlations (PLP5 is 0.143 and PLP6 is 0.199), which suggests that those two items do not belong in the constructs and should be excluded. After dropping those two items the Cronbach's alpha became 0.782, which accompanied by item-to-total correlations higher than 0.35 for all items suggests that the construct is now reliable. The exclusion of those two items from this construct does not create problems for the next steps of the

analysis, since structural equitation modelling requires each construct to include at least three items.

Summarising, the reliability analysis suggested that after the exclusion of item SN3 for all channels (i.e. SNB3, SNS3, SND3 and SNP3) and items PLP5 and PLP6 all the constructs have internal consistency reliability.

Table 5.10: Reliability Results for the Remaining Constructs			
Constructs	**Cronbach's alpha if (α) deleted**	**Corrected item-to-total Correlation**	
		Before Deleted	**After Deleted**
Perceived Quality of Music (PQM)		*α = 0.720*	
PQM1	.687	.441	-
PQM2	.676	.469	-
PQM3	.621	.601	-
PQM4	.658	.512	-
PQM5	.713	.376	-
Perceived Benefits of Piracy (PBP)		*α = 0.805*	
PBP1	.760	.626	-
PBP2	.792	.483	-
PBP3	.758	.643	-
PBP4	.807*	.426	-
PBP5	.766	.602	-
PBP6	.761	.618	-
Price of Legitimate Music (PLM)		*α = 0.829*	
PLM1	.834*	.550	-
PLM2	.757	.717	-
PLM3	.762	.710	-
PLM4	.783	.659	-
Perceived Likelihood of Punishment (PLP)		*α = 0.630*	*α = 0.782*
PLP1	.581	.376	.751
PLP2	.547	.463	.698
PLP3	.524	.524	.722
PLP4	.531	.497	.746
PLP5	.666*	.143**	dropped
PLP6	.644*	.199**	dropped
Idolatry (IDL)		*α = 0.858*	
IDL1	.823	.712	-
IDL2	.849	.562	-
IDL3	.828	.687	-
IDL4	.833	.656	-
IDL5	.818	.736	-
IDL6	.854	.549	-

* denotes possible improvement by item deletion
** denotes value of item-to-total correlation lower than the minimum acceptable level

5.3.3. Exploratory Factor Analysis

After the reliability tests, the next step involved Exploratory Factor Analysis (EFA) in order to explore the factorial structure of the scales. Before conducting EFA, the basic assumptions necessary for the EFA to be valid need to be fulfilled. These assumptions deal a) with the necessary sample size, b) the size of the correlation coefficients of all items and c) the sampling adequacy of the test (Hair *et al.*, 2010; Field, 2009).

According to Field (2009), the number of observations necessary for EFA should be at least 5:1 for every item. Since for every channel there are 39 items, a sample of 200 observations is necessary. The same sample of 200 participants described in Table 5.5, was used to conduct the EFA. Four different procedures were conducted, one for each channel, in order to validate the theoretical predictions regarding the nature of the constructs. To reduce the number of items and extract factors the principal component analysis technique was employed. The rotation method used was the oblimin because the constructs are correlated. The basic criteria for number of factors extraction was eigenvalues higher than 1 and the Scree plots. However, in cases were eigenvalues were suggesting more than 9 factors; the analysis was conducted again restricting the number of factors to be equal to the ones of the theoretical model predictions. The results for each channel are presented in the paragraphs below.

1st Channel – Bricks-and-mortar: The EFA results for the first channel are summarised in Table 5.11. First the inter-correlations among all items are examined in order to ensure that there are significant correlations (the correlations matrix should not be an identity matrix) and not very high (above 0.90) in order to avoid multicollinearity (Field, 2009; Hair *et al.*, 2010). From the total of 741 inter-item

correlations[6] there was none higher than 0.9 and most of them were statistically significant for the 95% significance level. Also, Bartlett's test of Sphericity was highly significant (p<0.0001), which suggested that the correlation matrix was indeed not an identity matrix. Next, the anti-image correlation matrices were checked with the Kaiser-Meyer-Olin (KMO) measure of sampling adequacy. All values were above the minimum of 0.50 and the KMO measure for the whole sample was 0.772. The communalities were also found to be well above 0.5 suggesting satisfactory factorability for all items. Finally, Table 5.11 shows the loadings, the eigenvalues and the percentage of variance explained together with the cumulative percentage for all nine constructs. From these results it is observed that the theoretical model employed from this research is approved in terms of factorial structure from the EFA. All factor loadings were higher than 0.6 (with the exception of PQM4 and PBP2) and the factor extraction explained 67.4% of the total variance. It is interesting to note, that the EFA similar to the reliability analysis results suggested the exclusion of SNB3, PLP5 and PLP6 items. When those items were included in the analysis they were creating some complications in the sense that PLP5 and PLP6 were creating a different factor on their own, while SNB3 in most of the cases had very small factor loadings (smaller than 0.3) suggesting that it does not belong to any factor and/or construct.

2nd Channel – Street Vendors: Similar are the results for the remaining three channels. More specifically, Table 5.12 presents summary results for the Street Vendors channel. Both the KMO measure for sampling adequacy and the Bartlett's test of Sphericity are very high, while the examination of the correlation matrix did not indicate any problems of multicollinearity. The EFA again identified 9 factor loadings presented analytically in the table, which were identically connected to the

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[6] These results are not presented here for economy of space. Tables and results are available from the author upon request.

theoretical predictions. The total percentage of variance explained from those loadings was found to be 68.58%, which is satisfactory. Additionally, all factor loadings (except PBP2, PBP4 and PQM1) were higher than 0.6.

3rd Channel – Internet Music Shops: Table 5.13 presents summary results for the Digital Music channel. Here, from the 741 inter-item correlations there was one correlation higher than 0.9 (that of ATTD1 with ATTD2 which was equal to 0.906). However, this was considered not to be problematic for the rest of the analysis. Both KMO and Bartlett's statistical values suggested that the EFA was permitted and the results for the factor loadings and the factor extraction suggested 9 different constructs very close to the theoretical model predictions. All factor loadings were higher than 0.6 (with the exception of PQM2, PQM5 and PBP1) and the factor extraction explained 70.07% of the total variance.

4th Channel – P2P Platforms: Finally, summary results for the P2P platform channel are presented in Table 5.14. Similar to the above cases, both the KMO measure for sampling adequacy and the Bartlett's test of Sphericity were very high. The examination of the anti-image and the correlation matrices did not indicate any problems whatsoever. The results for this channel suggested again 9 distinct factors one for each theoretical construct. All factor loadings were higher than 0.6 (with the exception of PQM5 and PBP1) and the factor extraction explained 70.9% of the total variance.

5.4. Summary and Conclusions

Summarising, this chapter presented the scale development and item creation for the main research instrument. First, expert judgement and two pilot studies – one for each country case – were utilised. Then, after conducting an item purification

process through reliability tests and EFA, three items (SN3, PLP5 and PLP6) were removed from the initial set of questions. All remaining items were found to be satisfactory for measuring the constructs supported through the theoretical model. These items were used in order to create the final questionnaire for the main empirical study (see Appendix E). Following Churchill (1979) the next stage involves using the final questionnaire as an instrument to collect data for the main study, which involves CFA and SEM for testing the research hypotheses. Data analysis and results from the main survey are presented in the following chapter.

Items	Descriptive Statistics		Component				
	Mean	SD	Loading	No	Eigenvalue	% Var	Cum %
SNB1	-0.61	1.441	0.798				
SNB2	-0.17	1.442	0.904	1	7.383	18.93	18.93
SNB5	-0.3	1.598	0.851				
SNB4	0.03	1.53	0.781				
PLM1	0.83	1.51	0.734				
PLM2	1.46	1.427	0.803	2	5.675	14.551	33.481
PLM3	1.78	1.392	0.816				
PLM4	1.64	1.494	0.774				
IDL1	0.86	1.476	-0.774				
IDL2	1.46	1.473	-0.637				
IDL3	1.23	1.485	-0.750	3	2.891	7.414	40.895
IDL4	0.29	1.559	-0.788				
IDL5	0.65	1.54	-0.853				
IDL6	0.42	1.67	-0.745				
PLP1	-0.23	1.803	0.722				
PLP2	-0.39	1.638	0.810	4	2.527	6.48	47.375
PLP3	-0.02	1.606	0.762				
PLP4	-0.19	1.71	0.760				
PBCB1	0.29	1.911	-0.690				
PBCB2	0.96	1.585	-0.898	5	2.047	5.249	52.624
PBCB3	0.75	1.629	-0.864				
INTB1	-0.64	1.732	-0.857				
INTB2	-0.49	1.663	-0.863	6	1.761	4.516	57.141
INTB3	-0.42	1.683	-0.800				
PQM1	1.81	1.453	-0.646				
PQM2	0.8	1.513	-0.606				
PQM3	1.73	1.568	-0.755	7	1.476	3.785	60.925
PQM4	0.59	1.655	-0.585				
PQM5	0.38	1.587	-0.611				
ATTB1	0.23	1.558	0.764				
ATTB2	-0.55	1.452	0.740	8	1.268	3.252	64.177
ATTB3	-0.32	1.556	0.820				
ATTB4	0.15	1.64	0.650				
PBP1	1.88	1.525	0.489				
PBP2	0.95	1.587	0.585				
PBP3	1.6	1.438	0.721	9	1.258	3.227	67.403
PBP4	0.29	1.659	0.708				
PBP5	1.75	1.482	0.671				
PBP6	1.38	1.609	0.669				

Table 5.11: EFA Results for the Bricks-and-mortar Channel

KMO Measure of Sampling Adequacy = 0.772
Bartlett's Test of Sphericity = 4561.7 [.000]

Notes: Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

Table 5.12: EFA Results for the Street Vendor Channel							
KMO Measure of Sampling Adequacy = 0.770							
Bartlett's Test of Sphericity = 4773.9 [.000]							
Items	**Descriptive Statistics**		**Component**				
	Mean	SD	Loading	No	Eigenvalue	% Var	Cum %
ATTS1	-1.33	1.553	0.861	1	6.686	17.143	17.143
ATTS2	-1.27	1.677	0.838				
ATTS3	-1.47	1.503	0.783				
ATTS4	-1.57	1.519	0.844				
PBP1	1.89	1.523	0.625	2	5.636	14.452	31.595
PBP2	0.97	1.589	0.436				
PBP3	1.61	1.438	0.782				
PBP4	0.3	1.665	0.463				
PBP5	1.76	1.481	0.851				
PBP6	1.39	1.609	0.724				
PLP1	-0.25	1.809	0.698	3	3.77	9.666	41.261
PLP2	-0.41	1.645	0.797				
PLP3	-0.03	1.616	0.801				
PLP4	-0.21	1.717	0.788				
IDL1	0.86	1.474	-0.836	4	2.57	6.591	47.852
IDL2	1.47	1.47	-0.740				
IDL3	1.23	1.483	-0.824				
IDL4	0.29	1.558	-0.732				
IDL5	0.63	1.557	-0.805				
IDL6	0.42	1.666	-0.616				
PBCS1	0.2	1.807	0.668	5	1.967	5.043	52.895
PBCS2	0.73	1.71	0.878				
PBCS3	-0.01	1.99	0.686				
INTS1	-1.13	1.567	0.860	6	1.811	4.645	57.539
INTS2	-1.21	1.63	0.840				
INTS3	-1.11	1.649	0.851				
SNS1	-0.68	1.507	0.836	7	1.573	4.034	61.573
SNS2	-0.89	1.534	0.828				
SNS5	-0.39	1.659	0.760				
SNS4	-0.58	1.728	0.804				
PLM1	0.85	1.514	-0.807	8	1.484	3.805	65.378
PLM2	1.47	1.428	-0.778				
PLM3	1.79	1.391	-0.739				
PLM4	1.65	1.493	-0.719				
PQM1	1.82	1.452	-0.518	9	1.249	3.202	68.58
PQM2	0.82	1.517	-0.676				
PQM3	1.74	1.567	-0.720				
PQM4	0.6	1.653	-0.748				
PQM5	0.38	1.584	-0.616				

Notes: Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

Table 5.13: EFA Results for the Digital Music Channel							
KMO Measure of Sampling Adequacy = 0.797							
Bartlett's Test of Sphericity = 5293.5 [.000]							
Items	**Descriptive Statistics**		**Component**				
	Mean	**SD**	**Loading**	**No**	**Eigenvalue**	**% Var**	**Cum %**
SND1	0.65	1.569	0.659				
SND2	0.31	1.437	0.759	1	8.206	21.04	21.04
SND4	0.49	1.493	0.748				
SND5	0.74	1.556	0.642				
PLM1	0.85	1.514	0.750				
PLM2	1.47	1.428	0.815	2	5.287	13.556	34.595
PLM3	1.79	1.391	0.820				
PLM4	1.65	1.493	0.777				
PLP1	-0.25	1.809	0.710				
PLP2	-0.41	1.645	0.813	3	3.554	9.113	47.709
PLP3	-0.03	1.616	0.767				
PLP4	-0.21	1.717	0.748				
IDL1	0.86	1.474	-0.801				
IDL2	1.47	1.47	-0.676				
IDL3	1.23	1.483	-0.777	4	2.556	6.555	50.263
IDL4	0.29	1.558	-0.770				
IDL5	0.63	1.557	-0.840				
IDL6	0.42	1.666	-0.703				
ATTD1	0.7	1.563	-0.940				
ATTD2	0.74	1.589	-0.926	5	2.025	5.191	55.495
ATTD3	0.55	1.587	-0.929				
ATTD4	0.48	1.594	-0.919				
PQM1	1.82	1.452	-0.622				
PQM2	0.82	1.517	-0.598				
PQM3	1.74	1.567	-0.769	6	1.655	4.243	59.698
PQM4	0.6	1.653	-0.668				
PQM5	0.38	1.584	-0.550				
PBCD1	0.84	1.697	0.780				
PBCD2	1.24	1.524	0.901	7	1.594	4.088	63.786
PBCD3	1.06	1.568	0.857				
PBP1	1.89	1.523	0.526				
PBP2	0.97	1.589	0.629				
PBP3	1.61	1.438	0.714	8	1.331	3.412	67.198
PBP4	0.3	1.665	0.728				
PBP5	1.76	1.481	0.674				
PBP6	1.39	1.609	0.664				
INTD1	-0.02	1.643	-0.883				
INTD2	-0.1	1.673	-0.878	9	1.12	2.873	70.071
INTD3	0.15	1.612	-0.898				

Notes: Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

Table 5.14: EFA Results for the P2P Platform Channel						
KMO Measure of Sampling Adequacy = 0.842						
Bartlett's Test of Sphericity = 5870.0 [.000]						
Items	**Descriptive Statistics**		**Component**			
	Mean	**SD**	**Loading**	**No**	**Eigenvalue**	**% Var**	**Cum %**
PBCP1	1.53	1.632	0.876				
PBCP2	1.61	1.539	0.883	1	10.929	28.024	28.024
PBCP3	1.48	1.653	0.879				
IDL1	0.86	1.474	0.755				
IDL2	1.47	1.47	0.604				
IDL3	1.23	1.483	0.717	2	4.767	12.224	40.248
IDL4	0.29	1.558	0.813				
IDL5	0.63	1.557	0.850				
IDL6	0.42	1.666	0.766				
PLM1	0.85	1.514	0.763				
PLM2	1.47	1.428	0.846	3	2.878	7.379	47.628
PLM3	1.79	1.391	0.811				
PLM4	1.65	1.493	0.745				
PLP1	-0.25	1.809	0.721				
PLP2	-0.41	1.645	0.822	4	2.004	5.137	52.765
PLP3	-0.03	1.616	0.779				
PLP4	-0.21	1.717	0.758				
PBP1	1.89	1.523	-0.592				
PBP2	0.97	1.589	-0.714				
PBP3	1.61	1.438	-0.737	5	1.61	4.127	56.892
PBP4	0.30	1.665	-0.709				
PBP5	1.76	1.481	-0.623				
PBP6	1.39	1.609	-0.624				
PQM1	1.82	1.452	-0.675				
PQM2	0.82	1.517	-0.648				
PQM3	1.74	1.567	-0.791	6	1.462	3.748	60.64
PQM4	0.60	1.653	-0.653				
PQM5	0.38	1.584	-0.522				
INTP1	1.15	1.673	0.821				
INTP2	1.11	1.624	0.781	7	1.385	3.552	64.192
INTP3	1.16	1.609	0.768				
SNP1	1.55	1.486	0.639				
SNP2	0.87	1.491	0.927	8	1.365	3.499	67.691
SNP4	0.89	1.465	0.909				
SNP5	1.56	1.395	0.572				
ATTP1	1.46	1.41	0.917				
ATTP2	1.46	1.407	0.916	9	1.257	3.223	70.914
ATTP3	1.40	1.428	0.922				
ATTP4	1.17	1.479	0.909				

Notes: Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

6. DATA ANALYSIS AND RESULTS OF THE MAIN STUDY

6.1. Introduction

This chapter presents the data analysis and the empirical findings of the main study. In the stage of scale purification analysed in the previous chapter, some items were dropt and only the remaining items were used in the questionnaire that was distributed for the main survey (provided in Appendix E). In this chapter the sampling and sample description is presented followed by an evaluation of the collected data using appropriate statistical tests in order to ensure that the assumptions for multivariate data analysis are met. Next, confirmatory factor analysis (CFA) is conducted in order to assess the validity and reliability of the scales. Finally, structural equation modelling results are presented for each channel and test the hypotheses of the conceptual model.

6.2. Sampling and Sample Description

Following the purification of the measurement scales the questionnaire was distributed for the data collection of the main survey. The population for the main study consisted of a new sample of undergraduate university students of the same two UK and two Greek Universities from those that participated in the pilot study. This was in order to have participants that engaged themselves in all forms of music acquisition. According to IFPI (2013) Greece is one of the highest EU countries in terms of physical piracy, while the UK on the other hand has high figures of digital music piracy. A convenience sample technique was adopted where questionnaires were distributed in lecture rooms, immediately after the end of the lecture. Details of the sample characteristics of the main study are given in Table 6.1.

One of the major problems in data collection procedures through questionnaires is that of common method bias. According to Podsakoff *et al.* (2003) common method bias occurs when data are collected by means of the same questionnaire for measuring all variables (dependent and independent) during the same period of time. The paper suggests a number of procedural remedies for the design of the study including (a) counterbalancing question order, (b) protecting respondent anonymity and (c) improving scale items. Therefore, in order to control for common method bias two different versions of the final questionnaire were compiled that had a different question order. The first version is reported in Appendix E. It starts with the demographics followed by the items for each of the dependent variables and finishes with the items regarding the independent variable. The second version places the independent variable's items in the beginning and finishes with the demographics (This second version is reported in Appendix F). With this procedure, although the order of the questions changes, the counterbalancing does not disrupt the logical flow and does not create comprehension problems to the participants (Podsakoff *et al.,* 2003). Also, respondent anonymity and confidentiality was reassured in all stages of data collection, while items scale improvement was undertaken as described in the previous chapter.

The data collection took place in two different stages for both country cases. The first stage took place during November to December 2012 where the first questionnaire was distributed. The second stage took place during February to March 2013 where the second version of the questionnaire was used. The required sample size for the empirical analysis was at least 500 questionnaires. Therefore 650 questionnaires were distributed in total. From those 537 completed questionnaires were collected, which resulted in an aggregate response rate of 82.6%. In order to

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establish a reasonable level of reliability all questionnaires were screened to identify possible irregularities. Those questionnaires that were partly incomplete and had obvious mistakes were considered as not fit for further analysis (Hair *et al.*, 2010). This resulted in 511 usable questionnaires.

Regarding the demographic profile of the participants, gender classification showed that females comprised 55% of the total sample size, while males comprised 45%. As expected, most of the respondents were young (92.4% are 18-23 years old) since the sample comprises of undergraduate students. On the income basis the majority (61.2%) has a monthly income of less than £500, 15.1% has a level between £500 and £700 and only the remaining 23.7% reported income higher than £700. Similarly, the vast majority (73.6%) were unemployed. Regarding piracy rates, it is observed that nearly 70% of the participants download music illegally on a regular basis. From those illegal downloaders 45% is downloading 1-50 MP3 files per month, while there are 12.4% of participants that are really heavy downloaders (more than 100 files per month). In terms of physical piracy the picture is reversed. Namely, nearly 60% of the participants have not bought a counterfeit CD from street vendors during the last month; 18.8% have bought 1 CD, 16.2% have bought 2 CDs and 5.7% more than 3 CDs during the last month. Finally, regarding music genres, there was a good coverage of all proposed genres, which provides a diverse music background for the respondents.

All data were inserted for empirical analysis into the Statistical Package for Social Sciences (SPSS) software. In order to ensure that the data met the requirements of the multivariate data analysis technique, they were subjected to examination proposed by Hair *et al.* (2010), which is the topic of the following sections.

Table 6.1: Sample Details of the Main Study			
Target Population	Sampling Units	UK & Greek Universities	
	Sampling Elements	University Students	
Sampling Technique		Convenience Sampling of Students	
Sample Size Required		500	
Distributed Questionnaires		650	
Possible Response Rate (Expected Questionnaires)		84.6% (550)	
Response Rate (Returned Questionnaires)		82.6% (537)	
Sample Size Used		511	
Participants Profile		**Number**	**Percentage**
Sex	Male	230	45.0%
	Female	281	55.0%
Age	18-20	314	61.4%
	21-23	158	31.0%
	24 and above	39	7.6%
Monthly Income (1€=£0.805)	0-499	312	61.2%
	500-699	77	15.1%
	700-899	31	6.0%
	900-1099	30	5.8%
	1100 and above	61	11.9%
Employment	Unemployed	376	73.6%
	Part-time	116	22.7%
	Full-time	19	3.7%
Digital Piracy (illegal MP3 files downloaded during last month)	None	162	31.7%
	1-50 MP3 files	232	45.3%
	51-100 MP3 files	54	10.6%
	More than 100 MP3 files	63	12.4%
Physical Piracy (number of CDs purchased illegally during the last month)	None	303	59.3%
	1 CD	96	18.8%
	2 CDs	83	16.2%
	3 CDs	21	4.1%
	More than 4	8	1.6%
Music Genre	Pop	364	71.2%
	Rock	270	52.8%
	Electronic	138	27.0%
	Jazz	100	19.6%
	World	93	18.2%
	Classical	98	19.2%

6.3. Data Screening

Before proceeding to the data analysis the research instrument items were thoroughly examined for data accuracy entry, possible missing values, outliers, as

well as for procedures assessing the assumptions of the multiple linear regression model such as normality, homoskedasticity, linearity and multicollinearity. Finally, statistical remedies for common method bias were examined. The main findings of this analysis are presented in the following sections.

6.3.1. Missing Values

According to Hair *et al.* (2010), missing values can threat the generalizability of a study's findings. Therefore, the data were checked for missing values and missing value patterns. In general, most of the questionnaires were appropriately filled in and only a few variables appeared to have missing values. Furthermore, none of these cases had missing values accounting for more than 5%, which is generally accepted. Also, all missing values were completely random. Therefore, in order to deal with potential bias in results the missing values were replaced with the median value for each variable that seem to have a problem. This was because with Likert type data, as in this empirical research, mean values are meaningless and the median is the most accurate and reasonable estimate for substitution.

6.3.2. Outlier Analysis

Outlier analysis was conducted in order to examine whether there are any variables with a score that is very different to the general pattern of the variable (Hair *et al.,* 2010; Field, 2009). In order to detect potential outliers the researcher examined the box and whisker plots for each item. The results of this analysis are presented in Appendix G. The analysis showed that for some items there were a few evident outliers. The items that had most outliers were for the Attitude construct in the Street Vendor channel. Most of the other items were outliers-free and those that included

outliers never had more that four cases. In general, researchers suggest that cases with outliers should be excluded from the empirical analysis because they are considered non-representative of any observations in the population (Hair *et al.,* 2010). However, the researcher decided not to remove the outliers because there was no demonstrable proof that they were truly aberrant and not representative of any observations in the population (Hair *et al.,* 2010).

6.3.3. Normality Analysis

One of the most important statistical assumptions in multivariate analysis is that of normality (Hair *et al.,* 2010). In order to test for normality histograms of each item together with a normal probability plot was first examined in order to check whether the shape of the distributions is close to that of normal (Tabachnick and Fidell, 2007; Hair *et al.,* 2010). The graphical examination of data allows the researcher to obtain a basic understanding of the characteristics of the items from a simple picture. However, apart from the graphical assessment; examination of the values of skewness and kurtosis coefficients is necessary in order to have an accurate conclusion. Summary descriptive statistics for each item are given in Appendix H, which reports skewness and kurtosis coefficients. The results suggest that there are 14 items with a skewness coefficient and 8 items with a kurtosis coefficient higher than 1, which shows that these items have a small departure from normality. However, on the basis of graphical assessment the items seemed to be in line with the normal approximation.

It should be noted here, that it is highly unlikely for the statistical assumptions to be ever met in a strict sense (Bagozzi and Yi, 1988). Furthermore, in a large sample size (above 200), skewness and kurtosis do not make a substantive difference to

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further analyse (Tabachnick and Fidell, 2007). Finally, since the values of the skewness and kurtosis were between the acceptable range of ±3 (Hair *et al.,* 2010) the researcher decided to proceed further with the empirical analysis.

Figure 6.1: Residual Normality Tests for ATT regressions for all channels
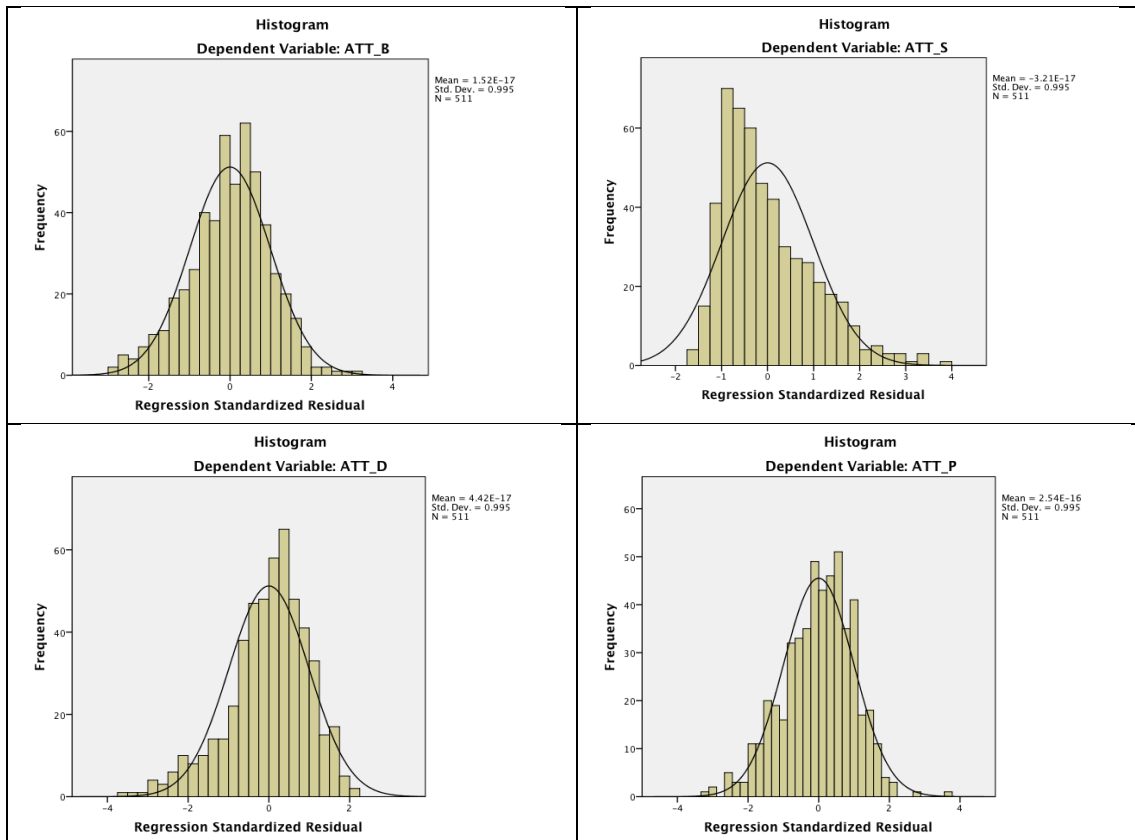
Apart from the descriptive analysis, normality was also assessed in a multivariate framework. To do that first an EFA was conducted in order to create the constructs for each item. Then, regressions were estimated according to the description of the theoretical model and residuals for each case were obtained. Histograms together with the normal distribution curve for all channels are presented in Figure 6.1 and Figure 6.2 for the ATT and INT regressions respectively. From the graphs it is evident that apart from the Street Vendor's channel that depicts skewness in the first case and a degree of kurtosis in the later case, all remaining channels have

residual patterns that follow very closely the normal distribution. Concluding except for the street vendors channel the analysis suggests that there is a high degree of normality in the data.

Figure 6.2: Residual Normality Tests for INT regressions for all channels
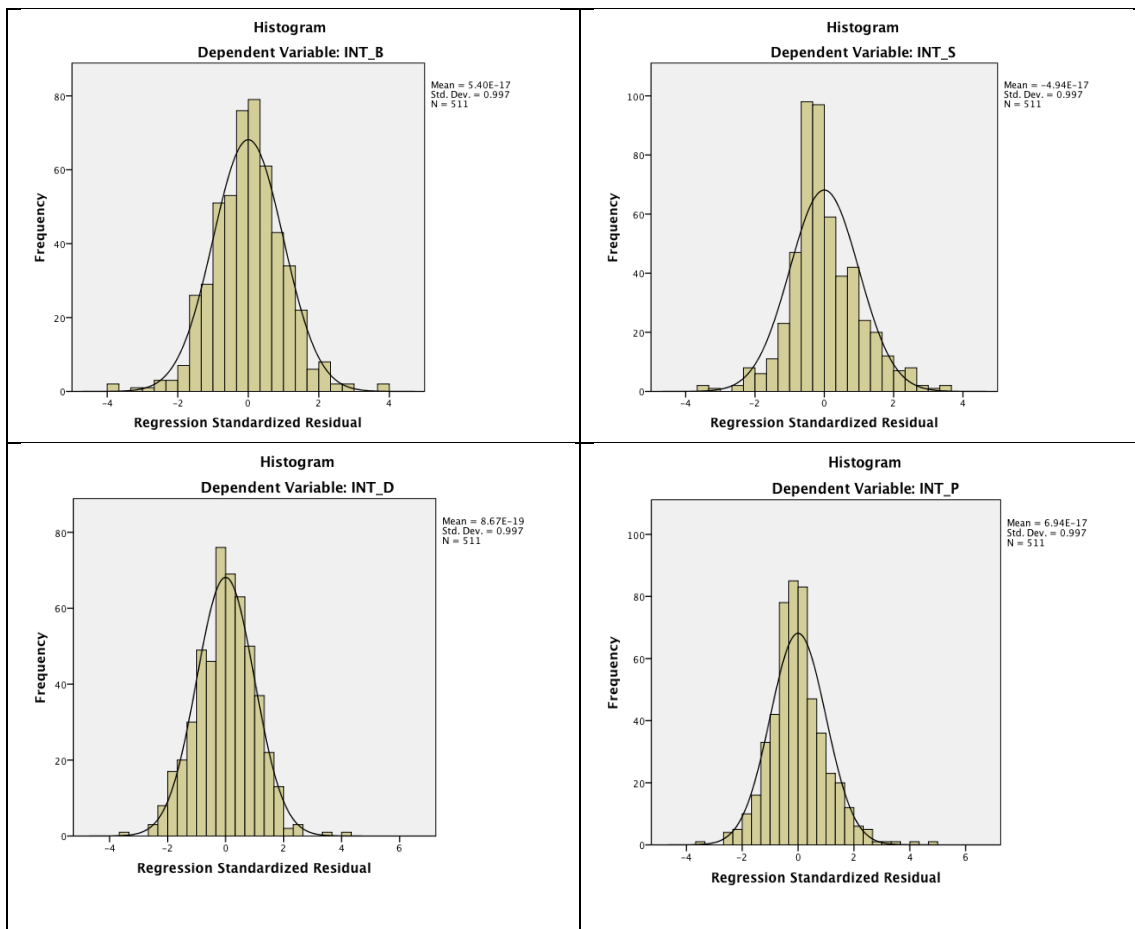
6.3.4. Homoskedasticity

Homoskedasticity was checked first through the examination of the scatterplots of dependent variables to the independent variables using the constructs obtained from the EFA analysis. The patterns of these scatterplots were found

homoskedastic for most of the cases apart from a few cases regarding the Street Vendors channel. However, the homoskedasticity assumption is properly tested through examination of scatter plots of the residuals with the dependent variable of a regression. Figures obtained from this analysis suggested in all cases and for all channels the complete absence of heteroskedastic behaviour. This result suggested that the homoskedasticity assumption was met.

In addition to that, homoskedasticity was tested checking whether the variances of the constructs were equal across the binomial nonnumeric variables such as gender, country of study and income. To do this, the Levene's test statistic (Levene, 1960) was calculated for all constructs for those three cases. If the Levene's test is not significant (p>0.05) then the variances are assumed to be equal and therefore homogeneous for the different groups. On the other hand if the Levene's test is significant then there is evidence of heteroskedasticity and thus differences in the behaviour of different genders, countries of study and income level. The results of this test are presented in Table 6.2. With regards to gender, twelve constructs were found to exhibit heteroskedastic behaviour while the remaining nine constructs were homoskedastic. This shows that there is a significant difference in the responses of different genders and therefore further exploration of the results with multi-group analysis is necessary. Likewise but to a lesser extent, were the obtained results for country of study (seven out of twenty one constructs were heteroskedastic) and income level (only four constructs showed heteroskedastic behaviour). Therefore, multi-group analysis was deemed as necessary for those cases too.

	GENDER male=230 female = 281		COUNTRY OF STUDY UK=256 Greece = 255		INCOME High = 199 Low = 312	
	Levene's Test	prob	Levene's Test	prob	Levene's Test	prob
ATTB	10.485	0.001	3.710	0.055	3.081	0.080
SNB	4.417	0.036	1.935	0.165	0.419	0.518
PBCB	3.853	0.050	1.615	0.204	1.599	0.207
INTB	6.056	0.014	0.004	0.952	0.348	0.556
ATTS	20.415	0.000	0.589	0.443	7.645	0.006
SNS	0.941	0.332	1.251	0.264	2.325	0.128
PBCS	1.657	0.199	2.018	0.156	0.319	0.572
INTS	7.862	0.005	0.024	0.876	1.014	0.314
ATTD	15.163	0.000	0.152	0.697	0.316	0.574
SND	0.474	0.492	5.212	0.023	14.043	0.000
PBCD	13.423	0.000	1.080	0.299	0.271	0.603
INTD	5.936	0.015	9.572	0.002	4.713	0.030
ATTP	1.757	0.186	2.054	0.152	0.225	0.636
SNP	1.105	0.294	21.354	0.000	0.109	0.742
PBCP	0.504	0.478	3.912	0.048	6.780	0.009
INTP	0.730	0.393	8.393	0.004	0.067	0.797
PQM	5.172	0.023	3.101	0.079	0.020	0.889
PBP	0.018	0.894	24.800	0.000	0.044	0.834
PLM	11.112	0.001	15.279	0.000	0.922	0.337
PLP	7.953	0.005	1.095	0.296	0.060	0.806
IDL	11.151	0.001	0.063	0.802	1.808	0.179

Table 6.2: Levene's Test for Heteroskedasticity of Constructs with regards to the Categorical Variables

6.3.5. Linearity

The assumption of linearity means that the average values of the outcome variable for each increment of the explanatory variable lie along a straight line (Field, 2009). Linearity is another required assumption for the validity of multivariate techniques. Following Hair *et al.* (2010), the most common way to examine the linearity of the relationships is to examine scatterplots of the independent variables with the dependent variable and try to identify possible nonlinear patterns. Therefore, all scatterplots were examined with a straight hypothesised regression line and it was found that there were no nonlinear patterns in the data. Furthermore, as suggested by

Hair *et al.* (2010) the expected normal probability plot was employed to check multivariate normality. The normal P-P plots of the residuals of the multiple regression analysis are presented in Figure 6.3 and 6.4 for all channels and for the two regression models. These residuals scatterplots suggest strong linear relationships for the three channels and possible nonlinearities for the street vendors channel. The nonlinear picture for the street vendors channel is probably based on the fact that some of the constructs for this channel depicted a degree of skewness and not on unique nonlinear relationships. It is believed that this will not pose a problem in the estimation of the model. Therefore, based on these results, the linearity assumption was satisfied.

Figure 6.3: Normal P-P plot of ATT regression residuals for all channels
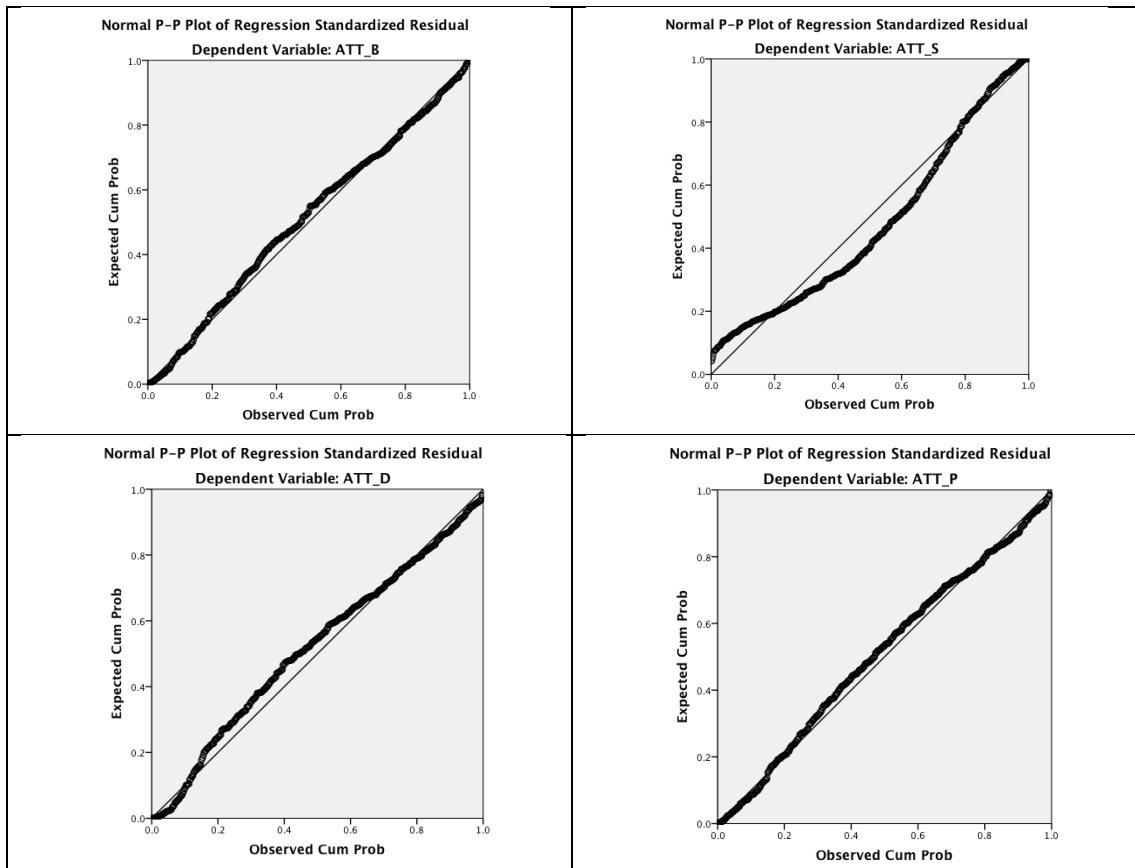
6.3.6. Multicollinearity

In order to assess possible problems of multicollinearity the correlation matrices among all constructs for the four different channels (provided in Appendix I) was looked through for possible high correlations. While most of the correlations were significant there were no correlations exceeding ±0.7. The threshold level for the correlation coefficient for problematic multicollinearity is ±0.9 and above. Therefore, for all four channels there was no evidence of problematic multicollinearity.

Figure 6.4: Residual Normality Tests for INT regressions for all channels
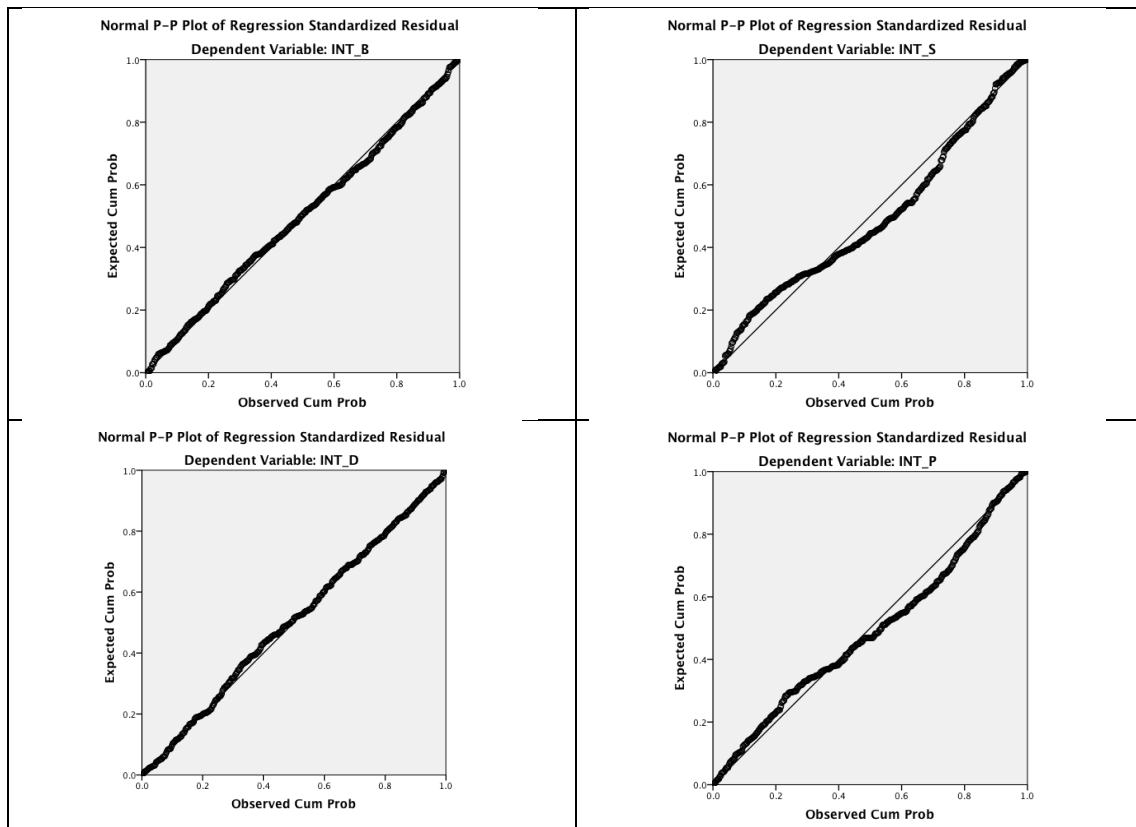
6.3.7. Common Method Bias

Although procedural remedies were taken into account in order to avoid common method bias, statistical examination for possible bias was also examined

through the Harman's single factor test (Harman, 1967). To carry out this test the items for each channel were subjected to an exploratory factor analysis using unrotated principal component analysis limited to the extraction of a single factor. According to Podsakoff *et al.* (2003) a common method variance bias is present when the single factor accounts for the majority of the covariance in the dependent and independent variables. In simple terms, if the single factor explains more than 50% of the variance extracted then there is a bias. Results from this analysis are presented in Appendix J and suggest that there is no bias since the variance extracted for each channel is equal to 19.72%, 16.40%, 20.78% and 24.81% for the bricks-and-mortar, street vendors, Internet music shops and P2P platforms respectively.

6.4. Measurement Model Assessment and Confirmatory Factor Analysis

After performing the data screening examination, the validity of the construct was assessed through Confirmatory Factor Analysis (CFA). The results of the CFA for each channel are analytically presented in the next section.

6.4.1. Overall Model Assessment

This study applied the CFA approach to assess the measurement model based on the criteria described in Table 4.4. The measurement model was drawn on the AMOS software graphics. In CFA there is no need to distinguish between dependent and independent variables. The graphs for each channel are shown in Appendix K. Latent variables (constructs) are shown in oval shapes and measured variables (questionnaire items) are shown in rectangular shapes. Two-headed arrow connections indicate covariance among the constructs. In CFA the assumption is that all constructs covariate.

A first estimate of the CFA gave results regarding the goodness of fit indices as presented in Table 6.3. From these results it is observed that for all channels the fit is not very high and only in some cases it can be considered as acceptable. This indicates room for further improvement of the results or for model refinement.

Table 6.3: CFA Results – Goodness of Fit Indices, Initial Model				
	Bricks-and-mortar	**Street Vendors**	**Digital Music Shops**	**P2P Platforms**
Absolute-Fit Measures				
χ^2	2318.93	2300.76	2290.83	2734.11
df	666	666	666	666
p-value	0.000	0.000	0.000	0.000
GFI	0.796	0.797	0.797	0.798
SRMR	0.067	0.065	0.065	0.102
RMSEA	0.070	0.069	0.069	0.078
Incremental-Fit Measures				
CFI	0.838	0.846	0.856	0.834
NFI	0.788	0.797	0.809	0.792
Parsimonious-Fit Measures				
χ^2/df	3.482	3.455	3.440	4.105
PNFI	0.708	0.716	0.727	0.712
AGFI	0.761	0.762	0.763	0.729

The second step in the model refinement process includes examining the values of the estimated factor loadings and scanning the CFA modification indices results for identification of possible cases of high covariances among measurement errors that are accompanied by high regression weights between these errors. Table 6.4 presents factor loadings for all constructs and all four channels. From these results it is observed that there are 5, 7, 4 and 6 factor loadings, which have values smaller than 0.5 for each of the four channels respectively. Thus, these variables are possible candidates for deletion.

Table 6.4: Standardized Regression Weights (Factor Loadings) for All Channels (CFA Results)						
Relationship			**Bricks-and-Mortar**	**Street Vendors**	**Internet Music Shops**	**P2P Platforms**
ATT4	<---	ATT	0.772	0.836	0.835	0.873
ATT3	<---	ATT	0.852	0.901	0.891	0.945
ATT2	<---	ATT	0.786	0.862	0.834	0.826
ATT1	<---	ATT	0.828	0.899	0.889	0.877
PBC3	<---	PBC	0.792	0.770	0.837	0.916
PBC2	<---	PBC	0.966	0.856	0.918	0.972
PBC1	<---	PBC	0.598*	0.764	0.818	0.938
SN4	<---	SN	0.654*	0.226**	0.775	0.842
SN3	<---	SN	0.747	0.189**	0.791	0.791
SN2	<---	SN	0.816	0.898	0.835	0.267**
SN1	<---	SN	0.725	0.816	0.800	0.282**
INT3	<---	INT	0.879	0.917	0.926	0.918
INT2	<---	INT	0.855	0.932	0.809	0.901
INT1	<---	INT	0.891	0.909	0.904	0.919
IDL6	<---	IDL	0.750	0.756	0.755	0.756
IDL5	<---	IDL	0.862	0.869	0.865	0.870
IDL4	<---	IDL	0.761	0.770	0.767	0.770
IDL3	<---	IDL	0.756	0.746	0.749	0.746
IDL2	<---	IDL	0.682*	0.672*	0.677*	0.672*
IDL1	<---	IDL	0.755	0.746	0.750	0.745
PBP6	<---	PBP	0.640*	0.638*	0.641*	0.630*
PBP5	<---	PBP	0.833	0.826	0.834	0.828
PBP4	<---	PBP	0.281**	0.299**	0.285**	0.275**
PBP3	<---	PBP	0.680*	0.686*	0.680*	0.695*
PBP2	<---	PBP	0.399**	0.416**	0.395**	0.381**
PBP1	<---	PBP	0.781	0.776	0.779	0.786
PQM5	<---	PQM	0.363**	0.341**	0.344**	0.348**
PQM4	<---	PQM	0.759	0.764	0.746	0.753
PQM3	<---	PQM	0.580*	0.569*	0.539*	0.560*
PQM2	<---	PQM	0.692*	0.715	0.748	0.726
PQM1	<---	PQM	0.297**	0.272**	0.287	0.286
PLP4	<---	PLP	0.584*	0.587*	0.586*	0.583*
PLP3	<---	PLP	0.585*	0.586*	0.586*	0.587*
PLP2	<---	PLP	0.774	0.774	0.775	0.771
PLP1	<---	PLP	0.770	0.767	0.767	0.773
PLM4	<---	PLM	0.864	0.860	0.863	0.868
PLM3	<---	PLM	0.931	0.934	0.930	0.927
PLM2	<---	PLM	0.566*	0.567*	0.568*	0.564*
PML1	<---	PLM	0.392**	0.392**	0.396**	0.390**

Notes: * indicate factor loadings lower than the 0.7 threshold.

     ** indicate factor loadings lower than the 0.5 threshold.

Furthermore, the modification indices output for each channel suggested the cases described in Table 6.5. Following Byrne (2001), only those items that demonstrate high covariance together with high regression weights should be candidates for deletion. Therefore, again in order to have consistency of the model for all channels the exclusion of the items SNP2, PLP4 and IDL2 was decided, because these were the ones with the higher regression weights for most of the channels.

Table 6.5: Modification Indices for All Music Channels			
Errors	**MI-covariance**	**Path**	**MI-regression weight**
P2P Platforms			
e10 → e11	156.788	SNP2→SNP1	143.562
		SNP1→SNP2	142.055
e18 → e19	109.754	IDL3→IDL2	43.370
		IDL2→IDL3	56.270
e32 → e33	97.237	PLP4→PLP3	58.162
		PLP3→PLP4	57.735
Street Vendors			
e8 → e9	113.317	SNS3→SNS4	108.793
		SNS3→SNS3	106.794
e18 → e19	109.799	IDL3→IDL2	56.272
		IDL2→IDL3	43.407
e32 → e33	96.604	PLP4→PLP3	57.269
		PLP3→PLP4	57.539
Bricks-and-Mortar			
e18 → e19	102.210	IDL3→IDL2	50.895
		IDL2→IDL3	38.613
e32 → e33	97.359	PLP4→PLP3	58.173
		PLP3→PLP4	58.073
Internet Music Shops			
e18 → e19	106.475	IDL3→IDL2	53.769
		IDL2→IDL3	41.507
e32 → e33	96.926	PLP4→PLP3	57.666
		PLP3→PLP4	57.715

Finally, careful examination of the standardised residual covariances and the squared multiple correlations showed that for all channels there were problematic values for the IDL3 and PBP3 variables. Thus, those variables were also excluded from the model. After the deletion of these items, CFA results obtained for the final

model suggest that all the goodness of fit indices were improved on all respects, suggesting a good model fit. The results of the goodness of fit indices for the final model are given in Table 6.6. It is observed that most of the goodness of fit criteria meet the requirements, while some of them are in the acceptable/marginal levels. Since the model fit results were acceptable for each music channel the next step was to test the validity of the constructs.

Table 6.6: CFA Results – Goodness of Fit Indices, Final Model				
	Bricks-and-mortar	**Street Vendors**	**Digital Music Shops**	**P2P Platforms**
Absolute-Fit Measures				
χ^2	907.3	880.15	825.19	1077.29
df	341	341	341	341
p-value	0.00	0.00	0.00	0.00
GFI	0.887	0.892	0.895	0.874
SRMR	0.058	0.055	0.049	0.056
RMSEA	0.057	0.056	0.053	0.065
Incremental-Fit Measures				
CFI	0.925	0.931	0.943	0.926
NFI	0.886	0.893	0.908	0.829
Parsimonious-Fit Measures				
χ^2/df	2.661	2.581	2.420	3.159
PNFI	0.744	0.750	0.763	0.752
AGFI	0.856	0.862	0.865	0.839

6.4.2. Composite Reliability Tests

The reliability of the measures can be assessed by the examination of the consistency of the respondents' answers to all items in the construct (Nunnally, 1978). This is done through the estimation of the composite reliability (CR) index. The recommended criterion for the CR index is to be higher than 0.7 for each construct. The results are given in Table 6.7 for each music channel. From the results, it is observed that nearly all constructs are highly reliable for all music channels. More specifically, only the Subjective Norm (SN) construct is not passing the required

value of higher than 0.7 for the case of Street Vendors and P2P platforms. Those two channels are the illegal channels, and from this result it is concluded that Subjective Norm may not be that well defined for the illegal channels. However, for reasons of complementarity no changes were done in this stage in order to be able to compare the four different channels through similar theoretically structured models. Therefore the reliability test was satisfied for the vast amount of the cases under examination.

Table 6.7: Construct Composite Reliability Test				
Constructs	**Bricks-and-Mortar Stores**	**Street Vendors**	**Digital Music Shops**	**P2P Platforms**
ATTB	0.884	0.929	0.921	0.933
PBCB	0.837	0.840	0.894	0.960
SNB	0.754	0.581*	0.831	0.695*
INTB	0.907	0.943	0.912	0.937
IDL	0.873	0.873	0.873	0.873
PBP	0.803	0.804	0.803	0.800
PQM	0.732	0.732	0.727	0.730
PLP	0.763	0.765	0.764	0.763
PLM	0.837	0.837	0.837	0.837

* indicates that the criterion of CR>0.7 is not satisfied.

6.4.3. Convergent Validity Tests

Validity testing is related with the accuracy of the measures (Sekaran, 2003). This section examines convergent validity while the next section presents the result of discriminant validity tests. Finally, nomological validity is assessed through the SEM estimations of the models in section 6.5.

Convergent validity of a construct is the degree to which the observed variables (items) of each specific construct converge or share a high proportion of common variance. Convergent validity can be assessed through the values of the factor loadings, the variance extracted and the composite reliability estimates reported

in Table 6.7 above (Hair *et al.*, 2010). The ideal case is when all standardised loading estimates are higher than 0.7, the average variance extracted (AVE) is greater than 0.5 (which means that more than half of the variances are observed) and the composite reliability (CR) estimates should be higher than the AVE corresponding ones.

Table 6.8 presents results for the convergent validity assessment. Namely, factor loadings and AVE results are reported for each channel. From the results it is evident that most of the constructs are highly valid in terms of convergent validity since the AVE is quite high explaining a large proportion of each construct, while most of the factor loadings are higher than 0.7 (denoted with bold figures). A few problems exist however. Specifically the SN construct for the two illegal channels has an AVE lower than 0.5 while the PQM construct has an AVE marginally lower than 0.5 for all four channels. This means that the PQM constructs capture a bit less than the 50% of the observed variance. However, since this construct is deemed as an important one from the theoretical model it is kept for the rest of the analysis and its overall significance will be assessed from the estimation results later on.

Table 6.8: Convergent Validity Tests										
			Bricks		Streets		Digital		P2P	
			λ	AVE	λ	AVE	λ	AVE	λ	AVE
ATT4	<---	ATT	**.772**		**.838**		**.838**		**.836**	
ATT3	<---	ATT	**.850**	0.656	**.901**	0.766	**.901**	0.744	**.891**	0.776
ATT2	<---	ATT	**.786**		**.857**		**.857**		**.833**	
ATT1	<---	ATT	**.830**		**.902**		**.902**		**.889**	
PBC3	<---	PBC	**.795**		**.768**		**.768**		**.838**	
PBC2	<---	PBC	**.962**	0.639	**.862**	0.636	**.862**	0.737	**.917**	0.888
PBC1	<---	PBC	.599		**.759**		**.759**		**.818**	
SN4	<---	SN	.679		.690		.690		**.846**	
SN3	<---	SN	**.745**	0.506	.663	0.337*	.663	0.623	**.804**	0.480*
SN1	<---	SN	**.708**		.308		.308		**.711**	
INT3	<---	INT	**.879**		**.916**		**.916**		**.925**	
INT2	<---	INT	**.853**	0.765	**.933**	0.846	**.933**	0.777	**.811**	0.833
INT1	<---	INT	**.892**		**.910**		**.910**		**.904**	
IDL6	<---	IDL	**.794**		**.794**		**.794**		**.796**	
IDL5	<---	IDL	**.905**	0.636	**.904**	0.635	**.904**	0.636	**.902**	0.635
IDL4	<---	IDL	**.812**		**.815**		**.815**		**.814**	
IDL1	<---	IDL	.659		.655		.655		.658	
PBP6	<---	PBP	.657		.660		.660		.658	
PBP5	<---	PBP	**.884**	0.581	**.892**	0.582	**.892**	0.580	**.881**	0.575
PBP1	<---	PBP	**.727**		**.718**		**.718**		**.729**	
PQM4	<---	PQM	**.837**		**.814**		**.814**		**.782**	
PQM3	<---	PQM	.530	0.485*	.533	0.483*	.533	0.478*	.508	0.481*
PQM2	<---	PQM	.689		**.709**		**.709**		**.752**	
PLP4	<---	PLP	.493		.478		.478		.488	
PLP2	<---	PLP	**.947**	0.535	**.982**	0.542	**.982**	0.538	**.960**	0.534
PLP1	<---	PLP	**.682**		.658		.658		.673	
PLM4	<---	PLM	**.860**		**.858**		**.858**		**.861**	
PLM3	<---	PLM	**.943**	0.642	**.945**	0.642	**.945**	0.634	**.942**	0.641
PLM2	<---	PLM	.544		.545		.545		.547	

Bold figures indicate loadings that are higher than the threshold of 0.7
* indicate that the AVE value is less than the required 0.5 level

6.4.4. Discriminant Validity Tests

Discriminant validity refers to the degree to which a construct is truly different from the other constructs (Hair *et al.*, 2010). The results of this test for each channel are reported in Table 6.9. Table 6.9 contains four different panels (labelled A to D) one for each music channel. Each panel contains a matrix of correlations. In the diagonal of each matrix the SQRTAVE values are reported. Below the diagonal the ICC values are shown for each construct. Since the requirement for the test is to have SQRTAVE>ICC for all cases, a comparison of the diagonal elements with all the corresponding ICC values for each construct indicates that indeed this is the case. Therefore, all constructs for all four music channels pass the discriminant validity test, since the correlation of each construct with itself is higher than any other inter-construct correlation. This indicates that the measured items have more in common with the latent construct they are associated with than any other latent construct. Thus, there is strong evidence of high-level discriminant validity of all the constructs.

Table 6.9: Discriminant Validity Test Results								
Panel A: Bricks-and-Mortar Stores Channel								
	ATTB	**PBCB**	**SNB**	**INTB**	**IDL**	**PBP**	**PQM**	**PLP**	**PLM**
ATTB	0.810								
PBCB	0.304	0.799							
SNB	0.702	0.318	0.711						
INTB	0.697	0.221	0.637	0.875					
IDL	0.232	0.052	0.196	0.208	0.797				
PBP	-0.124	0.098	-0.189	-0.185	0.052	0.762			
PQM	0.351	0.100	0.382	0.368	0.291	0.007	0.697		
PLP	0.130	0.153	0.155	0.181	0.069	-0.203	0.107	0.731	
PLM	-0.039	0.154	-0.057	-0.170	0.058	0.640	0.044	-0.113	0.801
Panel B: Street Vendors Channel								
	ATTS	**PBCS**	**SNS**	**INTS**	**IDL**	**PBP**	**PQM**	**PLP**	**PLM**
ATTS	0.875								
PBCS	0.201	0.798							
SNS	0.296	0.048	0.580						
INTS	0.609	0.276	0.223	0.920					
IDL	-0.024	-0.066	-0.117	0.030	0.797				
PBP	0.016	0.267	-0.076	-0.053	0.050	0.763			
PQM	-0.110	-0.018	-0.174	-0.012	0.297	0.004	0.695		
PLP	-0.069	-0.209	-0.157	-0.041	0.065	-0.192	0.090	0.736	
PLM	-0.095	0.174	-0.006	-0.100	0.057	0.633	0.046	-0.110	0.801
Panel C: Digital Music Shops Channel								
	ATTD	**PBCD**	**SND**	**INTD**	**IDL**	**PBP**	**PQM**	**PLP**	**PLM**
ATTD	0.863								
PBCD	0.485	0.859							
SND	0.629	0.400	0.789						
INTD	0.708	0.375	0.659	0.881					
IDL	0.220	0.144	0.225	0.209	0.797				
PBP	-0.158	0.122	-0.177	-0.309	0.052	0.762			
PQM	0.319	0.152	0.321	0.320	0.303	-0.001	0.692		
PLP	0.183	0.106	0.152	0.127	0.068	-0.201	0.109	0.733	
PLM	0.021	0.225	-0.072	-0.141	0.058	0.642	0.041	-0.112	0.802
Panel D: P2P Platforms Channel								
	ATTP	**PBCP**	**SNP**	**INTP**	**IDL**	**PBP**	**PQM**	**PLP**	**PLM**
ATTP	0.881								
PBCP	0.559	0.942							
SNP	0.244	0.212	0.693						
INTP	0.731	0.597	0.270	0.913					
IDL	0.079	0.080	-0.054	0.048	0.797				
PBP	0.536	0.593	0.266	0.518	0.054	0.758			
PQM	-0.180	-0.087	-0.084	-0.188	0.300	0.010	0.694		
PLP	-0.063	-0.115	-0.127	-0.092	0.069	-0.209	0.117	0.731	
PLM	0.420	0.411	0.183	0.397	0.059	0.655	0.043	-0.114	0.801

6.5. SEM Results for Each Music Channel

After establishing measurement model fit, reliability and validity, the next step involves testing the nomological validity by estimating the structural model. This is equivalent in testing the hypothesized theoretical model or the relationships that exist among the latent constructs. The structural model is different from the measurement model in the sense that now the emphasis moves from the relationships among the latent constructs and measured variables to the nature and the magnitude of the relationships among the latent constructs themselves (Hair *et al.*, 2010).

The transition from the measurement model to the structural model, practically involves specifying which constructs are related to each other and the nature of each relation. Graphs of the measurement model for each music channel are drawn in AMOS and reported in Appendix L. These graphs depict the hypothesized theoretical model discussed analytically in chapter 3.

Four distinct structural equation models (one for each channel) were estimated. Summary results for all channels are provided in Table 6.10. Basic diagnostics and assessment of model fit indices – reported at the bottom part of the table – exceed the minimum recommendations provided by Hair *et al.* (2010) suggesting a satisfactory overall goodness of fit for all four cases.

From the regression results, for the Bricks-and-Mortar channel, Attitude (ATT) and Subjective Norm (SN) were found to be significant and positive in affecting behavioural intention, as the TPB suggests. However, the Perceived Behavioural Control (PBC) construct was found to be non-significant. With regards to the Street Vendors ATT and PBC are highly significant but SN does not seem to play an important role. For the Digital Music Shops channel the results are similar to the first one (the Bricks-and-Mortars channel). There are significant estimates for SN and

ATT but non-significant for PBC. This shows that there is a consistent pattern between the two legal channels of music acquisition and for both of them PBC is not important. Finally, regarding the P2P Platform channels, all three TPB associated constructs are positive and highly significant according to the theoretical prediction.

From these first findings it is evident that there is a pattern for the two legal channels but also for the two illegal ones, since only the illegal ones provide significant estimates for PBC (the corresponding estimates for the legal channels are negative and non-significant). This finding is very interesting because it suggests that the PBC plays an important role for the acquisition of music with regards to the two illegal channels only. Thus, those who can find Street Vendors easily; and those who have the means and the knowledge of illegal music downloading are more prone to engage in music piracy. On the other hand the same does not appear to be true for the two legal channels. For those channels although individuals are aware of their existence and have the means to use them; they do not seem to be positively affected by this fact. Concluding, H_1 and H_2 are accepted for all music channels while with respect to H_3; H_{3S} and H_{3P} are accepted and H_{3B} and H_{3D} are rejected.

Considering the other constructs, the PQM is highly significant for three channels and marginally significant for the 10% level for the Street Vendors. It is also negative for the two illegal channels and positive for the two legal ones. This result supports H_4 for all music channels. The interpretation is that those who seek better music quality are more prone to acquire music legally because both copyrighted CD's and legal MP3 files are of better sound quality than the respective illegal ones. Similarly, those who seek better sound quality will have a negative attitude towards Street Vendors and illegal music downloading from P2P platforms.

Regarding PBP and the corresponding H_5 the results are again significant for all channels and the estimated coefficient signs support the theoretical predictions for all cases. This means that those who believe that they are benefited from the act of music piracy indeed tend to have a negative attitude towards Bricks-and-mortar stores and Digital Music Shops. Obviously, contrary to that those who believe that music piracy has benefits tend to have a positive attitude towards the two illegal channels.

Table 6.10: SEM Estimates for All Music Acquisition Channels				
Structural Linkages	**Bricks-and-Mortar**	**Street Vendors**	**Digital Music Shops**	**P2P Platforms**
Attitude → Intention	0.614 (11.591)[a]	0.569 (13.476)[a]	0.588 (12.914)[a]	0.638 (14.395)[a]
Subjective Norm → Intention	0.457 (6.43)[a]	0.043 (0.943)	0.502 (8.951)[a]	0.089 (2.279)[b]
Perceived Behavioural Control → Intention	-0.021 (-0.496)	0.140 (3.940)[a]	-0.009 (-0.205)	0.286 (7.472)[a]
Perceived Benefits of Piracy → Attitude	-0.221 (-2.776)[a]	0.121 (1.675)[c]	-0.407 (-4.724)[a]	0.820 (7.825)[a]
Perceived Quality of Music → Attitude	0.388 (6.810)[a]	-0.098 (-1.911)[c]	0.355 (5.925)[a]	-0.293 (-5.305)[a]
Perceived Likelihood of Punishment → Attitude	0.089 (1.162)	-0.095 (-1.228)	0.169 (2.111)[b]	0.166 (2.102)[b]
Price of Legitimate Music → Attitude	0.052 (0.799)	-0.168 (-2.568)[a]	0.250 (3.587)[a]	0.047 (0.659)
Idolatry → Attitude	0.110 (2.582)[a]	0.014 (0.337)	0.116 (3.587)[a]	0.117 (2.711)[b]
Diagnostics and fit statistics				
χ^2/df	3.178	2.674	2.969	3.233
CFI	0.902	0.926	0.920	0.922
PNFI	0.738	0.761	0.758	0.764
RMSEA	0.065	0.057	0.062	0.066

Note: All tests are two tailed Student's *t* test. Critical Ratios are reported in parentheses.
[a] Statistically significant at the 1 per cent level.
[b] Statistically significant at the 5 per cent level.
[c] Statistically significant at the 10 per cent level.

With regards to the role of price the results are mixed. Contrary to what was expected from H_6 it was found that there is a non-significant effect of price for the Bricks-and-mortar stores and the P2P platforms, suggesting that H_{6B} and H_{6P} can be rejected. This result indicates that people who acquire music from bricks-and mortar

stores and from P2P platforms possibly are not affected by price. Also, regarding H_{6S} and H_{6D} although the coefficients were found to be significant, they are still rejected since the estimated coefficients suggest an inverse relationship from the one expected according to the theory.

Regarding the Perceived Likelihood of Punishment, H_7 is rejected for the two first channels due to non-significant estimates. However, for the Digital Music Shops the hypothesis is supported, since it shows a positive and statistically significant coefficient. This suggests that indeed those who are afraid of being punished tend to use the legal Internet channel in order to acquire music. However, the estimate for the P2P channel is also positive and significant. This finding suggests probably that those who acquire music from illegal music channels are not afraid of being caught and punished. This result was in line with the attitude of many respondents towards music piracy, since a very large proportion of them believe that committing music piracy is not an illegal or criminal activity.

Finally, H_8 was also examined in order to assess the relationship between Idolisation and Attitude towards music acquisition for all channels. The results for this construct suggest that those who have a strong connection with their music (artists/bands) idols tend to have a positive attitude towards the two legal music channels. However, with regards to the illegal channels, the relationship was non-significant only for the case of Street Vendors, while the relationship was positive and significant for the P2P platforms. This suggests that consumers with a high degree of Idolisation do not like illegal CDs (which was in line with the theoretical prediction) but do tend to download music from P2P platforms (which was not predicted). A possible explanation for that is that many musicians/artists nowadays are in favour of

"free music for everyone" and encourage their fans to download their music or listen to their music from the Internet for free.

6.6. Summary and Conclusions

This chapter presented the results of the main study. Data screening techniques, CFA and SEM results are thoroughly presented and discussed for each music channel. The next chapter involves the effects of moderators on the theoretical model. This is investigated using AMOS' multiple group analysis.

7. THE EFFECT OF MODERATORS

7.1. Introduction

This chapter presents the effects of the moderators on the theoretical model developed in Chapter 3. The moderators that are investigated here are dichotomous variables (taking values of 0 and 1) of demographic nature. More specifically, the impact of gender (male versus female), country of study (UK versus Greece) and income (low versus high) is examined. In order to identify the impact of moderators on the influence of the determinants toward music acquisition, four different hypotheses will be tested, using AMOS' multiple-group analysis. The objectives of comparing among groups are to investigate whether there are any significant differences among them. If these groups (such as gender) are not significantly different it may suggest that this moderator (male versus female) does not affect the influence of predictors toward music acquisition. In doing so, the first step is to find out whether these groups use the same path diagram. If so, then the next step is to test whether there are any differences among groups.

The next section discusses analytically the results obtained regarding the three different moderators under examination.

7.2. Gender Impact

The first demographic moderator that will be examined is gender. The data sample consists of 511 individuals, which comprises of 230 (45%) males and 281 (55%) females. For the case of gender there are two different paths that need to be examined separately. The first path is associated with hypothesis H_9 and involves the relationship between attitude (ATT) and behavioural intention (INT). The second path is derived from hypothesis H_{10} and involves the relationship among the perceived

likelihood of punishment (PLP) and attitude (ATT) towards music acquisition. The analysis is being done for all four distinct channels and the results are reported in Tables 7.1 to 7.4 for each channel respectively.

Regarding the first channel, bricks-and-mortar stores, the results are reported in Table 7.1. Table 7.1 consists of three panels (labelled A, B and C). Panel A reports summary results of the MCFA. As a first step the final CFA model of the previous analysis described analytically in Chapter 6, is applied first to males and then to females separately in order to examine whether each group can achieve separately an adequate model fit (Hair *et al.*, 2010). Both male and female models achieve acceptable values of χ^2/df, CFI and RMSEA indicating that the models have a good fit. The same is the case for the configural invariance testing. The combined model has a MCFA χ^2 that is equal to the sum of the two gender group models and all other fit measures signify acceptable fit across the two groups. Thus, configural invariance is achieved. The next model checks for metric invariance and involves constraining each factor loading to be equal among the two gender groups. The $\Delta\chi^2$ value is only 22.54 with 20 degrees of freedom, which indicates a non-significant difference. Thus, the two models exhibit full metric invariance. As mentioned earlier metric invariance is the required level of invariance for the test of the possible effect of moderators. However, Table 7.1 panel A, reports results for the other two higher levels of invariance. From these results, it is understood that those two levels of invariance are rejected since the $\Delta\chi^2$ is quite high providing statistically significant differences between the two groups.

Continuing the analysis, panel B presents results for the competing SEM models. Here the results of the $\Delta\chi^2$ tests support both full metric invariance and full structural weight invariance. This later results suggests that the estimated paths

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between the two groups is quite similar and the effect of moderators is equivalent. However, this can and should be tested further through competing models that restrict only the paths that the theory suggests to be examined thoroughly. This is done in panel C, where results of the metric (full or partial) invariance model (a model that restricts only the factor loadings to be equal between the two groups) are compared with a model that imposes an additional constraint. The additional constraint is that the path between ATTB and INTB should be equal between the two groups (case 1). The results for this constraint suggest rejection of the moderation hypothesis ($\Delta\chi^2$=26.51 with p=0.188) and therefore the conclusion is that there is no difference in the ATTB to INTB estimate between males and females. This result is confirmed also from the obtained path estimate values for males and females separately and males and females combined reported in the same Table, panel C. The estimates in all cases are statistically significant and of similar magnitude. Then the second hypothesis regarding gender (hypothesis H_{10}) was examined. The results are reported in panel C, case 2, and again the moderating effect of gender, this time with regards to the path PLP to ATT is rejected. Thus, the conclusion is that there is no moderating effect for this path either. Here the path estimates are non-significant for all cases (males, females and combined) suggesting no relationship between the two constructs.

Table 7.1: Measurement Invariance Tests for Male Versus Female Bricks-and-Mortar Stores								
		Model Fit Measures				**Model Differences**		

Panel A: MCFA Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	*p*
Separate Groups: Male	670.0	341	1.965	0.065	0.912			
Separate Groups: Female	625.3	341	1.835	0.055	0.924			
Configural Invariance	1295	682	1.899	0.042	0.918			
Metric Invariance	1317	702	1.877	0.042	0.917	22.54	20	0.312
Factor Covariance Invariance	1391	747	1.863	0.041	0.913	73.74	45	0.009
Error Variance Invariance	1455	776	1.875	0.041	0.909	63.52	29	0.000

Panel B: SEM Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	*p*
Unconstrained (TF) model	1497	696	2.152	0.048	0.892			
Measurement weights	1521	716	2.126	0.047	0.892	24.29	20	0.230
Structural weights	1534	724	2.119	0.047	0.891	12.26	8	0.140
Structural covariances	1581	752	2.103	0.047	0.889	47.38	28	0.012
Structural residuals	1587	754	2.106	0.047	0.888	6.35	2	0.042
Measurement residuals	1649	783	2.107	0.047	0.884	62.06	29	0.000

Panel C: Testing for Gender as a Moderator in Bricks-and-Mortar Stores

Case 1: Attitude →Intention			
Model Characteristic	**Unconstrained Group Model**	**Constrained Group Model (ATTB→INTB equal across groups)**	**Model Differences**
Model Fit			
χ^2	1497.571	1524.085	26.514
df	696	717	1
p	0.000	0.000	0.188
RMSEA	0.048	0.047	
CFI	0.842	0.842	
Path Estimate	0.510 (male)* 0.579 (female)*	0.550 (combined)*	
Case 2: Perceived Likelihood of Punishment → Attitude			
Model Characteristic	**Metric Invariance Group Model**	**Constrained Group Model (PLP→ATTB equal across groups)**	**Model Differences**
Model Fit			
χ^2	1521.896	1521.983	0.114
df	696	717	1
p	0.000	0.000	0.073
RMSEA	0.048	0.047	
CFI	0.892	0.892	
Path Estimate	0.052 (males) 0.024 (females)	0.037 (combined)	

* Significant at the 0.05 level.

Following the same analysis for the second channel that of street vendors, results are reported in Table 7.2. Here the MCFA results suggest rejection of the full

metric invariance. Therefore, after careful inspection of the standardized factor loadings differences from estimating the two groups (males and females) separately, suggested the deletion of those restrictions that seemed to have the highest difference. Then after the exclusion of these constraints, the MCFA test was repeated for achieving partial metric invariance. Partial metric invariance was achieved after the exclusion of 4 factor loadings restrictions, yielding a $\Delta\chi^2=20.89$ with 16 degrees of freedom. Thus, after achieving partial metric invariance, SEM results are reported in panel B. The results of this analysis suggest again full metric invariance accompanied by full structural weights invariance. This is in accordance with the more thorough examination of the path relationship in panel C, which similarly to that of the bricks-and-mortars stores channel, suggested the rejection of the hypotheses that gender plays a significant moderating role. Again the path estimates are positive and significant for the ATTS to INTS path and non-significant (but this time negative) for the PLP to ATTS path.

Table 7.2: Measurement Invariance Tests for Male Versus Female Street Vendors

Panel A: MCFA Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	*p*
			Model Fit Measures			**Model Differences**		
Separate Groups: Male	659.6	341	1.935	0.064	0.917			
Separate Groups: Female	544.7	341	1.597	0.046	0.949			
Configural Invariance	1203	682	1.765	0.039	0.933			
Metric Invariance	1252	702	1.784	0.039	0.930	48.57	20	0.000
Partial Metric Invariance	1224	698	1.755	0.039	0.933	20.89	16	0.183
Factor Covariance Invariance	1321	747	1.769	0.039	0.927	96.90	49	0.011
Error Variance Invariance	1448	776	1.866	0.041	0.914	126.3	29	0.000

Panel B: SEM Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	*p*
Unconstrained (TF) model	1276	696	1.835	0.040	0.926			
Measurement weights	1306	716	1.824	0.040	0.925	29.43	20	0.080
Structural weights	1313	724	1.814	0.040	0.925	6.76	8	0.561
Structural covariances	1360	752	1.809	0.040	0.922	46.99	28	0.014
Structural residuals	1370	754	1.817	0.040	0.921	10.01	2	0.007
Measurement residuals	1496	783	1.911	0.042	0.909	126.5	29	0.015

Panel C: Testing for Gender as a Moderator in Street Vendors

Case 1: Attitude →Intention

Model Characteristic	Metric Invariance Group Model	Constrained Group Model (ATTS→INTS equal across groups)	Model Differences
Model Fit			
χ^2	1306.32	1309.10	2.776
df	716	717	1
p	0.000	0.000	0.096
RMSEA	0.040	0.040	
CFI	0.925	0.924	
Path Estimate	0.668 (males)* 0.479 (females)*	0.581 (combined)*	

Case 2: Perceived Likelihood of Punishment → Attitude

Model Characteristic	Unconstrained Group Model	Constrained Group Model (PLP→ATTS equal across groups)	Model Differences
Model Fit			
χ^2	1306.32	1306.96	0.636
df	716	717	1
p	0.000	0.000	0.425
RMSEA	0.040	0.040	
CFI	0.925	0.925	
Path Estimate	-0.074 (males) -0.003 (females)	-0.035 (combined)	

* Significant at the 0.05 level.

The results for the digital music shops channel are reported in Table 7.3. This time the results suggest that for both MCFA and SEM only partial metric invariance

is achieved after the exclusion of 4 and 11 factor loading restrictions respectively. Since partial metric invariance is achieved the test for the path differences regarding hypotheses H_9 and H_{10} reveal that again there is no evidence of moderation stemming from differences in gender. Both males and females show positive and significant paths regarding the ATTD to INTD path and non-significant regarding the PLP and ATTD path.

However, the results regarding the last channel (reported in Table 7.4) are different at least regarding the second path (panel C, case 2). Although, again full metric invariance is achieved easily for both MCFA and SEM, the results regarding the first path suggest no moderating effect for the ATTP to INTP relationship, but a strong moderating effect (acceptance of the hypothesis of moderation with $\Delta\chi^2=7.37$ and p=0.007) regarding the PLP to INTP path. More specifically this path was found to be negative and significant for the female group and positive and non-significant for the male group. This statistically significant difference suggests that females feel a higher threat of being punished that leads them to less illegal downloading from P2P sites than that of males.

Table 7.3: Measurement Invariance Tests for Male Versus Female Digital Music Shops

Panel A: MCFA Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	p
Separate Groups: Male	597.8	341	1.753	0.057	0.938			
Separate Groups: Female	622.2	341	1.819	0.054	0.936			
Configural Invariance	1219	682	1.788	0.039	0.937			
Metric Invariance	1259	702	1.794	0.040	0.935	39.98	20	0.005
Partial Metric Invariance	1232	698	1.766	0.039	0.937	12.92	16	0.678
Factor Covariance Invariance	1347	747	1.804	0.040	0.929	114.8	49	0.000
Error Variance Invariance	1446	776	1.864	0.041	0.921	99.43	29	0.000

Panel B: SEM Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	p
Unconstrained (TF) model	1433	696	2.059	0.046	0.913			
Measurement weights	1470	716	2.054	0.045	0.911	37.30	20	0.011
Measurement weights-Partial	1439	705	2.042	0.045	0.914	6.31	9	0.708
Structural weights	1478	724	2.041	0.045	0.911	38.63	19	0.005
Structural covariances	1543	725	2.053	0.045	0.907	62.92	28	0.000
Structural residuals	1559	724	2.069	0.046	0.905	15.84	2	0.000
Measurement residuals	1656	783	2.116	0.047	0.897	96.67	29	0.000

Panel C: Testing for Gender as a Moderator in Digital Music Shops

Case 1: Attitude →Intention

Model Characteristic	Unconstrained Group Model	Constrained Group Model (ATTD→INTD equal across groups)	Model Differences
Model Fit			
χ^2	1439.36	1440.20	0.836
df	705	706	1
p	0.000	0.000	0.360
RMSEA	0.045	0.045	
CFI	0.914	0.914	
Path Estimate	0.574 (males)* 0.483 (females)*	0.528 (combined)*	

Case 2: Perceived Likelihood of Punishment → Attitude

Model Characteristic	Metric Invariance Group Model	Constrained Group Model (PLP→ATTD equal across groups)	Model Differences
Model Fit			
χ^2	1439.36	1442.62	3.255
df	705	706	1
p	0.000	0.000	0.071
RMSEA	0.045	0.045	
CFI	0.914	0.913	
Path Estimate	0.036 (males) 0.162 (females)	0.096 (combined)	

* Significant at the 0.05 level.

Table 7.4: Measurement Invariance Tests for Male Versus Female P2P Platforms

Panel A: MCFA Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	*p*
	Model Fit Measures					**Model Differences**		
Separate Groups: Male	729.2	341	2.13	0.070	0.912			
Separate Groups: Female	721.9	341	2.11	0.063	0.932			
Configural Invariance	1450	682	2.12	0.047	0.923			
Metric Invariance	1470	702	2.09	0.046	0.923	20.28	20	0.440
Factor Covariance Invariance	1545	747	2.06	0.046	0.920	74.38	45	0.004
Error Variance Invariance	1664	776	2.14	0.047	0.911	119.4	29	0.000

Panel B: SEM Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	*p*
Unconstrained (TF) model	1501	696	2.158	0.048	0.919			
Measurement weights	1520	716	2.124	0.047	0.919	19.06	20	0.518
Structural weights	1532	724	2.177	0.047	0.919	11.80	8	0.160
Structural covariances	1581	752	2.103	0.047	0.917	48.66	28	0.009
Structural residuals	1594	754	2.115	0.047	0.916	13.50	2	0.001
Measurement residuals	1712	783	2.187	0.048	0.907	117.3	29	0.000

Panel C: Testing for Gender as a Moderator in P2P Platforms

Case 1: Attitude →Intention

Model Characteristic	Unconstrained Group Model	Constrained Group Model (ATTP→INTP equal across groups)	Model Differences
Model Fit			
χ^2	1520.68	1521.20	0.522
df	716	717	1
p	0.000	0.000	0.470
RMSEA	0.047	0.047	
CFI	0.919	0.919	
Path Estimate	0.593 (males)* 0.568 (females)*	0.577 (combined)*	

Case 2: Perceived Likelihood of Punishment → Attitude

Model Characteristic	Metric Invariance Group Model	Constrained Group Model (PLP→ATTP equal across groups)	Model Differences
Model Fit			
χ^2	1520.68	1528.05	7.372
df	716	717	1
p	0.000	0.000	0.007
RMSEA	0.047	0.047	
CFI	0.919	0.919	
Path Estimate	0.015 (males) -0.223 (females)*	-0.104 (combined)*	

* Significant at the 0.05 level.

7.3. Income Impact

The next test for possible moderating effects concerns differences among income levels. Prior to investigating the impact of this moderator a new dichotomous variable reflecting distinct income differences was created based on the median split approach. This provided two different groups of individuals: those with low and those with high income. The low-income group consisted of 312 (61.2%) participants and the high-income group contained the remaining 199 (38.8%) participants. The level of income that was used in order to split the two groups was the threshold of 500 UK pounds. The specific hypothesis under examination concerning income is H_{11} that examines the path involving the relationship between Attitude (ATT) and Intention (INT) towards music acquisition.

The results for the bricks-and-mortar channel are reported in Table 7.5. For this channel the MCFA results (panel A) suggest the existence of full metric invariance as well as both factor covariance and error variance invariance. This suggests that for these two groups there is no great difference in the CFA results regarding all aspects of this music channel. Similar is the finding regarding the SEM results with all levels of invariance being accepted and therefore suggesting that there is strong similarity regarding the findings for both groups. This is confirmed also from the specific path testing regarding H_{11}, where the hypothesis of moderating effect among different income levels is rejected, while all path estimates are positive and statistically significant, suggesting that both groups have positive link from ATTB to INTB regarding music acquisition.

Table 7.5: Measurement Invariance Tests for Low Versus High Income Bricks-and-Mortar Stores

Panel A: MCFA Results

Model Tested	Model Fit Measures					Model Differences		
	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	*p*
Separate Groups: Low	766.4	341	2.248	0.063	0.912			
Separate Groups: High	608.5	341	1.785	0.063	0.906			
Configural Invariance	1375	682	2.016	0.045	0.910			
Metric Invariance	1400	702	1.995	0.044	0.909	25.52	20	0.182
Factor Covariance Invariance	1450	747	1.941	0.043	0.908	49.35	45	0.303
Error Variance Invariance	1481	776	1.909	0.042	0.908	31.39	29	0.347

Panel B: SEM Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	*p*
Unconstrained (TF) model	1577	696	2.267	0.050	0.885			
Measurement weights	1602	716	2.238	0.049	0.884	24.62	20	0.216
Structural weights	1611	724	2.226	0.049	0.884	9.11	8	0.333
Structural covariances	1644	752	2.187	0.048	0.884	33.08	28	0.233
Structural residuals	1646	754	2.183	0.048	0.884	1.57	2	0.456
Measurement residuals	1675	783	2.139	0.047	0.884	28.21	29	0.475

Panel C: Testing for Income as a Moderator in Bricks-and-Mortar Stores

Model Characteristic	Metric Invariance Group Model	Constrained Group Model (ATTB→INTB equal across groups)	Model Differences
Model Fit			
χ^2	1602.567	1605.461	2.895
df	716	717	1
p	.000	.000	0.089
RMSEA	0.049	0.049	
CFI	0.884	0.884	
Path Estimate	0.618 (Low)* 0.394 (High)*	0.533 (combined)*	

* Significant at the 0.05 level.

The second channel of physical music acquisition – the street vendors – is next examined. The results are reported in Table 7.6 and show that only partial metric invariance is achieved for both MCFA and SEM. However, when the specific path is closely examined through the two models in panel C, the results this time suggest the acceptance of the hypothesis of moderation ($\Delta\chi^2$=10.96 and p=0.001). Therefore, there is statistically significant difference in the way low-income individuals versus high-income individuals view the situation regarding music acquisition from this channel. More analytically, the path estimates are positive for both channels, but the estimated coefficient it is substantially higher for the low-income compared to the

high-income individuals respectively. Thus, the conclusion is that although both groups of income have positive attitude towards music acquisition from street vendors, those with low-income levels tend to have a more positive attitude than their high-income counterparts.

Table 7.6: Measurement Invariance Tests for Low Versus High Income Street Vendors

Panel A: MCFA Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	p
	Model Fit Measures					Model Differences		
Separate Groups: Low	662.8	341	1.944	0.055	0.931			
Separate Groups: High	559.9	341	1.637	0.057	0.934			
Configural Invariance	1222	682	1.793	0.039	0.932			
Metric Invariance	1317	702	1.877	0.042	0.922	95.14	20	0.000
Partial Metric Invariance	1240	693	1.789	0.039	0.931	17.39	11	0.097
Factor Covariance Invariance	1390	747	1.861	0.041	0.919	150.3	54	0.000
Error Variance Invariance	1444	776	1.862	0.041	0.916	54.32	29	0.003

Panel B: SEM Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	p
Unconstrained (TF) model	1348	696	1.938	0.043	0.918			
Measurement weights	1384	716	1.933	0.043	0.916	35.49	20	0.018
Measurement weights-Partial	1364	706	1.933	0.043	0.918	15.88	10	0.103
Structural weights	1405	724	1.941	0.043	0.914	42.34	18	0.000
Structural covariances	1433	752	1.906	0.042	0.914	27.94	28	0.000
Structural residuals	1442	754	1.914	0.042	0.913	9.34	2	0.009
Measurement residuals	1495	783	1.910	0.042	0.910	53.12	29	0.000

Panel C: Testing for Income as a Moderator in Street Vendors

Model Characteristic	Metric Invariance Group Model	Constrained Group Model (ATTS→INTS equal across groups)	Model Differences
Model Fit			
χ^2	1364.638	1375.601	10.96
df	706	707	1
p	0.000	0.000	0.001
RMSEA	0.043	0.043	
CFI	0.917	0.916	
Path Estimate	0.639 (Low)* 0.447 (High)*	0.571 (combined)*	

* Significant at the 0.05 level.

Table 7.7: Measurement Invariance Tests for Low Versus High Income Digital Music Shops

Panel A: MCFA Results

Model Tested	Model Fit Measures					Model Differences		
	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	*p*
Separate Groups: Low	667.2	342	1.957	0.055	0.940			
Separate Groups: High	584.6	342	1.709	0.060	0.923			
Configural Invariance	1256	684	1.836	0.041	0.934			
Metric Invariance	1286	704	1.827	0.040	0.933	30.03	20	0.069
Factor Covariance Invariance	1350	749	1.803	0.040	0.930	64.20	45	0.031
Error Variance Invariance	1408	777	1.813	0.040	0.927	58.41	28	0.001

Panel B: SEM Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	*p*
Unconstrained (TF) model	1466	696	2.107	0.047	0.911			
Measurement weights	1496	716	2.091	0.046	0.909	20.26	20	0.066
Structural weights	1513	724	2.090	0.046	0.909	16.50	8	0.036
Structural covariances	1551	752	2.063	0.046	0.907	38.14	20	0.096
Structural residuals	1555	754	2.063	0.046	0.907	4.107	2	0.128
Measurement residuals	1612	783	2.059	0.046	0.904	56.69	29	0.002

Panel C: Testing for Income as a Moderator in Digital Music Shops

Model Characteristic	Metric Invariance Group Model	Constrained Group Model (ATTD→INTD equal across groups)	Model Differences
Model Fit			
χ^2	1496.882	1498.843	1.961
df	716	717	1
p	0.000	0.000	0.161
RMSEA	0.046	0.046	
CFI	0.909	0.909	
Path Estimate	0.560 (Low)* 0.458 (High)*	0.520 (combined)*	

* Significant at the 0.05 level.

The results for the third channel – digital music shops – are similar to those of the other legal channel, namely the bricks-and-mortar stores. Here full metric invariance is marginally achieved in both MCFA and SEM cases (see panel A and B of Table 7.7). However, from the results in panel C, the conclusion is in favour of the rejection of the hypothesis for existence of moderating effects for the two groups. The ATTD to INTD path is positive and statistically significant for both groups with no actual difference in the magnitude regarding low-income and high-income individuals.

Table 7.8: Measurement Invariance Tests for Low Versus High Income PLP Platforms

Panel A: MCFA Results

Model Tested	Model Fit Measures					Model Differences		
	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	*p*
Separate Groups: Low	846.1	342	2.481	0.069	0.922			
Separate Groups: High	698.9	342	2.044	0.073	0.901			
Configural Invariance	1550	684	2.267	0.050	0.914			
Metric Invariance	1568	704	2.228	0.049	0.914	17.95	20	0.591
Factor Covariance Invariance	1624	749	2.169	0.048	0.913	56.31	45	0.120
Error Variance Invariance	1709	777	2.200	0.049	0.907	84.77	28	0.000

Panel B: SEM Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	*p*
Unconstrained (TF) model	1603	696	2.304	0.051	0.910			
Measurement weights	1622	716	2.266	0.050	0.910	19.36	20	0.498
Structural weights	1632	724	2.255	0.050	0.910	9.86	8	0.275
Structural covariances	1668	752	2.219	0.049	0.909	36.02	28	0.142
Structural residuals	1673	754	2.220	0.049	0.909	5.15	2	0.076
Measurement residuals	1758	783	2.246	0.049	0.903	84.65	29	0.000

Panel C: Testing for Income as a Moderator in P2P Platforms

Model Characteristic	Metric Invariance Group Model	Constrained Group Model (ATTP→INTP equal across groups)	Model Differences
Model Fit			
χ^2	1622.791	1628.167	5.376
df	716	717	1
p	0.000	0.000	0.020
RMSEA	0.050	0.050	
CFI	0.910	0.910	
Path Estimate	0.682 (Low)* 0.493 (High)*	0.586 (combined)*	

* Significant at the 0.05 level.

Finally, it is interesting to see that the results of the fourth channel – P2P platforms – bare strong similarities with that of the other illegal channel (the street vendors one). The results for P2P platforms are reported in Table 7.8 and although they suggest full metric invariance, as well as strong invariance of the higher level competing models (see panels A and B) the analysis of the specific ATTP to INTP path suggests acceptance of the moderating effect of income hypothesis ($\Delta\chi^2$=5.37 and p=0.020). Here, again the path coefficients are both positive and significant but are substantially higher for those of the low-income group compared to those of the

high-income group. Thus, this result again suggests that for the illegal channels low-income individuals tend to have a more positive attitude towards music acquisition from these channels.

7.4. Country of Study Impact

The next dichotomous variable that was used for testing the possible moderating effect is that of the country of study of the individuals that filled in the questionnaire. The hypothesized difference is associated with hypothesis H_{12} that assumes a different pattern between the UK and Greek participants with regards to the relationship between the perceived behavioural control (PBC) and the behavioural intention (INT) towards music acquisition. The total sample of 511 is nearly equally divided between UK (256 individuals) and Greek (255 individuals) participants.

The results of the first music channel (bricks-and-mortar stores) are presented in Table 7.9. From the MCFA results in panel A, it is observed that full metric invariance is not achieved instantly. Therefore a set of restrictions is deleted step-by-step in order to be able to achieve partial metric invariance. This is achieved after the deletion of 12 restrictions regarding the factor loadings. Since partial metric invariance is achieved the researcher continues the analysis with the SEM estimation. In this case, the results are reported in Table 7.9 panel B, and suggest that there is both full metric and full structural weights invariance. Therefore, since the different structural weights are invariant this suggests that there are no moderating effects stemming from the country of study of the participants. Examining this hypothesis in a more detailed manner, the results in panel C show that indeed the hypothesis of significant moderating effect is rejected for the path concerning PBCB and INTB. Specifically the $\Delta\chi^2$ value is very small indicating an non-significant difference and

the path estimates are statistically non-significant for both groups and for combining

the two groups together.

<table>
<tr><td colspan="9">Table 7.9: Measurement Invariance Tests for UK Versus Greek Bricks-and-Mortar Stores</td></tr>
<tr><td colspan="9">Panel A: MCFA Results</td></tr>
<tr><td></td><td colspan="5">Model Fit Measures</td><td colspan="3">Model Differences</td></tr>
<tr><td>Model Tested</td><td>χ^2</td><td>df</td><td>χ^2/df</td><td>RMSEA</td><td>CFI</td><td>$\Delta\chi^2$</td><td>Δdf</td><td>p</td></tr>
<tr><td>Separate Groups: UK</td><td>707.8</td><td>341</td><td>2.076</td><td>0.065</td><td>0.915</td><td></td><td></td><td></td></tr>
<tr><td>Separate Groups: Greece</td><td>594.2</td><td>341</td><td>1.743</td><td>0.054</td><td>0.924</td><td></td><td></td><td></td></tr>
<tr><td>Configural Invariance</td><td>1302</td><td>682</td><td>1.909</td><td>0.042</td><td>0.919</td><td></td><td></td><td></td></tr>
<tr><td>Metric Invariance</td><td>1358</td><td>702</td><td>1.935</td><td>0.043</td><td>0.914</td><td>55.97</td><td>20</td><td>0.007</td></tr>
<tr><td>Partial Metric Invariance</td><td>1312</td><td>689</td><td>1.905</td><td>0.042</td><td>0.919</td><td>10.65</td><td>7</td><td>0.155</td></tr>
<tr><td>Factor Covariance Invariance</td><td>1472</td><td>747</td><td>1.971</td><td>0.044</td><td>0.905</td><td>159.9</td><td>58</td><td>0.000</td></tr>
<tr><td>Error Variance Invariance</td><td>1576</td><td>776</td><td>2.032</td><td>0.045</td><td>0.895</td><td>123.9</td><td>29</td><td>0.012</td></tr>
<tr><td colspan="9">Panel B: SEM Results</td></tr>
<tr><td>Model Tested</td><td>χ^2</td><td>df</td><td>χ^2/df</td><td>RMSEA</td><td>CFI</td><td>$\Delta\chi^2$</td><td>Δdf</td><td>p</td></tr>
<tr><td>Unconstrained (TF) model</td><td>1472</td><td>696</td><td>2.116</td><td>0.048</td><td>0.890</td><td></td><td></td><td></td></tr>
<tr><td>Measurement weights</td><td>1499</td><td>716</td><td>2.094</td><td>0.048</td><td>0.889</td><td>26.62</td><td>20</td><td>0.146</td></tr>
<tr><td>Structural weights</td><td>1508</td><td>724</td><td>2.083</td><td>0.047</td><td>0.889</td><td>8.797</td><td>8</td><td>0.360</td></tr>
<tr><td>Structural covariances</td><td>1560</td><td>752</td><td>2.075</td><td>0.047</td><td>0.886</td><td>52.4</td><td>28</td><td>0.003</td></tr>
<tr><td>Structural residuals</td><td>1564</td><td>754</td><td>2.075</td><td>0.047</td><td>0.885</td><td>3.79</td><td>2</td><td>0.150</td></tr>
<tr><td>Measurement residuals</td><td>1592</td><td>783</td><td>2.034</td><td>0.046</td><td>0.886</td><td>28.27</td><td>9</td><td>0.503</td></tr>
<tr><td colspan="9">Panel C: Testing for Country as a Moderator in Bricks-and-Mortar Stores</td></tr>
<tr><td>Model Characteristic</td><td colspan="2">Metric Invariance Group Model</td><td colspan="4">Constrained Group Model (PBCB→INTB equal across groups)</td><td colspan="2">Model Differences</td></tr>
<tr><td>Model Fit</td><td colspan="2"></td><td colspan="4"></td><td colspan="2"></td></tr>
<tr><td>χ^2</td><td colspan="2">1499.308</td><td colspan="4">1499.314</td><td colspan="2">0.005</td></tr>
<tr><td>df</td><td colspan="2">716</td><td colspan="4">717</td><td colspan="2">1</td></tr>
<tr><td>p</td><td colspan="2">.000</td><td colspan="4">.000</td><td colspan="2">0.924</td></tr>
<tr><td>RMSEA</td><td colspan="2">0.048</td><td colspan="4">0.048</td><td colspan="2"></td></tr>
<tr><td>CFI</td><td colspan="2">0.889</td><td colspan="4">0.889</td><td colspan="2"></td></tr>
<tr><td>Path Estimate</td><td colspan="2">-0.040 (UK)
-0.033 (Greece)</td><td colspan="4">-0.035 (combined)</td><td colspan="2"></td></tr>
</table>

* Significant at the 0.05 level.

Regarding, the second channel that of street vendors the results are reported in

Table 7.10. From these results it is observed that although all competing models

provide good and adequate model fit indices, neither full nor partial metric invariance

can be achieved even after the deletion of 18 factor loading restrictions (the maximum

possible). Therefore, since partial metric invariance is not achieved even after

excluding the maximum number of restrictions (leaving only two valid restrictions) then there is no need to proceed and check for the hypothesis further since the difference in the structural weights might be from different constructs for each group. Thus, the hypothesis for moderating effect coming from different country of study is invalid for this channel as well.

Table 7.10: Measurement Invariance Tests for UK Versus Greek Street Vendors								
MCFA Results								
	Model Fit Measures					**Model Differences**		
Model Tested	χ^2	**df**	χ^2/df	**RMSEA**	**CFI**	$\Delta\chi^2$	Δdf	p
Separate Groups: UK	699.6	341	2.052	0.064	0.926			
Separate Groups: Greece	522.2	341	1.531	0.064	0.942			
Configural Invariance	1221	682	1.792	0.039	0.933			
Metric Invariance	1316	702	1.875	0.041	0.923	94.14	20	0.000
Partial Metric Invariance	1228	684	1.797	0.040	0.932	6.914	2	0.032
Factor Covariance Invariance	1465	747	1.962	0.043	0.910	236.4	63	0.000
Error Variance Invariance	1728	776	2.228	0.049	0.876	263.2	29	0.000

With regards to the digital music shops channel, the results are reported in Table 7.11. From inspection of the results reported in panels A and B, it is understood that only partial metric invariance is achieved for both MCFA and multi-group SEM analysis. Also, similarly with the case of the other legal channel of music acquisition (that of bricks-and-mortar stores) the hypothesis of moderating effect for the PBCD to INTD is clearly rejected ($\Delta\chi^2$=1.64 and p=0.2) while the path is non-significant for both groups. The only difference here is that the path is positive for the Greek group while it is negative for the UK group. However, since it is statistically non-significant there is no much analysis to be done for this difference.

Table 7.11: Measurement Invariance Tests for UK Versus Greek Digital Music Shops

Panel A: MCFA Results

Model Tested	Model Fit Measures					Model Differences		
	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	*p*
Separate Groups: UK	623.1	341	1.827	0.057	0.938			
Separate Groups: Greece	564.3	341	1.655	0.051	0.942			
Configural Invariance	1187	682	1.741	0.038	0.940			
Metric Invariance	1235	702	1.760	0.039	0.936	47.92	20	0.000
Partial Metric Invariance	1198	690	1.737	0.038	0.939	11.24	8	0.188
Factor Covariance Invariance	1401	747	1.876	0.041	0.922	202.8	57	0.000
Error Variance Invariance	1570	776	2.024	0.045	0.905	168.8	29	0.000

Panel B: SEM Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	*p*
Unconstrained (TF) model	1385	696	1.991	0.044	0.918			
Measurement weights	1432	716	2.001	0.044	0.915	47.53	20	0.000
Measurement weights-Partial	1395	704	1.983	0.044	0.918	10.28	8	0.245
Structural weights	1438	724	1.986	0.044	0.915	43.21	20	0.000
Structural covariances	1519	752	2.020	0.045	0.909	81.1	28	0.000
Structural residuals	1528	754	2.028	0.045	0.908	9.47	2	0.004
Measurement residuals	1690	783	2.158	0.048	0.892	192.4	29	0.000

Panel C: Testing for Country as a Moderator in Digital Music Shops

Model Characteristic	Metric Invariance Group Model	Constrained Group Model (PBCD→INTD equal across groups)	Model Differences
Model Fit			
χ^2	1395.688	1397.332	1.645
df	704	705	1
p	0.000	0.000	0.200
RMSEA	0.044	0.044	
CFI	0.918	0.917	
Path Estimate	-0.085 (UK) 0.022 (Greece)	-0.028 (combined)	

* Significant at the 0.05 level.

Finally, regarding the fourth channel of P2P platforms the case is similar to those above. Summary results reported in Table 7.12 suggest the achievement of partial metric invariance only. For the case of MCFA the invariance is achieved after deleting 10 restrictions while for the SEM after deleting 9 restrictions. However, even though partial metric invariance is achieved, the test for the moderating effect of

country of study is massively rejected concerning the hypothesized path of PBCP to INTP ($\Delta\chi^2$=0.001 and p=0.974). Thus, concluding in all four cases there is no statistically significant evidence for moderating effects stemming from different countries of study. This overall result suggests that the model fits well for both sub groups of the different countries that data were collected, which is also a test of robustness of the obtained results.

Table 7.12: Measurement Invariance Tests for UK Versus Greek P2P Platforms

Panel A: MCFA Results

Model Tested	Model Fit Measures					Model Differences		
	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	p
Separate Groups: UK	780.9	341	2.284	0.071	0.914			
Separate Groups: Greece	630.4	341	1.849	0.058	0.937			
Configural Invariance	1410	682	2.068	0.046	0.925			
Metric Invariance	1469	702	2.093	0.046	0.921	58.76	20	0.000
Partial Metric Invariance	1424	692	2.058	0.046	0.924	14.03	10	0.172
Factor Covariance Invariance	1586	747	2.123	0.047	0.913	161.7	55	0.000
Error Variance Invariance	1759	776	2.268	0.050	0.898	173.8	29	0.000

Panel B: SEM Results

Model Tested	χ^2	df	χ^2/df	RMSEA	CFI	$\Delta\chi^2$	Δdf	p
Unconstrained (TF) model	1464	696	2.104	0.047	0.921			
Measurement weights	1521	716	2.125	0.047	0.917	57.06	20	0.000
Measurement weights-Partial	1483	708	2.096	0.046	0.920	18.85	11	0.064
Structural weights	1540	724	2.127	0.047	0.916	56.75	16	0.000
Structural covariances	1631	752	2.169	0.048	0.909	91.23	28	0.000
Structural residuals	1635	754	2.169	0.048	0.909	4.32	2	0.140
Measurement residuals	1811	783	2.313	0.051	0.894	176.1	29	0.000

Panel C: Testing for Country as a Moderator in P2P Platforms

Model Characteristic	Metric Invariance Group Model	Constrained Group Model (PBCP→INTP equal across groups)	Model Differences
Model Fit			
χ^2	1483.861	1483.862	0.001
df	708	709	1
p	0.000	0.000	0.974
RMSEA	0.046	0.046	
CFI	0.920	0.920	
Path Estimate	0.276 (UK)* 0.318 (Greece)*	0.297 (combined)*	

* Significant at the 0.05 level.

7.5. Summary and Conclusions

This chapter presented analytically the empirical findings regarding the multi-group analysis. A thorough examination of differences in the hypothesized relationships regarding gender, income levels and country of study is provided. The next chapter contains a discussion of all the empirical findings. All research questions are analytically addressed in an attempt to answer them, while all hypotheses are also discussed followed by their practical and theoretical implications.

8. DISCUSSION

8.1. Introduction

In this chapter the findings presented analytically in chapters 6 and 7 are discussed in conjunction with support from the theory presented in the literature review chapter 2. First an overview of the study is presented. Then, each and every research question is analytically discussed and reviewed in an attempt to answer the questions. Hypotheses tests associated with each research question are also discussed followed by their practical and theoretical implications if applicable. Comparisons among the different channels and the effects of demographic moderators are also reviewed.

8.2. Overview of the study

This thesis examines the antecedents of music acquisition in a multi-channel framework. Four possible distinct music acquisition channels are presented and analysed. Two of them are legal channels – the bricks-and-mortar stores and the Internet (digital) music shops – and the other two illegal – street vendors and P2P platforms. Also in terms of product differentiation, two of the channels are physical channels selling (mainly) music CDs – bricks-and-mortar stores and street vendors – and the remaining two are digital channels providing MP3 files – the Internet music shops and the P2P platforms. The empirical research took place on two major UK and two major Greek universities, gathering quantitative data from undergraduate students. Undergraduate students is the population which is considered to be as the

most appropriate for this kind of studies for reasons explained earlier in the thesis. The main research questions (RQ) associated with this study are the following:

RQ1: Can the Theory of Planned Behaviour be applied to music acquisition from various music channels in order to enhance our understanding of the behaviour?

RQ2: Do gender, income and country of study moderate the relationship among specific proposed model constructs?

Those two main research questions are broken down in sub-questions and these are further broken down to a set of hypotheses. Table 8.1 presents all these sub-questions with their associated hypotheses.

In order to answer the research questions, the researcher took a mixed-methods approach. The starting point was the exploration of the concepts of interest from the existing literature. After that, the development of measurement scales according to Churchill (1979) methodology followed. A pilot study took place in order to verify the items created and reflect on the possible creation of new additional items that are associated with the current research context. Through the use of semi-structured interviews, the researcher gained a deeper understanding of the concepts and the topic and created the constructs to be used in the conceptual model. Also, experts' opinions about the research instrument, from both the academia and the industry were obtained in the current research setting. From those opinions the researcher managed to assess the content validity of the measurement scales and finalise the research instrument.

Next, a calibration study was conducted utilising data from 200 individuals. The purpose of the calibration study was to ensure the validity and to achieve the purification of the measurement scales. The calibration study involved exploratory factor analysis (EFA) followed by reliability analysis through the Cronbach's alpha statistical measure.

The main study consisted of Confirmatory Factor Analysis (CFA), validity, reliability and Structural Equation Modelling (SEM) estimation. This was done four distinct times, one for each of the four music acquisition channels. Finally, multi-group analysis was conducted in order to examine the possible impact of demographic factors on the various channels. The results of the main study were overall satisfactory. According to the hypotheses tests, most of the research hypotheses were supported and only few of them were not supported. Table 8.1 summarizes all research hypotheses and indicates which of them are supported and which of them are not. Analytical discussion of the research questions in conjunction with their respected hypotheses follows in the next sections.

Table 8.1: List of Research Hypotheses and Empirical Results		
Research Question	**Hypothesis**	**Result**
RQ1.1: Can the model of TPB explain the behavioural intention to acquire music from various music channels?	H_{1B}: Attitude towards buying CDs from bricks-and-mortar stores will positively affect individuals' behavioural intentions to buy CDs from bricks-and-mortar stores.	Supported
	H_{1S}: Attitude towards buying counterfeit CDs from street vendors will positively affect individuals' behavioural intentions to buy counterfeit CDs from street vendors.	Supported
	H_{1D}: Attitude towards downloading from internet music stores will positively affect individuals' behavioural intentions to download from internet music stores.	Supported
	H_{1P}: Attitude towards downloading from P2P sites will positively affect individuals' behavioural intentions to download from P2P sites.	Supported
	H_{2B}: Subjective norm towards buying CDs from bricks-and-mortar stores will positively affect individuals' behavioural intentions to buy CDs from bricks-and-mortar stores.	Supported
	H_{2S}: Subjective norm towards buying counterfeit CDs from street vendors will positively affect individuals' behavioural intentions to buy counterfeit CDs from street vendors.	Not-Supported
	H_{2D}: Subjective norm towards downloading from internet music stores will positively affect individuals' behavioural intentions to download from internet music stores.	Supported
	H_{2P}: Subjective norm towards downloading from P2P sites will positively affect individuals' behavioural intentions to download from P2P sites.	Supported
	H_{3B}: Perceived behavioural control buying CDs from bricks-and-mortar stores will positively affect individuals' behavioural intentions to buy CDs from bricks-and-mortar stores.	Not-Supported
	H_{3S}: Perceived behavioural control towards buying counterfeit CDs from street vendors will positively affect individuals' behavioural intentions to buy counterfeit CDs from street vendors.	Supported
	H_{3D}: Perceived behavioural control towards downloading from internet music stores will positively affect individuals' behavioural intentions to download from internet music stores.	Not-Supported
	H_{3P}: Perceived behavioural control towards downloading from P2P sites will positively affect individuals' behavioural intentions to download from P2P sites.	Supported
RQ1.2: What effect does the perceived quality of pirated music have on the attitude of acquiring music from various music channels?	H_{4B}: The lack of perceived quality of pirated music will positively affect individuals' attitude to buy CDs from bricks-and-mortar stores.	Supported
	H_{4S}: The lack of perceived quality of pirated music will negatively affect individuals' attitude to buy counterfeit CDs from street vendors.	Supported
	H_{4D}: The lack of perceived quality of pirated music will positively affect individuals' attitude to buy music from internet music stores.	Supported

	H_{4P}: The lack of perceived quality of pirated music will negatively affect individuals' attitude to download music from P2P sites.	Supported
RQ1.3: What effect does the perceived benefits of pirating music have on attitude of acquiring music from various music channels?	H_{5B}: The perceived benefits of piracy will negatively affect individuals' attitude to buy CDs from bricks-and-mortar stores.	Supported
	H_{5S}: The perceived benefits of piracy will positively affect individuals' attitude to buy counterfeit CDs from street vendors.	Supported
	H_{5D}: The perceived benefits of piracy will negatively affect individuals' attitude to buy music from internet music stores.	Supported
	H_{5P}: The perceived benefits of piracy will positively affect individuals' attitude to download music from P2P sites.	Supported
RQ1.4: Is the price of legitimate music important in affecting the attitude of acquiring music from various music channels?	H_{6B}: The price of legitimate music will negatively affect individuals' attitude to buy CDs from bricks-and-mortar stores.	Not-Supported
	H_{6S}: The price of legitimate music will positively affect individuals' attitude to buy counterfeit CDs from street vendors.	Not-Supported
	H_{6D}: The price of legitimate music will negatively affect individuals' attitude to buy music from internet music stores.	Not-Supported
	H_{6P}: The price of legitimate music will positively affect individuals' attitude to download music from P2P sites.	Not-Supported
RQ1.5: Can the perceived likelihood of punishment affect the attitude of acquiring music from various music channels?	H_{7B}: The perceived likelihood of punishment will positively affect individuals' attitude to buy CDs from bricks-and-mortar stores.	Not-Supported
	H_{7S}: The perceived likelihood of punishment will negatively affect individuals' attitude to buy counterfeit CDs from street vendors.	Not-Supported
	H_{7D}: The perceived likelihood of punishment will positively affect individuals' attitude to buy music from internet music stores.	Supported
	H_{7P}: The perceived likelihood of punishment will negatively affect individuals' attitude to download music from P2P sites.	Supported
RQ1.6: Will consumers' idolisation towards a singer/band affect their attitude toward acquiring music from various music channels?	H_{8B}: Idolatry positively affects an individuals attitude to buy a specific singer's/ band's music CD from bricks-and-mortar stores.	Supported
	H_{8S}: Idolatry negatively affects an individuals attitude to buy a specific singer's/ band's counterfeit music CD from street vendors.	Not-Supported
	H_{8D}: Idolatry positively affects an individuals attitude to buy a specific singer's/ band's music CD from internet music stores.	Supported

	H_{8P}: Idolatry negatively affects an individuals attitude to download a specific singer's/ band's music CD from P2P sites.	Not-Supported
RQ2.1: Does gender moderate the relationship between attitude to acquire music and behavioural intention?	H_9: Gender moderates the relationship between attitude and behavioural intention such that for males the positive effect is stronger than for females for the two legal channels. $\qquad\qquad H_{9B}$ $\qquad\qquad H_{9D}$ $\qquad\qquad H_{9S}$ $\qquad\qquad H_{9P}$	 Not-supported Not-supported Not-supported Not-supported
RQ2.2: Does gender moderate the relationship between attitude to acquire music and perceived likelihood of punishment?	H_{10}: Gender moderates the relationship between perceived likelihood of punishment and attitude, such that for males the negative effect is weaker than for females for the two illegal channels $\qquad\qquad H_{10B}$ $\qquad\qquad H_{10D}$ $\qquad\qquad H_{10S}$ $\qquad\qquad H_{10P}$	 Not-supported Not-supported Not-supported Supported
RQ2.3: Does income moderate the relationship between attitude to acquire music and behavioural intention?	$H_{11.1}$: Income moderates the relationship between attitude and behavioural intention such that for those with higher income the positive effect will be stronger than those with lower income for the two legal channels. $\qquad\qquad H_{11.1B}$ $\qquad\qquad H_{11.1D}$ $H_{11.2}$: Income moderates the relationship between attitude and behavioural intention such that for those with higher income the positive effect will be weaker than those with lower income for the two illegal channels. $\qquad\qquad H_{11.2S}$ $\qquad\qquad H_{11.2P}$	 Not-supported Not-supported Supported Supported
RQ2.4: Does country of study moderate the relationship between attitude to acquire music and perceived likelihood of punishment?	$H_{12.1}$: Participants' country of study moderates the relationship between perceived behavioural control and behavioural intention, such that for students in the UK the positive effect is stronger than student's in Greece for the two digital channels. $\qquad\qquad H_{12.1D}$ $\qquad\qquad H_{12.1P}$ $H_{12.2}$: Participants' country of study moderates the relationship between perceived behavioural control and behavioural intention, such that for students in the UK the positive effect is weaker than student's in Greece for the two physical channels. $\qquad\qquad H_{12.2B}$ $\qquad\qquad H_{12.2S}$	 Not-supported Not-supported Not-supported Not-supported

8.3. Discussion of Hypotheses Concerning Research Question 1

Research Question 1 is broken-down in six sub-questions and is concerned with hypotheses H1 to H8. A thorough discussion of all those is given in the sub-sections below.

8.3.1. RQ1.1: Can the model of TPB explain the behavioural intention to acquire music from various music channels?

With regards to research question 1.1, hypotheses H_1, H_2 and H_3 are examined. These are the hypotheses concerning the traditional TPB constructs, and in this context the idea is to examine whether the model explains behavioural intention of music acquisition from multiple music channels. So, TPB constructs are tested four times, one for each channel (see Table 8.1).

To answer research question 1.1 the SEM estimation results reported analytically in chapter 6 will be utilised. From these results, it is observed that the Attitude (ATT) construct of the TPB is statistically significant and has the expected positive effect according to the theoretical prediction for all four music channels. Thus H_1 is fully supported. Proceeding to the second construct, Subjective Norm (SN) were found to be significant and positive in affecting behavioural intention for three out of the four channels. The channel that SN seems to be non-significant is that of street vendors. A possible interpretation of this result is that significant others do not affect the behavioural intention to buy pirated CDs. However, by careful examination of the construct, it is observed that the mean is negative but very close to the 0 "neutral" answer. Also, the variable is skewed to the left. Thus, it might be that the skewness contributes to this non-significant finding. Finally, with regards to the Perceived Behavioural Control (PBC) construct, this was found to be non-significant for the two

legal channels (bricks-and-mortar stores and digital music shops) and significant for the other two.

Thus overall, it is observed that with minor exceptions the hypotheses are accepted and therefore the research question can be answered in a positive manner. The implication of that conclusion is that the TPB is indeed an appropriate model explaining the music acquisition behaviour. Furthermore, these findings suggest that there is a distinct pattern for the two legal and another one for the two illegal ones. This is because only the illegal ones provide significant estimates for PBC. This finding shows that those who can find Street Vendors easily; and those who have the means and the knowledge of illegal music downloading are more prone to engage in music piracy. On the other hand the same does not appear to be true for the two legal channels. For those channels although individuals are aware of their existence and have the means to use them; they do not seem to be positively affected by this fact.

The findings of the research are in agreement with most previous piracy studies. Wang *et al.* (2009), Kwong and Lee (2002), Chen *et al.* (2009) and Yoon (2011) find that all TPB constructs are significant determinants in explaining piracy behaviour. More importantly since the current study examines music acquisition from various channels it is interesting that while in agreement with previous research, it also extents previous findings since it suggests that SN is non-significant for the Street Vendors and PBC is non-significant for the two legal channels. These results are important because they show that there are differences in music acquisition in terms of legal and illegal, as well as in terms of digital (which is the one that was studied from previous research) and physical (that has not been examined before).

8.3.2. RQ1.2: What effect does the perceived quality of pirated music have on the attitude of acquiring music from various music channels?

Considering research question 1.2, the PQM construct is examined and its effect on the SEM regression results is assessed. The construct is highly significant for three channels and marginally significant to the 10% level for the Street Vendors. It also has a negative coefficient and thus negative impact for the two illegal channels and positive coefficient and impact for the two legal ones. This result is in line with the theoretical predictions of H_4 for all music channels. The interpretation here is very clear. Individuals indeed believe that there are differences (although very small) in the sound quality of the legal music products compared with the illegal ones. Therefore, those who seek better music quality are more prone to acquire music legally because both copyrighted CD's and legal MP3 files are of better sound quality than the respective illegal ones. Similarly, those who seek better sound quality will have a negative attitude towards Street Vendors and illegal music downloading from P2P platforms.

Regarding PQM, previous research findings were mixed. Gopal *et al.* (2002) and Fetscherin and Zaugg (2004) suggest that there is a negative effect, while Ang *et al.* (2001) and Plowman and Goode (2009) suggests that there is no effect, and Kwong and Park (2008) finds a positive influence. Furthermore, Gopal and Sanders (2003) suggest that most people believe that the music quality of legal and illegal files is almost identical. The finding of the current study suggests that the difference in the quality of online music files has discouraging effects on music downloading and therefore is in line with Gopal *et al.,* (2002) and Fetscherin and Zaugg (2004).. However, the extension of the current research setting to a multiple-channel one provides an even

better insight on the current literature findings, since it extends it to the physical pirated product (CDs from street vendors) finding a similar result. Also, it shows even clearer that the case is the opposite for the legal channels something that has important implications for the industry. The clear-cut implication for the industry is that sound quality and product quality is important. Thus, emphasis on the qualitative aspect of the product should be given and should be stressed to the prospective consumers of music.

8.3.3. RQ1.3: What effect does the perceived benefits of pirating music have on attitude of acquiring music from various music channels?

Regarding research question 1.3, the PBP construct and the corresponding H_5 is examined through the SEM results for all channels. The estimation results are significant for all channels. Also, the estimated coefficients support the theoretical predictions for all cases. The coefficient for the legal channels is negative and for the illegal ones is positive. This means that those who believe that they are benefited from the act of music piracy indeed tend to have a negative attitude towards Bricks-and-mortar stores and Digital Music Shops. This finding is in line with that of Limayem *et al.* (2004), Chen *et al.* (2008) and Yoon (2011). Obviously, contrary to that, those who believe that music piracy has benefits tend to have a positive attitude towards the two illegal channels. This later finding is very important since it addresses the issue in the legal channels framework as well and therefore strengthens the overall result and analysis.

The benefits of piracy examined are posed in terms of time, effort and money. Therefore, the speed of purchase, the fact that illegal downloading is relatively effortless

and costs nothing are important factors leading consumers to piracy. Thus, the industry has to consider that very carefully and try to counterbalance these characteristics. Better digital music shops that have music easily accessible and at a low-cost may help to undermine the piracy rates. Also, easy and speedy purchase (most young persons probably do not have credit cards to use them easily in order to acquire music legally) methods need to be sought.

8.3.4. RQ1.4: Is the price of legitimate music important in affecting the attitude of acquiring music from various music channels?

With regards to research question 1.4 that examines the role of price of legitimate music construct, the results are mixed. Contrary to what was expected from the theoretical predictions, it was found that there is a non-significant effect of price for the Bricks-and-mortar stores and the P2P platforms, suggesting that H_{6B} and H_{6P} can be rejected and thus not supported. Also, regarding H_{6S} and H_{6D} although the coefficients were found to be significant, the hypotheses are still rejected since the estimated coefficients suggest an inverse relationship from the one expected according to the theory. Therefore, all four hypotheses are not supported by the findings. This result is in disagreement with the previous literature. Chiang and Assane (2002), Molteni and Ordanini (2003) and Gopal (2002) suggest that a raise in the prices of legally acquired music leads to more downloading, while Ang *et al.* (2001) and Plowman and Goode (2009) suggest that there is a strong negative association between price and downloading. The implications here are the following: It seems that since PLM is non-significant for bricks-and-mortar stores, CD buyers are not affected at all by prices. On the other hand, PLM is positive and significant for the digital channel. This unexpected

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result possibly reflects the fact that the digital channel enables the consumer to buy specific songs (single tracks) from an album. Therefore, when legal CD prices increase, consumers tend to prefer the digital channel rather than the bricks-and-mortar one where they can buy a single track and be charged less.

8.3.5. RQ1.5: Can the perceived likelihood of punishment affect the attitude of acquiring music from various music channels?

Research question 1.5 deals with the deterrence effect of legislation. The PLP construct was tested here, and the corresponding hypothesis H_7 was examined for all four channels. From the SEM results obtained in chapter 6 it is observed that the hypotheses are rejected for the two physical channels due to non-significant estimates. However, for the two digital channels – digital music shops and P2P platforms – the hypothesis is supported, since it shows positive and statistically significant coefficients. This finding when it is applied to the legal channel suggests that indeed those who are afraid of being punished tend to use the legal Internet channel in order to acquire music. However, when it is applied to the illegal P2P channel the finding could suggest that those who acquire music from illegal music channels are not afraid at all of being caught and punished. On the contrary they might feel that this no-fear of legislative actions makes them all the more to want to commit the act. Indeed, the average value of this construct was –0.737 indicating that most respondents were not afraid of being punished. This result contradicts the findings of previous literature. Kwong and Lee (2002) suggest that there is a negative deterrence effect of legislation on illegal music downloading. Peace et al. (2003) find that punishment certainty and punishment severity have negative effects on music downloading. Also, Moores and Dhaliwal

(2004), Moores and Chang (2006) and Moores *et al.* (2009) find a negative influence of the perceived likelihood of piracy on pirated software acquisition. However, the result of the current study is in line with the attitude of many respondents towards music piracy, since a very large proportion of them believe that committing music piracy is not an illegal or criminal activity and therefore the act itself is something they are proud of (Dilmperi *et al.*, 2011).

8.3.6. RQ1.6: Will consumers' idolisation towards a singer/band affect their attitude toward acquiring music from various music channels?

Finally, the final sub-question of research question 1 concerns idolisation. This sub-question in examined through H_8 for all channels. The SEM results for the idolisation construct suggest that those who have a strong connection with their music (artists/bands) idols tend to have a positive attitude towards the two legal music channels. This is in line with the theoretical prediction and therefore H_{8B} and H_{8D} are supported. The fact that this result is verified by the current research is important, since it is interesting to check whether IDL will have a contrasting effect for the two illegal channels as it is suggested from previous literature findings. Specifically, Levin *et al.* (2007) suggest that the harm attribution has a non-significant effect in piracy attitude. Lysonski and Durvasula (2008) suggest that consumers do not change their attitude even if they hear that this financially hurts successive artists. The current research findings with regards to the illegal channels, suggest that the relationship was non-significant for the case of Street Vendors, and positive and significant for the case of P2P platforms. Therefore, the findings of the current study concerning IDL are in disagreement with the findings of the previous literature. The first finding (regarding the

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Street Vendors channel) suggests that consumers with a high degree of idolisation do not like and therefore do not buy counterfeit CDs. Although the non-significant coefficient suggests that there is not enough evidence to support the hypothesis, this result is in line with the theoretical prediction. Furthermore, the second finding (with regards to the digital illegal channel) suggests that those who have a high degree of idolisation tend to have a positive attitude towards downloading music from P2P platforms, which was contrary to the theoretical prediction. A possible explanation for that is that many musicians/artists nowadays are in favour of "free music for everyone" and encourage their fans to download their music or listen to their music from the Internet for free (Akbar, 2009).

8.4. Discussion of Hypotheses Concerning Research Question 2

Research Question 2 is broken-down in three sub-questions and is concerned with hypotheses H_9 to H_{12}. A thorough discussion of all those is given in the sub-sections below.

8.4.1. RQ2.1: Does gender moderate the relationship between attitude to acquire music and behavioural intention?

Research question 2.1 examines the role of gender in the relationship between attitude and behavioural intention. This is examined through hypothesis H_9. The results obtained from the examination of this hypothesis are presented in chapter 6, and suggest that H_9 is not-supported for all channels.

Although, previous studies have reported that males tend to pirate music more compared to females (Cheng *et al.*, 1997; Moores and Dhillon, 2000; Ang *et al.*, 2001; Kwong and Lee, 2002; Gopal and Sanders, 2003; Molteni and Ordanini, 2003; Wang *et al.*, 2009) the current research concluded that there is no difference whatsoever among males and females. Both genders have the same attitude towards music acquisition for all channels. This result is similar to another recent study (Robertson *et al.*, 2012), which suggests that there is a change in this behaviour.

8.4.2. RQ2.2: Does gender moderate the relationship between attitude to acquire music and perceived likelihood of punishment?

Research question 2.2 and its associated hypothesis H_{10} deals with the possible effect of the perceived likelihood of punishment to attitude towards music acquisition. The results obtained from the analysis examining this hypothesis are again presented in chapter 7. From those results it is observed that regarding the street vendors channel there is no difference in the behaviour of males versus females. However, regarding the P2P platforms channel there is a difference in the attitude of females compared to that of males. Females are more afraid of being caught and punished and therefore both genders do not commit music piracy at a similar extent and magnitude. Thus, overall hypothesis H_{10} is not-supported apart from $H_{10P,}$ which is supported from the empirical results. This finding is in accordance with Cronan and Al-Rafee (2008) and Wingrove *et al.*, (2011).

8.4.3. RQ2.3: Does income moderate the relationship between attitude to acquire music and behavioural intention?

Research question 2.2 examines the role of income as a moderator in the relationship between attitude and intention to acquire music from the two legal channels ($H_{11.1}$) and the two illegal ones ($H_{11.2}$). Here the prediction is that those with higher income will tend to buy more music from the legal channels than those with lower income and that those with lower income will commit piracy at a larger extent than those with higher income.

From the results obtained in chapter 7, it is interesting to see that the first hypothesis $H_{11.1}$ is not supported, while the second $H_{11.2}$ is supported. This means that income plays a role only for the attitude towards music acquisition from the illegal channels. More specifically, individuals that have lower income levels indeed do download more and buy the cheaper counterfeit CDs more than those with higher income. On the other hand individuals with higher income do not buy more music from the legal channels. This finding is in line with previous research of Kwong and Lee (2002).

8.4.4. RQ2.4: Does country of study moderate the relationship between attitude to acquire music and perceived likelihood of punishment?

The final research question concerns the differences among the countries of study of the participants of the quantitative study. The study was conducted in both Greece and the UK and it is quite interesting to see whether the results obtained are different for those two countries. If the results are indeed different this has important

implications about the degree of generalization of the findings for other country cases. On the other hand, if they are not, then it is easy to say that the research findings are quite robust. However, there is a chance to have different results since the two countries under examination suffer from different piracy phenomena. Greece is suffering more from physical piracy (associated with the street vendors channel) and the UK from digital piracy (associated with the P2P channel).

The results regarding this question and the corresponding hypotheses $H_{12.1}$ and $H_{12.2}$ are strongly rejecting the idea of statistically significant differences existing between the two countries. This result disagrees with the findings of Bhattacharjee *et al.* (2003) who suggest that people with higher speed Internet connection have different attitude towards legal and illegal buying of music compared to those with lower internet connection. One explanation is that Internet connections are not anymore that different when comparing Greece and the UK. Therefore, it seems that both UK and Greek music consumers have similar patterns of behaviour for all music channels despite certain channels being more relevant in certain countries. This result can be also viewed as a robustness check for the main research findings and suggests that the overall results are quite strong and can be generalised to be true for most of the European countries.

8.5. Summary and Conclusions

In summary, this chapter presents and discusses the results of the hypotheses tested in conjunction to their respected research questions. The overall findings suggest that both research questions are partially, but not fully accepted. The hypotheses that were not-supported involve the SN for the street vendors channel, the PBC for the two

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physical channels, the PLM for all four channels, the PLP for the two physical channels and the IDL for the two illegal channels. Also, regarding the moderators, there were no differences between the two countries of study whatsoever in all channels under examination, while the hypotheses regarding income were not supported for the two physical channels. Finally, the hypotheses for gender were only supported for the P2P channel.

This partial support of the hypotheses is due to the complex nature of the study. Since the study involves multiple channels of music acquisition it is very hard to obtain results that are consistently comparable for all different channels. However, the differences between channels have important implications for the industry.

The next chapter presents the research limitations, provides future research recommendations and analyses the contribution of the current research. Finally, overall conclusions are drawn.

9. CONCLUSIONS

9.1. Introduction

This chapter presents the overall conclusions of the thesis. Based on the discussions of the findings on the previous chapter, the aim of this chapter is to identify and present the contributions of the current research. Next, the chapter highlights the managerial/industry and policy implications, followed by the limitations that characterize this research. Also, recommendations for future research are analytically discussed.. Finally, the last section concludes presenting the key findings of the study.

9.2. Contribution to Knowledge

This study aims to explain, in a holistic manner music acquisition and its potential antecedent factors in a multiple channel framework. Thus, to the author's best knowledge, this study is the first effort to use the theory of planned behaviour (TPB) in a multi-channel environment. Most previous studies have used TPB focusing only on the issue of music piracy. This study examining multiple channels of music acquisition derives results not only for music piracy but for legal music acquisition behaviour as well. Furthermore, this research is the first empirical work to create a model of TPB for music acquisition incorporating concepts from the theory of planned behaviour, the multi-channel theory, the ethical and deterrence theories, the social identity theory together with economic and technological related factors, in a holistic framework. Therefore, the contribution to knowledge of the current study is threefold. Those three domains, where contribution has been identified are discussed below. Also, Table 9.1

presents analytically the contributions for each domain together with their possible
managerial/industry and policy implications.

Table 9.1: Contributions and Implications of the Current Research		
Domain	**Contributions**	**Implications**
Music Acquisition and Channel Choice	• New measurement scale developed	Other cultural industries can benefit by applying this scale
	• Legal Vs. Illegal – Physical Vs. Digital	
	• Empirical investigation of four distinct channels	
Illegal Vs. Legal Consumer Behaviour	• PQM has positive effect for the two legal channels	Marketers should promote music quality of legal products compared to the illegal ones.
	• PQM has negative effect for the P2P channel	
	• IDL has positive effect for the two legal channels	Marketers should try to create "superstars" and offer supporting packages.
	• IDL has positive effect for the P2P channel	Marketers should approach artists that escaped the "industry route".
	• PLP positive for the two digital channels	Increase legal actions. Explain better that downloading is unethical and unlawful. Target advertisement to female audiences.
	• Income moderates Attitude and Intention for the two illegal channels	Marketers should find a way to approach low income consumers.
Multi-channel Customer Management Theory	• Adding illegal channels to the multi-channel theory	Promote antipiracy campaigns using pop stars/idols.
	• Understanding the illegal consumer	Educate all members of the society regarding the socially undesirable nature of music piracy.

9.2.1. Theoretical contribution to the domain of music acquisition and channel choice

First, a new measurement scale was developed with items drawn from the previous literature, reworded appropriately in order to fit to the current research context. Generally, when a construct and its measure are applied in a different setting the researchers need to pay attention to the equivalence and the applicability of the constructs and its measure (Craig and Douglass, 2000). This research followed Churchill's (1979) approach for scale development in order to address all these issues properly and develop new scales and constructs for each of the four channels in music acquisition. In the scale development procedure first an exploratory research took place including academic and managerial experts' judgement, a pilot study and an empirical research involving reliability tests and exploratory factor analysis. This analytical process of scale development, to the best of the author's knowledge, is conducted for the first time in the music acquisition framework. Most previous studies are narrowed on the music piracy issue and draw items and constructs based on previous literature research only. Also, the newly constructed measurement scale was deemed appropriate to test empirically the issue of music acquisition for all four music channels under examination.

Therefore, in terms of empirical contribution, this new scale was utilised in an empirical research setting in order to identify differences and/or similarities among the various forms of music acquisition. Specifically, contrary to all previous research, the multiple channel research setting has helped examine the behaviour of legal versus illegal consumers as well as of physical versus digital consumers drawn from the results obtained for different music channels. Previous studies on the topic of music acquisition used the TPB or extensions of it focusing mainly on the issue of music piracy only. To

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the best of our knowledge, no research had focused on the other possible channels of music acquisition other than the piracy ones of illegal music downloading. Therefore, the present study, having investigated the music acquisition phenomenon in a multiple channel framework using all four possible channels (both legal and illegal), innovates and makes another important contribution to the literature.

9.2.2. Contribution to the issue of illegal versus legal consumer behaviour

Additionally, the study contributes to the existing knowledge at the conceptualization level by offering a TPB model with additional constructs based on the issue of music acquisition. These constructs involve the perceived quality of music, the perceived benefits of piracy, the price of legitimate music, the perceived likelihood of punishment and the issue of idolatry. As it was discussed extensively in previous sections these constructs were included in different studies but only in relation to the digital music piracy phenomenon. Therefore, this study innovated and contributed to the current knowledge by extending the use of these constructs in a multiple channel framework.

With regards to the perceived quality of music the literature was in disagreement. Gopal *et al.* (2002) and Fetscherin and Zaugg (2004) provided evidence suggesting that the difference in the quality of online music files has negative effects on music downloading. Ang *et al.* (2001) and Gopal and Sanders (2003) found no effect; while Plowman and Goode (2009) found positive effect for the heavy downloaders. The current study supports the findings of Gopal *et al.* (2002) and Fetscherin and Zaugg (2004) for the P2P channel but extents and contributes to the literature debate by finding

the same strong negative effect from the physical music piracy channel of street vendors.

With regards to idolatry, the research found that there is a positive effect for the two legal channels, which suggests that music fans prefer to buy in order to consume the music of their idols. However, the research also found that there is a positive effect of idolatry for the P2P platform channel. This seems to be in accordance with the fact that there are many artists nowadays that suggest their idols to acquire music freely.

Moreover, regarding the perceived likelihood of punishment the findings of this study are in disagreement with previous research studies for music piracy (Kwong and Lee, 2002; Peace *et al.*, 2003) and for software piracy (Moores and Dhaliwal, 2004; Moores and Chang, 2006; Moores *et al.*, 2009). Specifically, the current study found a positive and significant effect for the P2P channel and a positive but non-significant for the street vendors channel. These findings suggest that the deterrence effect of legislation does not have important effects on reducing illegal music acquisition. On the contrary, consumers are not afraid of being caught and engage in higher rates of piracy.

Last, regarding the effect of demographic factors that were investigated, the current study found a strong tendency towards illegal music acquisition from the consumers that belong in the low-income group. This result has very important implications and is the first time, to the author's knowledge that is identified in the relevant empirical literature context.

9.2.3. Contribution to the issue of channel choice

Finally, this study contributes in the area of multi-channel customer management theory. The theory involves the design, deployment, coordination and evaluation of the multiple channels aiming to enhance customer value through effective customer acquisition, retention and development. One very important aspect of this theory is to understand consumers' behaviour in the multi-channel environment. In other words, the industry can now understand more the various ways customers choose channels and the impact of this choice has on their music consumption behaviour.

All previous studies using multi-channel theory identify as possible channels choices only legal means of product acquisitions. The current study does not concentrate on the objectives of a particular firm but views the music industry and its various channels as a whole. Moreover, it examines not only the legal music channels but also the illegal ones. To the researcher's best knowledge this study is the first that connects the illegality issue with the multi-channel management theory.

In terms of empirical contribution, due to the specific nature of the channels described above (legal and illegal) the hypothesized relationships were posed differently for each case (e.g. with the respect to the PQM the relationships are expressed positively and negatively for the legal and illegal channels respectively). The main results supported those differences, contributing to the current literature and providing an area for further empirical investigation regarding other industries that exhibit similar characteristics, i.e. both legal and illegal channels.

9.3. Implications of Research Findings

The implications of this research are presented in this section. First, the discussion of the theoretical implications is provided, followed by the managerial and policy implications.

9.3.1. Theoretical Implications

The results of this study have a number of significant theoretical implications. First, this research created and applied a TPB model in a new context, that of music acquisition from various music channels. The empirical assessment of the model took place in two European countries. The success of the incorporation of additional external factors – specifically related to music – in the TPB model is evident from the obtained results. The results suggest that the proposed model of music acquisition in a multi-channel framework demonstrates a considerable explanatory and predictive power. Thus, the inclusion of the external factors with the TPB is both empirically significant as well as theoretically appealing.

Second, the model of TPB for music acquisition from multiple channels developed for this study can be easily employed for explaining other cultural industries that have similar characteristics to the music industry, especially when they "suffer" from the piracy phenomenon. Such possible industries include the film industry, the book industry etc. This research has identified important factors from the extensive literature on various theoretical aspects that can explain the piracy phenomenon such as consumer, ethical and deterrence theories, the social identity theory together with

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economic and technological related factors. Therefore, the comprehensive and parsimonious model developed for this research makes important contribution to the current literature – which mainly deals with music piracy – of music acquisition in general.

Finally, a third theoretical implication stems from the examination of the moderating effect of various demographic factors using multi-group analysis, such as gender, income and country of study. This examination has been conducted through the use of multi-group analysis. Multi-group analysis is an important advanced technique that helps answering questions related to group comparisons among culture and demographics. The current research utilises two types of group analyses using the SEM technique: measurement and structural weights invariance using the covariance structure analysis, and the estimation of the relationship under examination holding all other relationships equal across both groups. This methodology has not been used extensively before and therefore the study innovates in the examination of this group differences.

9.3.2. Managerial Implications

The findings of this research study have many managerial implications for the music industry and possible for other cultural industry that face a piracy phenomenon. Due to the emergence of the advanced compression technologies for storing and transmitting files, which led to the creation of the MP3 music file, the music industry has faced major and unprecedented changes to its structure. The most significant blow, which caused major financial loses has come from the establishment of the peer-to-peer

phenomenon as a new way of acquiring music without paying any fee. Also, the MP3 format led to the establishment of Internet music shops as another way of acquiring music next to the traditional bricks-and-mortar stores. Therefore, a formal study like this, sheds some light on the understanding of the factors affecting consumers' decision towards music acquisition from all those channels (traditional and new, legal and illegal) is necessary and useful for the music industry in order to prioritise its resources in an effective way.

This study has provided useful information and valuable insights to the music industry in order to better understand the needs of the music consumers and to tackle appropriately the music piracy phenomenon. From the empirical results the study signified that the perceived quality of music (PQM) was identified as the most significant factor that has a strong impact on consumers' attitude towards music acquisition for the two legal channels. In addition, the price of legitimate music (PLM) and perceived benefits of piracy (PBP) were found to exert the most significant impact on consumers' attitude towards music acquisition for the two illegal channels, street vendors and P2P platforms respectively. Hence, this implies that the music industry should pay more attention and promote the issue of quality. This is important for consumers to feel that the product acquired legally and with the payment of a fee is something that is clearly better than its equivalent MP3 file, which can be freely downloaded, or a counterfeit CD that can be purchased on a lower price. Also, in order to approach consumers that acquire music from street vendors and P2P platforms, the music industry could lower the prices of legal music and promote this action by creating advertising campaigns that highlight this move. Moreover, the music industry should provide solutions to the consumers that have the need for acquiring a wider music

collection or the whole discography of their favourite artists/bands with the minimum effort (e.g. full discography collection and provision of rare songs/albums). This would help to reinforce consumers' attitude to acquire music legally. In addition the music industry could help to strengthen consumers' attitude to acquire music legally by enabling them to acquire music effortlessly, since time (implicit in PBP items) was found to be an important issue as well.

Another important managerial implication comes from the fact that idolatry found to have a positive impact for music acquisition across all channels. The most important result was obtained for the Internet music shops channel, followed by the bricks-and-mortar channel. This result is plausible since it suggests that those with high degree of idolatry prefer to buy the music of their idols legally. This has important implications for the industry. It suggests that the industry should focus on the artist element trying to enhance the idolisation by offering supporting music packages. These packages can include together with the legal acquisition of the music album the following: (a) a discount voucher for the next nearest town concert of the album's artist, (b) posters signed by the artist or even personalised autographs engraved on the physical product, (c) individual passwords for subscription to the artist's website that will contain access to limited material, updates to the artists news etc. Furthermore, the fact that idolisation found to be a significant determinant towards the attitude of acquiring music legally means that the music industry should pay a great deal of effort in promoting artists in an attempt to create not only pop idols but "superstars" that can maintain their star quality for years.

Contrary to the above idolisation had a positive impact on the illegal acquisition of music through P2P platforms. Although this result seems to contradict the

aforementioned results, it does not. This shows clearly the power that the artist/band has on its followers since there are many artists nowadays that have abandoned record labels and the music industry route, promoting their music individually and providing their music through the internet for free or following a pay-as-much-as-you-like approach (e.g. Radiohead), or even encouraging their followers to download their music from illegal channels.

With regards to the perceived likelihood of punishment (PLP) the findings suggest a positive impact for the two digital channels. Regarding the legal channel, this finding suggests that those who fear punishment tend to avoid illegal downloading in favour of the legal acquisition of MP3's. Thus, this may suggest to the industry to increase legal actions against illegal downloaders. However, the positive effect found for the illegal channel seems to contradict this suggestion. The fact that there is a positive relationship between PLP and illegal downloading can be explained from two different angles. First, consumers do not really have a high fear of being punished. This was evident from the replies that most of the participants provided for the PLP items. Second, since Internet anonymity and freedom makes the illegal acquisition of music an action very hard to be detected by the law enforcement authorities, some consumers might find it "exciting" to commit the illegal act of downloading. The implication here for the music industry is again quite clear. It seems that the music industry has a lot of work to do in order to persuade consumers that music downloading is an illegal act. There is still a large number of individuals, who do not consider the piracy of music as an unethical unlawful behaviour and all the advertising on the "music piracy is a crime" issue could be improved.

Finally, the research examined the possible impact on the hypothesized relationships of different demographic factors, such as gender, income and country of study. With respect to gender the empirical results suggested no major differences between males and females regarding their attitude towards music acquisition for all channels. Thus, there is no need for the music industry to tackle the issue with a different focus to the one gender or the other, since there are no significant differences on their behaviour. However, the results suggested that there is a difference between males and females when it comes to the perceived likelihood of punishment specifically for the P2P channel. Since women believe that there is a higher possibility of being prosecuted while engaging on music piracy, the music industry's advertising campaigns against piracy will be more effective when targeted for women audiences.

With respect to income the empirical results suggested that income was important differentiating the attitude of consumers to the illegal channels. Namely, consumers with lower income levels tend to acquire music illegally more than those with higher income levels. This finding has strong implications for the music industry. It is evident that the income effect of music acquisition is quite large for consumers; and therefore if they are in the low income-side they seek to find music from illegal channels, while if they are on the high-income side they do not immediately switch to the legal ones either.

Finally, there was no important difference between the two countries of study that the research took place. This means that the results obtained appear to be robust and, subject to further research, may even be generalized to other European countries as well.

9.3.3. Policy Implications

The policy implications of this research are twofold. The first has to do with the fact that there is a positive attitude associated with music acquisition from all channels (both legal and illegal). It seems that there is no wide spread belief in the society that piracy is indeed a criminal activity. Policy makers can design programs in order to educate all members of the society (family, important others, students) on the ethical aspects of piracy in order to persuade the public that piracy, as an illegal activity, is both socially undesirable and unfavourable.

The second is the fact that the deterrence effect of legislation is quite limited in terms of illegal music downloading from P2P sites. Students do not perceive that punishment for committing piracy is certain and severe. Therefore, a deterrence effect does not occur unless people change their opinions about the possibility of being caught and punished by the legal authorities. Based on this, a possible policy suggestion is to proceed to drastic changes to current policy and practices in order to change the belief in the public about the very low possibility of punishment.

Both of these policy recommendations can be dealt in conjunction with the finding that idolatry also plays an important role in music acquisition from different channels. Policy makers can think of promoting advertising anti-piracy campaigns using pop/rock music idols as the ones to speak about the bad effects of this criminal activity.

9.4. Limitations of the Research

This study represents a foundation for future research that will build on the topic of music acquisition in a multiple channel framework. The research results should be interpreted in the light of some research limitations that may be overcome by future research. In this section, the limitations of this research are discussed.

The first limitation relates to the sample used in the quantitative analysis. Although most of previous research clearly suggests that university students are considered to be the most appropriate sample for these studies, music acquisition is an act that involves other society members as well. Therefore, a study extending the sample frame including not only students might well provide different results. In the same line, regarding sampling, the research took place on a limited population of two UK and two Greek universities. Although, this is deemed as satisfactory since it compares two European countries with different piracy level characteristics, an extended study gathering data from more countries and a larger group of universities can provide a further improvement. Also, the findings of this study are limited to the European context and may not necessarily reflect music acquisition levels in countries outside Europe. Thus, a suggestion for further research replicating the current research setting in other countries will help providing generalizability of the findings.

A second limitation deals with the sampling method applied for this research. Due a limited amount of resources and the nature of the research (that required anonymity) it was impossible to obtain full details about the potential respondents of this study. Therefore, a non-probability sampling method, convenience sampling, was applied. Convenience sampling may introduce bias because there is a chance that some groups in the population are not included in the sample. The current study aimed to

reduce it by randomly selecting lectures and lecture rooms and distributing the questionnaires to all students participating in the lecture and asking them to fill them in, on a voluntary basis. Therefore, this likely reduced the bias of convenience sampling since students with non-similar characteristics may tend to participate in most of the lectures in a university. It is worth noting here that the limitation of non-random sampling is very difficult to be resolved since anonymity is essential.

Another limitation of this research deals with the fact that the data collection provided very limited age differences among the respondents. This was because only students were considered as possible participants. Thus, the study could not examine the possible impact of age as a moderator on the overall results. A future study using a wider population frame can overcome this problem. Furthermore, the calibration study was conducted only on the Greek sample rather than in a sample of both countries. This was done for reasons of convenience since there was no opportunity to gather data from the UK Universities at the period of the data gathering process. The overall research study might have been benefited from a calibration study in both countries, so future research should try to address this.

Finally, although the study innovates in the sense of applying the theoretical model in a multiple channel context – aiming to examine all possible music channels – a new music channel in the form of music streaming services such as Spotify and Pandora has emerged. Further research is needed in order to include this new channel into the research framework.

9.5. Future Research Recommendations

In the previous section the limitations of this study were discussed. This section tries to provide guidelines for the direction of future research in order to expand present knowledge on the topic of music acquisition.

First of all, the research was conducted on a sample of undergraduate university students. Since music acquisition involves not only students, future studies should explore whether the relationships found in the current study also hold for wider samples. This will help for the generalizability of the results.

Second, future research can be directed in other industry settings that share similar characteristics with that of music acquisition. These involve cultural industries that suffer from the piracy phenomenon such as the film and book industries. In the proposed future research, the researchers should examine whether the constructs of the current study exist in the different industry's settings. In addition, even when the constructs are found to exist the research should also examine whether their measures are the same in these settings (Craig and Douglas, 2000). This means that future research should employ the measurements offered by the current study as a platform that helps the development of new measurement items that relate to the current research setting.

Also, since this study has been conducted in the UK and Greece, two European countries, future research should examine the applicability and equivalence of the constructs and their measures when applied in different cultural settings, such as different countries and industries. Various cultural factors may lead to cultural

differences and thus influence music acquisition from various channels for different country settings.

Moreover, future research should examine music acquisition from multiple music channels for different segments of the participants. Segmentation can be applied to differentiate the participants on various levels. One level has to do with whether the participants prefer the physical or the digital form of the product, thus segmenting them to "non-downloaders" versus "downloaders". A different level can be viewed with regards to the legal versus the illegal (pirated) acquisition of music segmenting the participants to various levels ranging from the "strong pirates" to those who acquire music legally only. This issue is investigated for the DVD industry by Cockrill and Goode (2012). Finally, segmentation can be applied to the various music preferences the participants have since it is believed that different music genre listeners have different attitudes towards music acquisition (Dilmperi *et al.*, 2011).

Furthermore, additional research can be conducted in establishing whether there is a habitual pattern in choosing the preferred channel for consumption. The current research assumed that music consumption does not follow a habitual process. However, the idea of having an established channel of acquiring music and forming a strong habit towards the use of this channel compared to other options has not been examined and it is left for future research.

Another area of future investigation is the impact of moderators such as age that has not been examined in the current study. Since music piracy is a recent phenomenon it is interesting to see the evolvement of this in the future. Therefore future studies can identify whether there are differences in the behaviour among same individuals in

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different periods of their life. However, these examinations might require longitudinal studies that are very hard to achieve.

Additionally, a qualitative study could be conducted in order to further investigate the relationships among the constructs. For example it was noted in this study that the role of price appeared to have some mixed results. Also, as regards the moderators no major differences were identified among males and females and the two countries under examination. Apart from the reasons explaining these results in the current study, future qualitative research could further explore this phenomenon in order to provide more insightful details that might help to identify other factors underlying these relationships.

Finally, future research should identify other possible emerging channels of music acquisition that have not been included in the current research setting. As discussed in the previous section, one important channel that should be addressed is that of music streaming services. Since technology is evolving rapidly emergence of other channels is quite possible and this may lead to a change in the way people acquire music. Thus future research should be able to identify these changes and address these issues.

9.6. Summary and Conclusions

This work has examined the issue of music acquisition in a multichannel framework. Since the emergence of digital music files, in the form of MP3s, the music industry has faced major changes and lost vast amounts of money due to the emergence of P2P illegal music downloading. For this reason, scholars have been putting more

effort into understanding the music piracy phenomenon and explaining the behaviour of music pirates. Notwithstanding, there is yet any study addressing the issue in a holistic framework as the current thesis attempts.

In particular, this study first adopted the TPB as a theoretical framework for music acquisition. Then, it enriched that in order to include not only music piracy but also the acquisition of music from multiple channels, integrating TPB with the multi-channel customer management theory. Next, the current research enriched the theoretical framework of TPB by using deterrence based theories, social identity theory together with economic and technology related factors by including additional constructs closely related to the issue under investigation.

The overall results of this study suggest that the proposed model of TPB is a valid model in explaining music acquisition from multiple channels. More broadly, this thesis has been an important insight in to the understanding of music acquisition, it makes substantiated recommendations to the industry and it is hoped that it will stimulate further future research on the topic.

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APPENDICES

Appendix A
Risk Assessment Forms

Risk Assessment for the Researcher

Activity	Hazard	Description	Measures to Control Risk	Risk Rating
Off campus data collection in UK Universities	Health	There are no health hazards in the UK, at present.	In case of an emergency I can contact my GP.	Low
Off campus data collection in UK Universities	Transportation	Public transportation in the UK is regarded as safe.	Use public transport like buses, trains and tube.	Low
Off campus data collection in UK Universities	Crime /Security	UK is not associated with high crime statistics. UK is not associated with political instability.	Avoid being in places were there are no other people. Visit University during day time Carry a mobile phone.	Low
Off campus data collection in UK Universities	Accommodation	The researcher will use private accommodation.	N/A	Low
Off campus data collection in Greek Universities	Health	There are no health hazards in Greece, at present.	Since I am a Greek citizen I am entitled to full medical coverage from the national health system (ESY).	Low
Off campus data collection in Greek Universities	Climate	Compatible with the UK; not very hot and sunny or cold.	Listen to weather forecasts and plan work accordingly.	Low

Off campus data collection in Greek Universities	Political Unrest	According to the latest Foreign and Commonwealth Office announcement, there are no travel restrictions for Greece.	FCO website will be monitored for alerts.	Low
Off campus data collection in Greek Universities	Transportation	Public transportation to and from Greece is considered safe.	Flying with IATA companies like British Airways and Aegean Airlines. For all other transportation I will use public means.	Low
Off campus data collection in Greek Universities	Crime/Security	The researcher is a Greek citizen and can recognise the hazardous areas.	Avoid high crime neighbourhoods. Owner of bank account at local banks.	Low
Off campus data collection in Greek Universities	Project related	The research is conducted in reputable universities.	Visit the university during daytime. Collaborate with Professors to conduct the research.	Low
Off campus data collection in Greek Universities	Accommodation	The researcher will use private accommodation	N/A	Low
Off campus data collection in UK and Greek Universities	Authorities demanding data	In all previous research nothing like this has ever happened before.	The researcher will ensure that she respects the anonymity and confidentiality of the respondents in order to ensure that the participants are unidentifiable.	Low

Risk Assessment for the Participants

Activity	Hazard	Description	Measures to Control Risk	Risk Rating
Off campus data collection in UK and Greek Universities	Loss of time	The first draft of the questionnaire has been tested on a small pilot and it took around 15-20 minutes to complete.	The researcher will run two pilots one in the English version and one in the UK one before final distribution.	Low
Off campus data collection in UK and Greek Universities	Psychological risk	Sometimes individuals may get distress during a survey.	The researcher will make it clear that the participants can withdraw from the study at any time without giving any reason.	Low
Off campus data collection in UK and Greek Universities	Social risk	Sometimes research in sensitive matters like illicit activity may result in embarrassment within one's business or social group, loss of employment or criminal prosecution.	The research will inform the participants that she will respect the issue of confidentiality and anonymity.	Low

Risk Assessment for the University

Activity	Hazard	Description	Measures to Control Risk	Risk Rating
Dissemination of results regarding illicit activity	Reputational risk	A research into an illegal activity maybe seen as disreputable from the society or the respective industries.	The research objective is to understand the illicit behaviour and identify ways of eliminating it. Discussions with the relevant industry bodies reveal that the industry is interested about the research outcomes. We have obtained a letter of support from an industry body.	Low
Dissemination of results regarding illicit activity	Reputational Risk	A research into an illegal activity may lead to a police investigation.	The researcher will ensure that she respects the issue of anonymity and confidentiality in order to ensure that respondents are unidentifiable.	Low

Appendix B

Letters of Approval for Conducting Research with University Students

NATIONAL AND KAPODISTRIAN
UNIVERSITY OF ATHENS
DEPARTMENT OF ECONOMICS
CHAIRMAN

Professor I. C. Demetriou
Department of Economics
8 Pesmazoglou str.
Athens 10509, Greece
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Athens, 16/3/2012

To the Research Ethics Committee at Cranfield University

In my understanding, Ms Athina Dilmperi is planning to conduct a research study at the University of Athens for the project "Explaining Music Piracy In a Multiple Channel Framework Using an Extended Theory Of Planned Behaviour". Ms Dilmperi has informed me about the design of the study as well as the targeted population.

I hereby grant permission to Ms Dilmperi to gather her data using students from University of Athens and relevant resources. Please do not hesitate to contact me, if you have any questions.

Sincerely,

The Chairman
Professor Ioannis C. Demetriou, PhD Cantab.

RECTORATE

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P.O.Box 1591,
Thessaloniki, 540 06

March 5, 2012

To the Research Ethics Committee at Cranfield University

It is my understanding that Ms Athina Dilmperi is planning on conducting a research study at the University of Macedonia for the project "Explaining Music Piracy In a Multiple Channel Framework Using an Extended Theory Of Planned Behaviour". Ms Dilmperi has informed me of the design of the study as well as the targeted population.

I hereby support this effort for the successful implementation of this study and grant permission to Ms Dilmperi to gather data using students from the University of Macedonia. If you have any questions please do not hesitate to contact me.

Sincerely,

Professor Yannis A. Hajidimitriou
Rector of the University of Macedonia

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CITY UNIVERSITY LONDON

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London, EC1V 0HB
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Ms Athina Dilmperi
Cranfield School of Management
Cranfield
Bedfordshire
MK43 0AL

Via email only

14 August 2012

Dear Ms Dilmperi

Re: "Explaining Consumers' Behaviour Towards Music Acquisition in a Multiple Channel Framework Using an Extended Theory of Planned Behaviour"

I am writing to you to confirm that you have been granted the permission to conduct research and recruit students from the School of Arts and Social Sciences at City University London, on the project detailed above. The Senate Research Ethics Committee notes that the project has already had ethics approval from the School of Management, Cranfield University.

Should you have any further queries relating to this matter then please do not hesitate to contact me. On behalf of the Research Ethics Committee I do hope that the project meets with success and many thanks for your patience.

Kind regards

Anna Ramberg
Research Development Manager
Secretary to Research Ethics Committee

Email: Anna.Ramberg.1@city.ac.uk
Tel: 020 7040 3040

The University for business and the professions

Appendix C
Initial Questionnaire

Dear participant,

This is a survey about recorded music behaviour. The purpose of the study is to understand why people choose to acquire music between buying in a bricks-and-mortar store, from Internet music stores, by illegal street vendors, or by downloading illegally from various P2P sites. Your participation in this study will help contribute to the understanding of music acquisition behaviour.

Please understand that your participation is voluntary. If you don't want to take part, you do not have to give a reason and no pressure will be out on you to try and change your mind. You also have the right to withdraw from the research at any point you like. All information gathered will be used for academic analysis only. By participating in the survey you have granted your consent for the results to be used in our research. If you agree to take part, all the information you give us will be confidential and used for the purposes of this study only. The information will be used in a way that will not allow you to be identified individually. Data generated by the study will be retained in accordance with the University's policy.

Your cooperation will be highly appreciated.

Please answer all of the survey questions. This survey will take approximately 10 – 15 minutes ofyour time. There are no right or wrong answers- we just want to obtain your opinions. Think about the information on the sheet and ask me if you are not sure about anything.

If you have any queries or would like any further information about this questionnaire or the research project, please contact Athina Dilmperi on this email: athina.dilmperi@cranfield.ac.uk

Thank you for taking time to read this information and for completing the questionnaire.
Sincerely,

Athina Dilmperi   Dr. Tamira King

PhD Candidate   Lecturer

Cranfield School of Management   Cranfield Scholl of Management

Important Definitions

Bricks-and-mortar stores	a retail shop that sells recorded music and is located in a building (i.e. HMV). Music sold by newspapers or magazines are also included in this category.
Internet music stores	a Web-based service that sells copyrighted songs and albums for a fee (i.e. iTunes).
P2P sites	a method of file sharing over a network in which individual computers are linked via the Internet or a private network to share programs/files, often illegally (i.e. Demonoid.me).
Counterfeit CDs	illegal copies of music CDs.
Street Vendors	people who sell counterfeit CDs on the streets (i.e. around Camden).
Copyrighted songs	protected by copyright

Please provide the following background information:

1. Age: _____

2. Sex: Male _____

   Female _____

3. Are you working?

   _____ No
   _____ Part-time (>20 hours per week)
   _____ Full-time (32-40 hours per week)

4. What is your annual household income from all sources before taxes?
   (Students, who don't work, if single, please report your parents' income.)

   ____ less than £4,999
   ____ from £5,000 to £6,999
   ____ from £7,000 to £8,999
   ____ from £9,000 to £10,999
   ____ from £11,000 to £12,999
   ____ more £13,000 to £14,999
   ____ from £15,000 to £19,999
   ____ from £20,000 to £29,999
   ____ from £30,000 to £39,999
   ____ from £40,000 to £49,999
   ____ more than £50,000

5. Which music genres do you enjoy to listen to?
   (please select as much as you like)
   _____ pop
   _____ rock
   _____ electronic
   _____ jazz
   _____ world[7]
   _____ classical
   _____ other, please specify (list more than one if necessary)
   _____
   _____

---

[7] Music from cultures other than those of Western Europe and English speaking North America.

6. During the last five years I have obtained music from:
(please select all that apply)

Bricks-and-mortar Stores	Illegal Street Vendors	Internet music shops	P2P sites

7. What is the number of **copyrighted CDs** you have purchased during the last month from **bricks-and-mortar stores**?

0	1	2	3	More than 4

8. What is the number of **counterfeit CDs** you have purchased during last month from **street vendors**?

0	1	2	3	More than 4

9. What is the number of **MP3 songs** you downloaded during last month from **Internet music shops**?

0	1-10	11-20	21-30	More than 30

10. What is the number of **MP3 songs** you downloaded during last month from **illegal P2P sites**?

0	1-50	51-100	101-150	More than 151

The following set of questions relate to the attitude towards obtaining music from various channels.

11. Overall, my attitude towards buying music from bricks-and-mortar stores is:
(please, select the number that best describes your opinion)

Bad	-3	-2	-1	0	1	2	3	Good
Harmful	-3	-2	-1	0	1	2	3	Beneficial
Unfavourable	-3	-2	-1	0	1	2	3	Favourable
Foolish	-3	-2	-1	0	1	2	3	Wise

12. Overall, my attitude towards buying music from illegal street vendors:
(please, select the number that best describes your opinion)

Bad	-3	-2	-1	0	1	2	3	Good
Harmful	-3	-2	-1	0	1	2	3	Beneficial
Unfavourable	-3	-2	-1	0	1	2	3	Favourable
Foolish	-3	-2	-1	0	1	2	3	Wise

13. Overall, my attitude towards buying music from Internet music shops:
(please, select the number that best describes your opinion)

Bad	-3	-2	-1	0	1	2	3	Good
Harmful	-3	-2	-1	0	1	2	3	Beneficial
Unfavourable	-3	-2	-1	0	1	2	3	Favourable
Foolish	-3	-2	-1	0	1	2	3	Wise

14. Overall, my attitude towards downloading music from P2P sites:
(please, select the number that best describes your opinion)

Bad	-3	-2	-1	0	1	2	3	Good
Harmful	-3	-2	-1	0	1	2	3	Beneficial
Unfavourable	-3	-2	-1	0	1	2	3	Favourable
Foolish	-3	-2	-1	0	1	2	3	Wise

The following set of questions relate to the opinions of significant others regarding obtaining music.

15. My friends think that buying CDs from bricks-and-mortar stores is a good idea.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
16. My friends' opinion has strong influence on me.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
17. My family members think that buying CDs from bricks-and-mortar stores is a good idea.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
18. My families' opinion has strong influence on me.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
19. Musicians who I respect would expect me to buy from bricks-and-mortar stores.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
20. The opinion of the musicians I respect has strong influence on me.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
21. My friends think that buying counterfeit CDs from street vendors is a good idea.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
22. My family members think that buying counterfeit CDs from street vendors is a good idea.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
23. Musicians who I respect would expect me to buy counterfeit CDs from street vendors.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
24. My friends think that downloading from Internet music stores is a good idea.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
25. My family members think downloading from Internet music stores is a good idea.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
26. Musicians who I respect would expect me to download from Internet music stores.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
27. My friends think that downloading from P2P sites is a good idea.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
28. My family members think downloading from P2P sites is a good idea.								

Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

29. Musicians who I respect would expect me to download from P2P sites.

Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

The following set of questions is related to your ability to acquire music.

30. Buying CDs from bricks-and-mortar stores is entirely within my control.

Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

31. I can find easily bricks-and-mortar stores to buy the music CDs I want.

Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

32. I know many bricks-and-mortar stores that sell the music CDs I want.

Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

33. Buying counterfeit CDs from street vendors is entirely within my control.

Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

34. I can find easily street vendors to buy counterfeit CDs I want.

Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

35. I know many street vendors that sell counterfeit music CDs.

Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

36. Buying music from Internet music stores is entirely within my control.

Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

37. I can find easily Internet music stores to buy the music I want.

Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

38. I know many Internet music stores that sell music.

Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

39. Downloading music from P2P sites is entirely within my control.

Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

40. I can find easily P2P sites to download the music I want.

Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

41. I know many P2P sites that offer music for people to download.

Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

The following questions relate to your ideas about the quality of online music.

42. Sound quality is an important factor when deciding to obtain music.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
43. The music files provided by Internet music stores have better quality than those available from P2P sites.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
44. CDs from bricks-and-mortar stores have better sound quality than counterfeit CDs.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
45. CDs from bricks-and-mortar stores have better sound quality than MP3 files from P2P sites.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
46. If MP3 music files were of a lesser quality, I would be more likely to buy a CD from a bricks-and-mortar store than download it from an Intenet Music Store (i.e. iTunes).								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

The following set of questions relates to your ideas about music piracy.

47. Downloading MP3 files from P2P sites saves me a lot of money.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
48. Buying counterfeit CDs from street vendors saves me a lot of money.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
49. Downloading MP3 files from P2P sites saves me a lot of time.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
50. Buying counterfeit CDs from street vendors saves me a lot of time.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
51. If I pirate music, I would possess a larger music collection.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
52. If I pirate music, it would be easier to obtain rare songs/albums.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

The following set of questions relates to your ideas about music piracy.

53. I believe that digital MP3 files are overpriced.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
54. I believe that music CD's are overpriced.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
55. A rise in the price of music CDs would lead me to engage more in music piracy.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
56. A rise in the price of MP3 files from Internet music stores would lead me to engage in more piracy.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
57. I compare prices for the best value of money, when I buy music.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

The following set of questions relates to your ideas of punishment when performing music piracy.

58. It is very likely that someone who downloads illegally MP3 files from P2P sites would be caught and prosecuted.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
59. It is very likely that someone who buys counterfeit CDs from street vendors would be caught and prosecuted.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
60. It is very easy for law enforcement authorities to identify owners of illegal MP3 files.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
61. It is very easy for law enforcement authorities to identify buyers of counterfeit CDs.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
62. I do not think that I would get caught, if I buy counterfeit CDs.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
63. I do not think that I would get caught, if I download from P2P sites.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

The following set of questions relates to your behaviour concerning your favourite artists/bands.

64. I like to discuss with my friends about the activities of my favourite singer/band with my friends.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
65. It is really a wonderful experience attending a concert of my favourite singer/band.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
66. I like to have a conversation with those who also like my favourite singer/band.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
67. It is very interesting to know the daily life of my favourite singer/band.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
68. I like to watch or hear the news about my favourite singer/band.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree
69. I like to follow the news on Twitter and/or Facebook of my favourite singer/band.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

The following set of questions relates to your intention to acquire music.

70. I will buy music CDs from a bricks-and-mortar store for myself.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

71. I will buy music CDs from a bricks-and-mortar store for my friends and family.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

72. I will recommend my friends and family to buy music CDs form bricks-and-mortar stores.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

73. I will buy counterfeit CDs from street vendors for myself.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

74. I will buy counterfeit CDs from street vendors for my friends and family.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

75. I will recommend my friends and family to buy counterfeit CDs from street vendors.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

76. I will buy music from Internet music stores for myself.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

77. I will buy music from Internet music stores for my friends and family.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

78. I will recommend my friends and family to buy music from Internet music stores.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

79. I will download music from P2P sites for myself.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

80. I will download music from P2P sites for my friends and family.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

81. I will recommend my friends and family to download music from P2P sites.								
Strongly Disagree	-3	-2	-1	0	1	2	3	Strongly Agree

Many thanks for agreeing to participate in my research project. The project has to be completed in part of fulfilment of my degree programme and so your assistance is much appreciated.

Information collected in this survey will be collected for the purpose of research only and will be stored in an anonymous format, which does not identify any person.

If you have any queries or would like any further information about this questionnaire or the research project, please contact Athina Dilmperi on this email: athina.dilmperi@cranfield.ac.uk

Appendix D
International Federation of Phonographic Industry Letter of Support

N. Psychico, March 13th 2012

To: Whom it may concern

Association of Greek Producers of Phonograms is the Hellenic National Group of the International Federation of the Phonographic Industry – IFPI, that represents the recording industry worldwide with some 1400 members in 66 countries and national groups in 45 countries.

IFPI's mission is to promote the value of recorded music, to safeguard the rights of record producers and to facilitate the expansion of the commercial uses of recorded music.

In the course of our activities we often cooperate with researchers (journalists, students, post-graduates, etc) that are interested about the music industry, the way it operates and the problems it faces in local or the international market.

Ms Athina Dilmperi BSc (Hons) MSc, a PhD Candidate at Cranfield University, School of Management, contacted us recently and presented us with a questionnaire aiming at the investigation of the phenomenon of music piracy and the identification of the reasons why people buy music products from the various music channels.

It is my strong belief that Ms Dilmperi's research on consumer behavior regarding the music industry is of outmost importance for the very future of the industry itself and judging from the compiling quality of the presented questionnaire, I am confident that the conclusions of her dissertation will be extremely useful.

Nick Stefanakis

Technical Manager
IFPI Greece

Cranfield UNIVERSITY
School of Management

**Research on Consumer Behaviour Regarding Music Acquisition
from Various Music Channels**

Dear participant,

This is a survey about recorded music behaviour. The purpose of the study is to examine which channels consumers choose in order to acquire music.

Please understand that your participation is voluntary. If you don't want to take part, you do not have to give a reason and no pressure will be out on you to try and change your mind. You also have the right to withdraw from the research at any point you like. All information gathered will be used for academic analysis only. By participating in the survey you have granted your consent for the results to be used in our research. If you agree to take part, all the information you give us will be confidential and used for the purposes of this study only. The information will be used in a way that will not allow you to be identified individually. Data generated by the study will be retained in accordance with the University's policy. Your cooperation will be highly appreciated.

Please answer all of the survey questions. This survey will take approximately 10 – 15 minutes of your time. There are no right or wrong answers – we just want to obtain your opinions.

Thank you for your time.

Sincerely,

Athina Dilmperi   Dr. Tamira King

PhD Candidate   Lecturer

Cranfield School of Management   Cranfield School of Management

Important Definitions

Bricks-and-mortar stores	a retail shop that sells recorded music and is located in a building (e.g. HMV, supermarkets, etc.). Music CDs included in newspapers/ magazines are also included in this category.
Internet music stores	a Web-based service that sells copyrighted songs and albums for a fee (e.g. iTunes).
P2P sites	a method of file sharing over a network in which individual computers are linked via the Internet or a private network to share programs/files, often illegally (e.g. Demonoid.me).
Counterfeit CDs	illegal copies of music CDs.
Street Vendors	people who sell counterfeit CDs on the streets (e.g. around Camden).
Copyrighted songs	protected by copyright

Please provide the following background information:

1. Age: _____

2. Sex: Male   _____

               Female _____

3. Are you working?

   _____ No
   _____ Part-time (>20 hours per week)
   _____ Full-time (32-40 hours per week)

4. What is your annual income from all sources before taxes?
(Students who do not work; please report the income you receive from your funding/parents/partners/friends)

   _____ less than £4,999
   _____ from £5,000 to £6,999
   _____ from £7,000 to £8,999
   _____ from £9,000 to £10,999
   _____ from £11,000 to £12,999
   _____ more £13,000 to £14,999
   _____ from £15,000 to £19,999
   _____ from £20,000 to £29,999
   _____ from £30,000 to £39,999
   _____ from £40,000 to £49,999
   _____ more than £50,000

5. Which music genres do you enjoy to listen to?
     (please select as much as you like)
   _____ pop
   _____ rock
   _____ electronic
   _____ jazz
   _____ world[8]
   _____ classical
   _____ other, please specify (list more than one if necessary)
   _____
   _____
   _____

---

[8] Music from cultures other than those of Western Europe and English speaking North America.

6. During the last five years I have obtained music from:
    (please select all that apply)

Bricks-and-mortar Stores	Illegal Street Vendors	Internet music shops	P2P sites

7. Which of the following do you think you are most likely to use when next obtaining music?
    (please select only one)

Bricks-and-mortar Stores	Illegal Street Vendors	Internet music shops	P2P sites

8. What is the number of **copyrighted CDs** you have purchased during the last month from **bricks-and-mortar stores**?

0	1	2	3	More than 4

9. What is the number of **counterfeit CDs** you have purchased during last month from **street vendors**?

0	1	2	3	More than 4

10. What is the number of **MP3 songs** you downloaded during last month from **Internet music shops**?

0	1-10	11-20	21-30	More than 30

11. What is the number of **MP3 songs** you downloaded during last month from **illegal P2P sites**?

0	1-50	51-100	101-150	More than 151

To what extent do you agree with the following statements?

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
12. Buying CDs from bricks-and-mortar stores is a good idea.	☐	☐	☐	☐	☐	☐	☐
13. Buying CDs from bricks-and-mortar stores is a wise idea.	☐	☐	☐	☐	☐	☐	☐
14. I like the idea of buying CDs from bricks-and-mortar stores.	☐	☐	☐	☐	☐	☐	☐
15. Buying CDs from bricks-and-mortar stores would be pleasant.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
16. Buying CDs from illegal street vendors is a good idea.	☐	☐	☐	☐	☐	☐	☐
17. Buying CDs from illegal street vendors is a wise idea.	☐	☐	☐	☐	☐	☐	☐
18. I like the idea of buying CDs from illegal street vendors.	☐	☐	☐	☐	☐	☐	☐
19. Buying CDs from illegal street vendors would be pleasant.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
20. Buying music from Internet music shops is a good idea.	☐	☐	☐	☐	☐	☐	☐
21. Buying music from Internet music shops is a wise idea.	☐	☐	☐	☐	☐	☐	☐
22. I like the idea of buying music from Internet music shops.	☐	☐	☐	☐	☐	☐	☐
23. Buying music from Internet music shops would be pleasant.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
24. Downloading music from P2P sites is a good idea.	☐	☐	☐	☐	☐	☐	☐
25. Downloading music from P2P sites is a wise idea.	☐	☐	☐	☐	☐	☐	☐
26. I like the idea of downloading music from P2P sites.	☐	☐	☐	☐	☐	☐	☐
27. Downloading music from P2P sites would be pleasant.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
28. My friends think that buying CDs from bricks-and-mortar stores is a good idea.	☐	☐	☐	☐	☐	☐	☐
29. My family members think that buying CDs from bricks-and-mortar stores is a good idea.	☐	☐	☐	☐	☐	☐	☐
30. If I buy music CDs from bricks-and-mortar stores, most people who are important to me would approve.	☐	☐	☐	☐	☐	☐	☐
31. Most people who influence my behaviour think that I should buy music CDs from bricks-and-mortar stores.	☐	☐	☐	☐	☐	☐	☐
32. My friends think that buying counterfeit CDs from street vendors is a good idea.	☐	☐	☐	☐	☐	☐	☐
33. My family members think that buying counterfeit CDs from street vendors is a good idea.	☐	☐	☐	☐	☐	☐	☐
34. If I buy music CDs from street vendors, most people who are important to me would not approve.	☐	☐	☐	☐	☐	☐	☐
35. Most people who influence my behaviour think that I should not buy music CDs from street vendors.	☐	☐	☐	☐	☐	☐	☐
36. My friends think that downloading from Internet music stores is a good idea.	☐	☐	☐	☐	☐	☐	☐
37. My family members think downloading from Internet music stores is a good idea.	☐	☐	☐	☐	☐	☐	☐
38. If I buy MP3 files from Internet music shops, most people who are important to me would approve.	☐	☐	☐	☐	☐	☐	☐
39. Most people who influence my behaviour think that I should buy MP3 files from Internet music shops.	☐	☐	☐	☐	☐	☐	☐
40. My friends think that downloading from P2P sites is a good idea.	☐	☐	☐	☐	☐	☐	☐
41. My family members think downloading from P2P sites is a good idea.	☐	☐	☐	☐	☐	☐	☐
42. If I download music from P2P sites, most people who are important to me would not approve.	☐	☐	☐	☐	☐	☐	☐
43. Most people who influence my behaviour think that I should not download music from P2P sites.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
44. I have the resources, knowledge and ability to buy CDs from bricks-and-mortar stores.	☐	☐	☐	☐	☐	☐	☐
45. I can easily find bricks-and-mortar stores to buy the music CDs I want.	☐	☐	☐	☐	☐	☐	☐
46. I know many bricks-and-mortar stores that sell the music CDs I want.	☐	☐	☐	☐	☐	☐	☐
47. I have the resources, knowledge and ability to buy counterfeit CDs from street vendors.	☐	☐	☐	☐	☐	☐	☐
48. I can easily find street vendors to buy counterfeit CDs I want.	☐	☐	☐	☐	☐	☐	☐
49. I know many street vendors that sell counterfeit music CDs I want.	☐	☐	☐	☐	☐	☐	☐
50. I have the resources, knowledge and ability to buy music from Internet music stores.	☐	☐	☐	☐	☐	☐	☐
51. I can easily find Internet music stores to buy the music I want.	☐	☐	☐	☐	☐	☐	☐
52. I know many Internet music stores that sell music I want.	☐	☐	☐	☐	☐	☐	☐
53. I have the resources, knowledge and ability to download music from P2P sites.	☐	☐	☐	☐	☐	☐	☐
54. I can easily find P2P sites to download the music I want.	☐	☐	☐	☐	☐	☐	☐
55. I know many P2P sites that offer music for people to download.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
56. Sound quality is an important factor when deciding to obtain music.	☐	☐	☐	☐	☐	☐	☐
57. The music files provided by Internet music stores (e.g. iTunes) have better sound quality than those available from P2P sites.	☐	☐	☐	☐	☐	☐	☐
58. CDs from bricks-and-mortar stores have better sound quality than counterfeit CDs.	☐	☐	☐	☐	☐	☐	☐
59. CDs from bricks-and-mortar stores have better sound quality than MP3 files from P2P sites.	☐	☐	☐	☐	☐	☐	☐
60. If MP3 music files from Internet music stores (e.g. iTunes) were of a lesser sound quality, I would be more likely to buy a CD from bricks-and-mortar stores.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
61. Downloading MP3 files from P2P sites saves me a lot of money.	☐	☐	☐	☐	☐	☐	☐
62. Buying counterfeit CDs from street vendors saves me a lot of money.	☐	☐	☐	☐	☐	☐	☐
63. Downloading MP3 files from P2P sites saves me a lot of time.	☐	☐	☐	☐	☐	☐	☐
64. Buying counterfeit CDs from street vendors saves me a lot of time.	☐	☐	☐	☐	☐	☐	☐
65. If I pirate music, I would possess a larger music collection.	☐	☐	☐	☐	☐	☐	☐
66. If I pirate music, it would be easier to obtain rare songs/albums.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
67. I believe that digital MP3 files are overpriced.	☐	☐	☐	☐	☐	☐	☐
68. I believe that music CD's are overpriced.	☐	☐	☐	☐	☐	☐	☐
69. A rise in the price of music CDs would lead me to engage more in music piracy.	☐	☐	☐	☐	☐	☐	☐
70. A rise in the price of MP3 files from Internet music stores would lead me to engage more in music piracy.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
71. It is very likely that someone who downloads illegally MP3 files from P2P sites would be caught and prosecuted.	☐	☐	☐	☐	☐	☐	☐
72. It is very likely that someone who buys counterfeit CDs from street vendors would be caught and prosecuted.	☐	☐	☐	☐	☐	☐	☐
73. It is very easy for law enforcement authorities to identify owners of illegal MP3 files.	☐	☐	☐	☐	☐	☐	☐
74. It is very easy for law enforcement authorities to identify buyers of counterfeit CDs.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
75. In the future, I will buy music CDs from bricks-and-mortar stores for myself.	☐	☐	☐	☐	☐	☐	☐
76. In the future, I will buy music CDs from bricks-and-mortar stores for my friends and family.	☐	☐	☐	☐	☐	☐	☐
77. I will recommend my friends and family to buy music CDs form bricks-and-mortar stores.	☐	☐	☐	☐	☐	☐	☐
78. In the future, I will buy counterfeit CDs from street vendors for myself.	☐	☐	☐	☐	☐	☐	☐
79. In the future, I will buy counterfeit CDs from street vendors for my friends and family.	☐	☐	☐	☐	☐	☐	☐
80. I will recommend my friends and family to buy counterfeit CDs from street vendors.	☐	☐	☐	☐	☐	☐	☐
81. In the future, I will buy music from Internet music stores for myself.	☐	☐	☐	☐	☐	☐	☐
82. In the future, I will buy music from Internet music stores for my friends and family.	☐	☐	☐	☐	☐	☐	☐
83. I will recommend my friends and family to buy music from Internet music stores.	☐	☐	☐	☐	☐	☐	☐
84. In the future, I will download music from P2P sites for myself.	☐	☐	☐	☐	☐	☐	☐
85. In the future, I will download music from P2P sites for my friends and family.	☐	☐	☐	☐	☐	☐	☐
86. I will recommend my friends and family to download music from P2P sites.	☐	☐	☐	☐	☐	☐	☐

Please name your favourite singer/band if any: _____
The following set of questions relate to your favourite singer/band:

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
87. I like to discuss with my friends the activities of my favourite singer/band.	☐	☐	☐	☐	☐	☐	☐
88. Attending concerts of my favourite singer/band is wonderful.	☐	☐	☐	☐	☐	☐	☐
89. I like to talk with those who also like my favourite singer/band.	☐	☐	☐	☐	☐	☐	☐
90. It is very interesting to know the daily life of my favourite singer/band.	☐	☐	☐	☐	☐	☐	☐
91. I like to watch or hear the news about my favourite singer/band.	☐	☐	☐	☐	☐	☐	☐
92. I like to follow the news on Twitter and/or Facebook about my favourite singer/band.	☐	☐	☐	☐	☐	☐	☐

Many thanks for agreeing to participate in my research project. Information collected in this survey will be collected for the purpose of research only and will be stored in an anonymous format, which does not identify any person.

If you have any queries or would like any further information about this questionnaire or the research project, please contact Athina Dilmperi on this email: athina.dilmperi@cranfield.ac.uk

Appendix F

The Final Questionnaire – Version 2

Cranfield UNIVERSITY
School of Management

**Research on Consumer Behaviour Regarding Music Acquisition
from Various Music Channels**

Dear participant,

This is a survey about recorded music behaviour. The purpose of the study is to examine which channels consumers choose in order to acquire music.

Please understand that your participation is voluntary. If you don't want to take part, you do not have to give a reason and no pressure will be out on you to try and change your mind. You also have the right to withdraw from the research at any point you like. All information gathered will be used for academic analysis only. By participating in the survey you have granted your consent for the results to be used in our research. If you agree to take part, all the information you give us will be confidential and used for the purposes of this study only. The information will be used in a way that will not allow you to be identified individually. Data generated by the study will be retained in accordance with the University's policy. Your cooperation will be highly appreciated.

Please answer all of the survey questions. This survey will take approximately 10 – 15 minutes of your time. There are no right or wrong answers – we just want to obtain your opinions.

Thank you for your time.

Sincerely,

Athina Dilmperi   Dr. Tamira King

PhD Candidate   Lecturer

Cranfield School of Management   Cranfield School of Management

Important Definitions

Bricks-and-mortar stores	a retail shop that sells recorded music and is located in a building (e.g. HMV, supermarkets, etc.). Music CDs included in newspapers/magazines are also included in this category.
Internet music stores	a Web-based service that sells copyrighted songs and albums for a fee (e.g. iTunes).
P2P sites	a method of file sharing over a network in which individual computers are linked via the Internet or a private network to share programs/files, often illegally (e.g. Demonoid.me).
Counterfeit CDs	illegal copies of music CDs.
Street Vendors	people who sell counterfeit CDs on the streets (e.g. around Camden).
Copyrighted songs	protected by copyright

To what extent do you agree with the following statements?

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1. In the future, I will buy music CDs from bricks and mortar stores for myself.	☐	☐	☐	☐	☐	☐	☐
2. In the future, I will buy music CDs from bricks and mortar stores for my friends and family.	☐	☐	☐	☐	☐	☐	☐
3. I will recommend my friends and family to buy music CDs form bricks and mortar stores.	☐	☐	☐	☐	☐	☐	☐
4. In the future, I will buy counterfeit CDs from street vendors for myself.	☐	☐	☐	☐	☐	☐	☐
5. In the future, I will buy counterfeit CDs from street vendors for my friends and family.	☐	☐	☐	☐	☐	☐	☐
6. I will recommend my friends and family to buy counterfeit CDs from street vendors.	☐	☐	☐	☐	☐	☐	☐
7. In the future, I will buy music from Internet music stores for myself.	☐	☐	☐	☐	☐	☐	☐
8. In the future, I will buy music from Internet music stores for my friends and family.	☐	☐	☐	☐	☐	☐	☐
9. I will recommend my friends and family to buy music from Internet music stores.	☐	☐	☐	☐	☐	☐	☐
10. In the future, I will download music from P2P sites for myself.	☐	☐	☐	☐	☐	☐	☐
11. In the future, I will download music from P2P sites for my friends and family.	☐	☐	☐	☐	☐	☐	☐
12. I will recommend my friends and family to download music from P2P sites.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
13. Buying CDs from bricks and mortar stores is a good idea.	☐	☐	☐	☐	☐	☐	☐
14. Buying CDs from bricks and mortar stores is a wise idea.	☐	☐	☐	☐	☐	☐	☐
15. I like the idea of buying CDs from bricks and mortar stores.	☐	☐	☐	☐	☐	☐	☐
16. Buying CDs from bricks and mortar stores would be pleasant.	☐	☐	☐	☐	☐	☐	☐
17. Buying CDs from illegal street vendors is a good idea.	☐	☐	☐	☐	☐	☐	☐
18. Buying CDs from illegal street vendors is a wise idea.	☐	☐	☐	☐	☐	☐	☐
19. I like the idea of buying CDs from illegal street vendors.	☐	☐	☐	☐	☐	☐	☐
20. Buying CDs from illegal street vendors would be pleasant.	☐	☐	☐	☐	☐	☐	☐
21. Buying music from Internet music shops is a good idea.	☐	☐	☐	☐	☐	☐	☐
22. Buying music from Internet music shops is a wise idea.	☐	☐	☐	☐	☐	☐	☐
23. I like the idea of buying music from Internet music shops.	☐	☐	☐	☐	☐	☐	☐
24. Buying music from Internet music shops would be pleasant.	☐	☐	☐	☐	☐	☐	☐
25. Downloading music from P2P sites is a good idea.	☐	☐	☐	☐	☐	☐	☐
26. Downloading music from P2P sites is a wise idea.	☐	☐	☐	☐	☐	☐	☐
27. I like the idea of downloading music from P2P sites.	☐	☐	☐	☐	☐	☐	☐
28. Downloading music from P2P sites would be pleasant.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
29. My friends think that buying CDs from bricks and mortar stores is a good idea.	☐	☐	☐	☐	☐	☐	☐
30. My family members think that buying CDs from bricks and mortar stores is a good idea.	☐	☐	☐	☐	☐	☐	☐
31. If I buy music CDs from bricks and mortar stores, most people who are important to me would approve.	☐	☐	☐	☐	☐	☐	☐
32. Most people who influence my behaviour think that I should buy music CDs from bricks and mortar stores.	☐	☐	☐	☐	☐	☐	☐
33. My friends think that buying counterfeit CDs from street vendors is a good idea.	☐	☐	☐	☐	☐	☐	☐
34. My family members think that buying counterfeit CDs from street vendors is a good idea.	☐	☐	☐	☐	☐	☐	☐
35. If I buy music CDs from street vendors, most people who are important to me would not approve.	☐	☐	☐	☐	☐	☐	☐
36. Most people who influence my behaviour think that I should not buy music CDs from street vendors.	☐	☐	☐	☐	☐	☐	☐
37. My friends think that downloading from Internet music stores is a good idea.	☐	☐	☐	☐	☐	☐	☐
38. My family members think downloading from Internet music stores is a good idea.	☐	☐	☐	☐	☐	☐	☐
39. If I buy MP3 files from Internet music shops, most people who are important to me would approve.	☐	☐	☐	☐	☐	☐	☐
40. Most people who influence my behaviour think that I should buy MP3 files from Internet music shops.	☐	☐	☐	☐	☐	☐	☐
41. My friends think that downloading from P2P sites is a good idea.	☐	☐	☐	☐	☐	☐	☐
42. My family members think downloading from P2P sites is a good idea.	☐	☐	☐	☐	☐	☐	☐
43. If I download music from P2P sites, most people who are important to me would not approve.	☐	☐	☐	☐	☐	☐	☐
44. Most people who influence my behaviour think that I should not download music from P2P sites.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
45. I have the resources, knowledge and ability to buy CDs from bricks and mortar stores.	☐	☐	☐	☐	☐	☐	☐
46. I can easily find bricks and mortar stores to buy the music CDs I want.	☐	☐	☐	☐	☐	☐	☐
47. I know many bricks and mortar stores that sell the music CDs I want.	☐	☐	☐	☐	☐	☐	☐
48. I have the resources, knowledge and ability to buy counterfeit CDs from street vendors.	☐	☐	☐	☐	☐	☐	☐
49. I can easily find street vendors to buy counterfeit CDs I want.	☐	☐	☐	☐	☐	☐	☐
50. I know many street vendors that sell counterfeit music CDs I want.	☐	☐	☐	☐	☐	☐	☐
51. I have the resources, knowledge and ability to buy music from Internet music stores.	☐	☐	☐	☐	☐	☐	☐
52. I can easily find Internet music stores to buy the music I want.	☐	☐	☐	☐	☐	☐	☐
53. I know many Internet music stores that sell the music I want.	☐	☐	☐	☐	☐	☐	☐
54. I have the resources, knowledge and ability to download music from P2P sites.	☐	☐	☐	☐	☐	☐	☐
55. I can easily find P2P sites to download the music I want.	☐	☐	☐	☐	☐	☐	☐
56. I know many P2P sites that offer music for people to download.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
57. Sound quality is an important factor when deciding to obtain music.	☐	☐	☐	☐	☐	☐	☐
58. The music files provided by Internet music stores (e.g. iTunes) have better sound quality than those available from P2P sites.	☐	☐	☐	☐	☐	☐	☐
59. CDs from bricks and mortar stores have better sound quality than counterfeit CDs.	☐	☐	☐	☐	☐	☐	☐
60. CDs from bricks and mortar stores have better sound quality than MP3 files from P2P sites.	☐	☐	☐	☐	☐	☐	☐
61. If MP3 music files from Internet music stores (e.g. iTunes) were of a lesser sound quality, I would be more likely to buy a CD from bricks and mortar stores.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
62. Downloading MP3 files from P2P sites saves me a lot of money.	☐	☐	☐	☐	☐	☐	☐
63. Buying counterfeit CDs from street vendors saves me a lot of money.	☐	☐	☐	☐	☐	☐	☐
64. Downloading MP3 files from P2P sites saves me a lot of time.	☐	☐	☐	☐	☐	☐	☐
65. Buying counterfeit CDs from street vendors saves me a lot of time.	☐	☐	☐	☐	☐	☐	☐
66. If I pirate music, I would possess a larger music collection.	☐	☐	☐	☐	☐	☐	☐
67. If I pirate music, it would be easier to obtain rare songs/albums.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
68. I believe that digital MP3 files are overpriced.	☐	☐	☐	☐	☐	☐	☐
69. I believe that music CD's are overpriced.	☐	☐	☐	☐	☐	☐	☐
70. A rise in the price of music CDs would lead me to engage more in music piracy.	☐	☐	☐	☐	☐	☐	☐
71. A rise in the price of MP3 files from Internet music stores would lead me to engage more in music piracy.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
72. It is very likely that someone who downloads illegally MP3 files from P2P sites would be caught and prosecuted.	☐	☐	☐	☐	☐	☐	☐
73. It is very likely that someone who buys counterfeit CDs from street vendors would be caught and prosecuted.	☐	☐	☐	☐	☐	☐	☐
74. It is very easy for law enforcement authorities to identify owners of illegal MP3 files.	☐	☐	☐	☐	☐	☐	☐
75. It is very easy for law enforcement authorities to identify buyers of counterfeit CDs.	☐	☐	☐	☐	☐	☐	☐

Please name your favourite singer/band if any: _____

The following set of questions relate to your favourite singer/band:

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
76. I like to discuss with my friends the activities of my favourite singer/band.	☐	☐	☐	☐	☐	☐	☐
77. Attending concerts of my favourite singer/band is wonderful.	☐	☐	☐	☐	☐	☐	☐
78. I like to talk with those who also like my favourite singer/band.	☐	☐	☐	☐	☐	☐	☐
79. It is very interesting to know the daily life of my favourite singer/band.	☐	☐	☐	☐	☐	☐	☐
80. I like to watch or hear the news about my favourite singer/band.	☐	☐	☐	☐	☐	☐	☐
81. I like to follow the news on Twitter and/or Facebook about my favourite singer/band.	☐	☐	☐	☐	☐	☐	☐

82. During the last five years I have obtained music from:
(please select all that apply)

Bricks and Mortar Stores	Illegal Street Vendors	Internet music shops	P2P sites

83. Which of the following do you think you are most likely to use when next obtaining music?

(please select only one)

Bricks and Mortar Stores	Illegal Street Vendors	Internet music shops	P2P sites

84. What is the number of **copyrighted CDs** you have purchased during the last month from **bricks-and-mortar stores**?

0	1	2	3	More than 4

85. What is the number of **counterfeit CDs** you have purchased during last month from **street vendors**?

0	1	2	3	More than 4

86. What is the number of **MP3 songs** you downloaded during last month from **Internet music shops**?

0	1-10	11-20	21-30	More than 30

87. What is the number of **MP3 songs** you downloaded during last month from **illegal P2P sites**?

0	1-50	51-100	101-150	More than 151

Please provide the following background information:

88. Age: _____

89. Sex: Male   _____

              Female _____

90. Are you working?

   _____ No
   _____ Part-time (>20 hours per week)
   _____ Full-time (32-40 hours per week)

91. What is your annual income from all sources before taxes?
(Students who do not work; please report the income you receive from your funding/parents/partners/friends)

   ____ less than £4,999
   ____ from £5,000 to £6,999
   ____ from £7,000 to £8,999
   ____ from £9,000 to £10,999
   ____ from £11,000 to £12,999
   ____ more £13,000 to £14,999
   ____ from £15,000 to £19,999
   ____ from £20,000 to £29,999
   ____ from £30,000 to £39,999
   ____ from £40,000 to £49,999
   ____ more than £50,000

92. Which music genres do you enjoy to listen to?
     (please select as much as you like)
   _____ pop
   _____ rock
   _____ electronic
   _____ jazz
   _____ world[9]
   _____ classical
   _____ other, please specify (list more than one if necessary)
   _____
   _____

Many thanks for agreeing to participate in my research project. Information collected in this survey will be collected for the purpose of research only and will be stored in an anonymous format, which does not identify any person.
If you have any queries or would like any further information about this questionnaire or the research project, please contact Athina Dilmperi on this email: athina.dilmperi@cranfield.ac.uk

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[9] Music from cultures other than those of Western Europe and English speaking North America.

Appendix G

Results from the Outlier Analysis

303

304
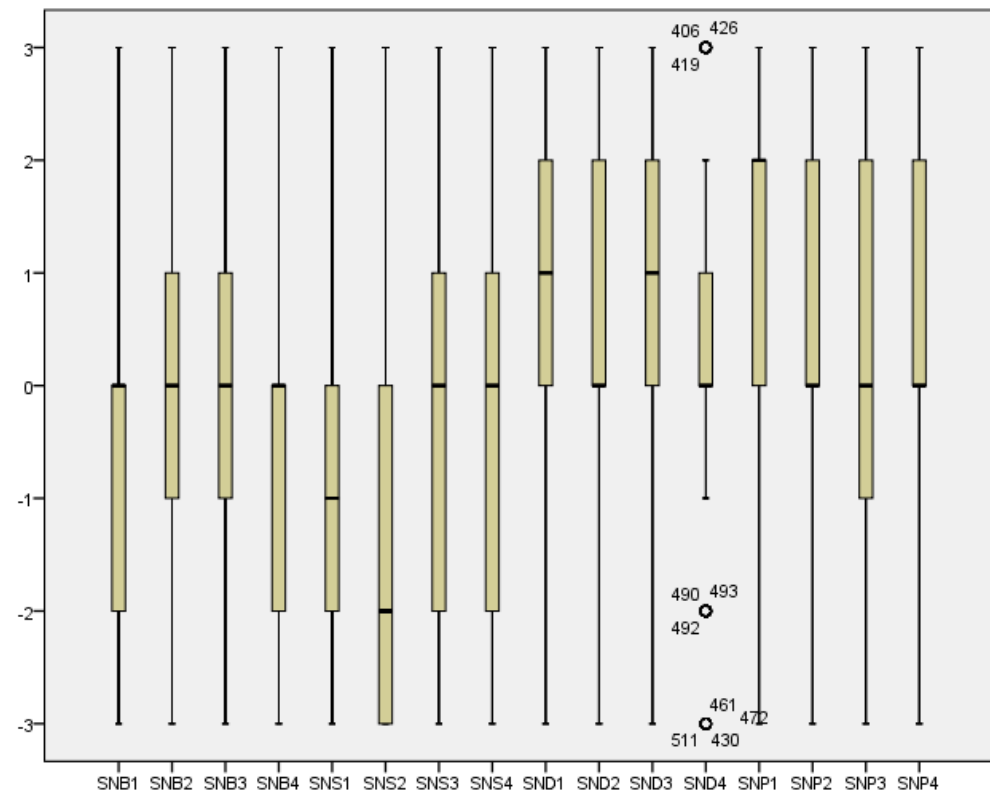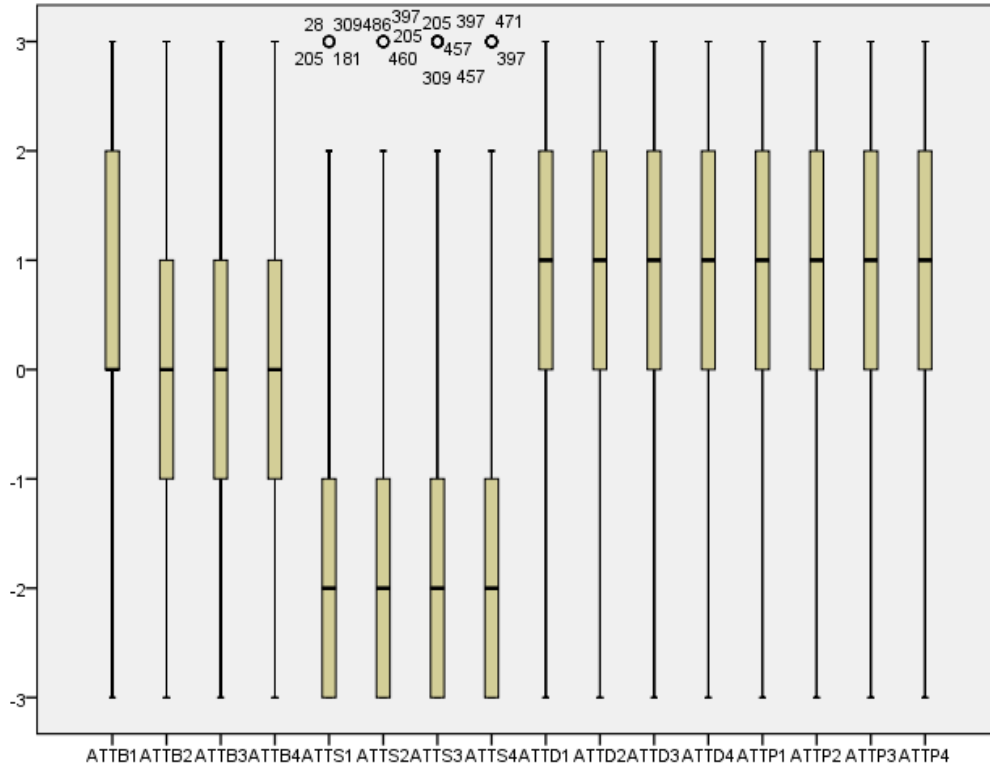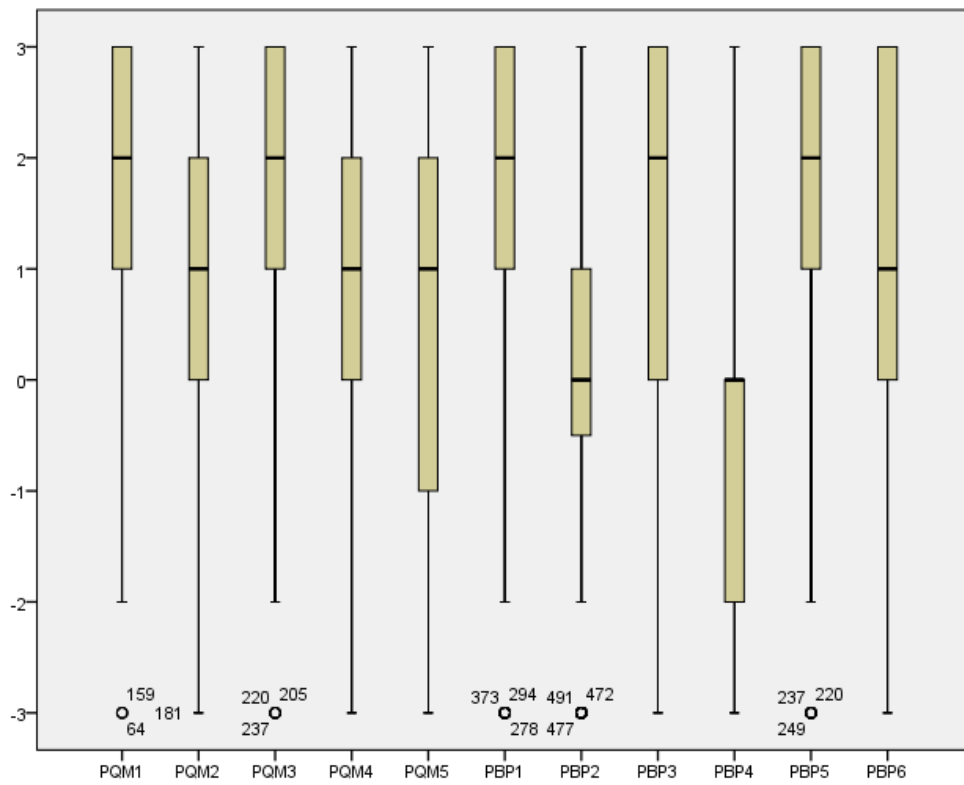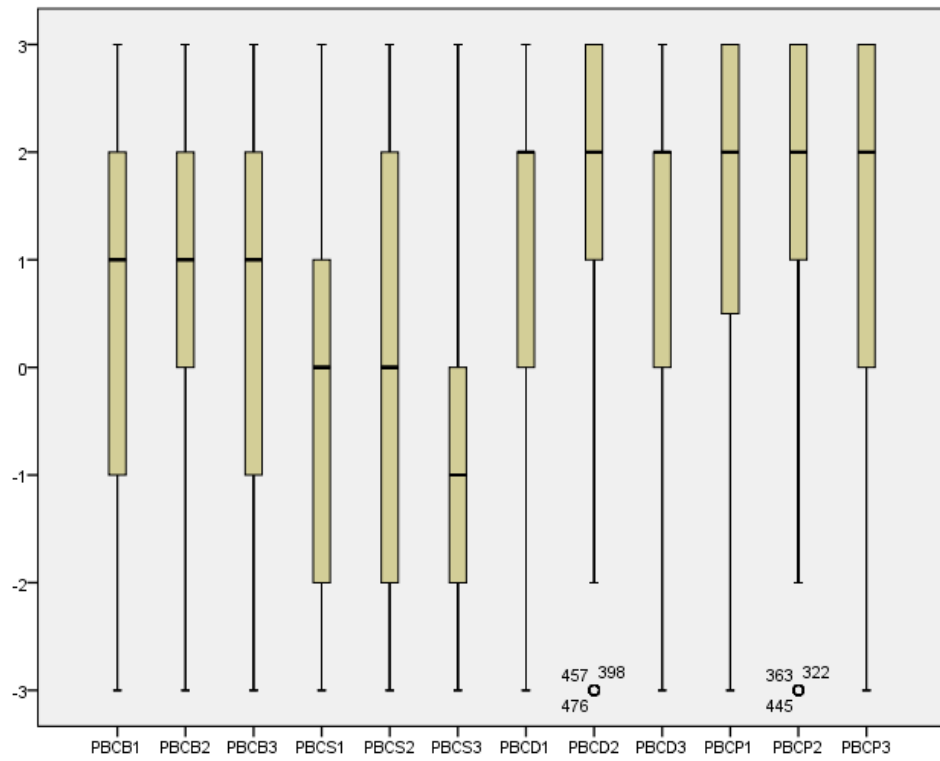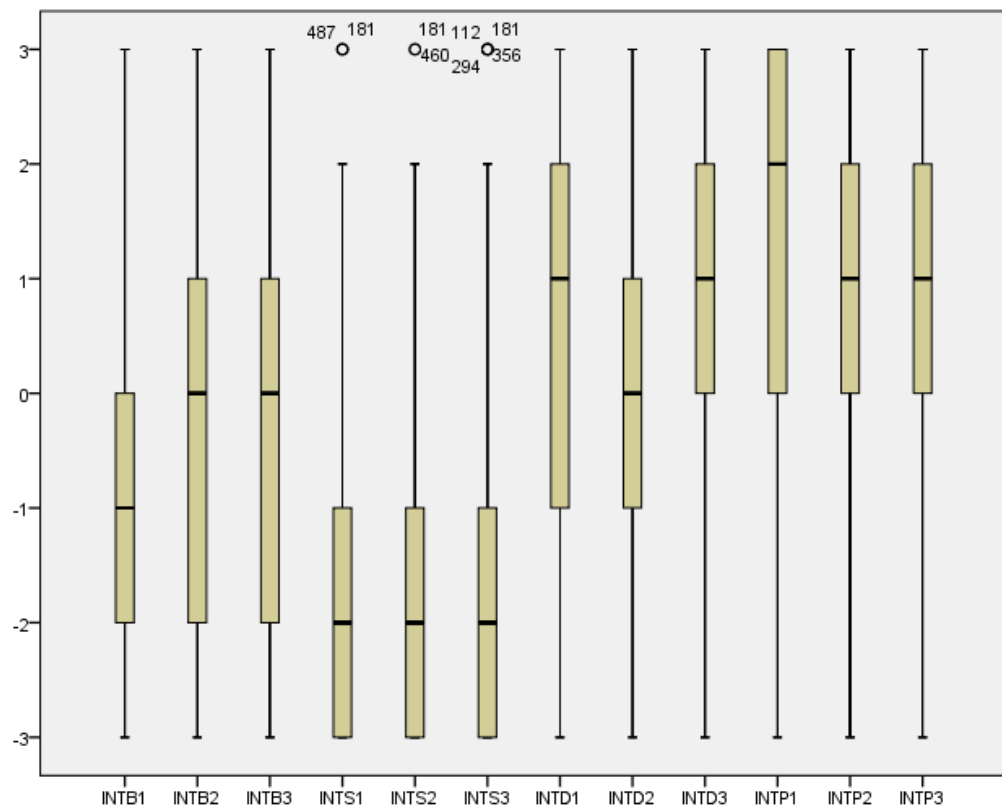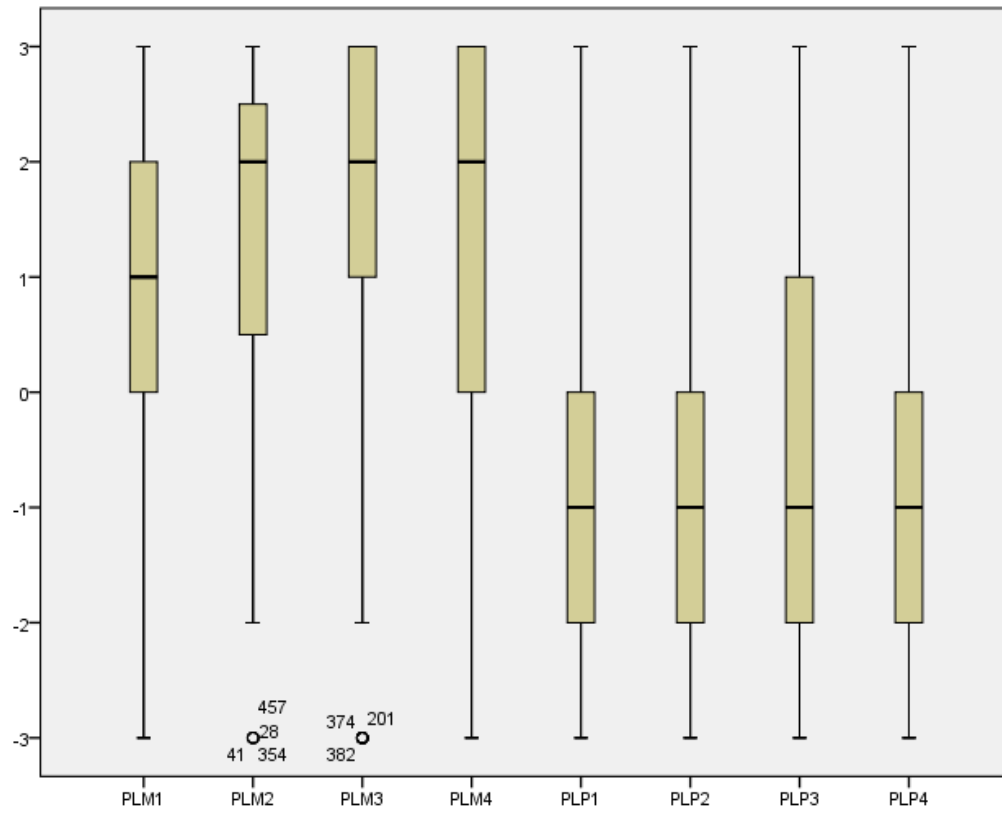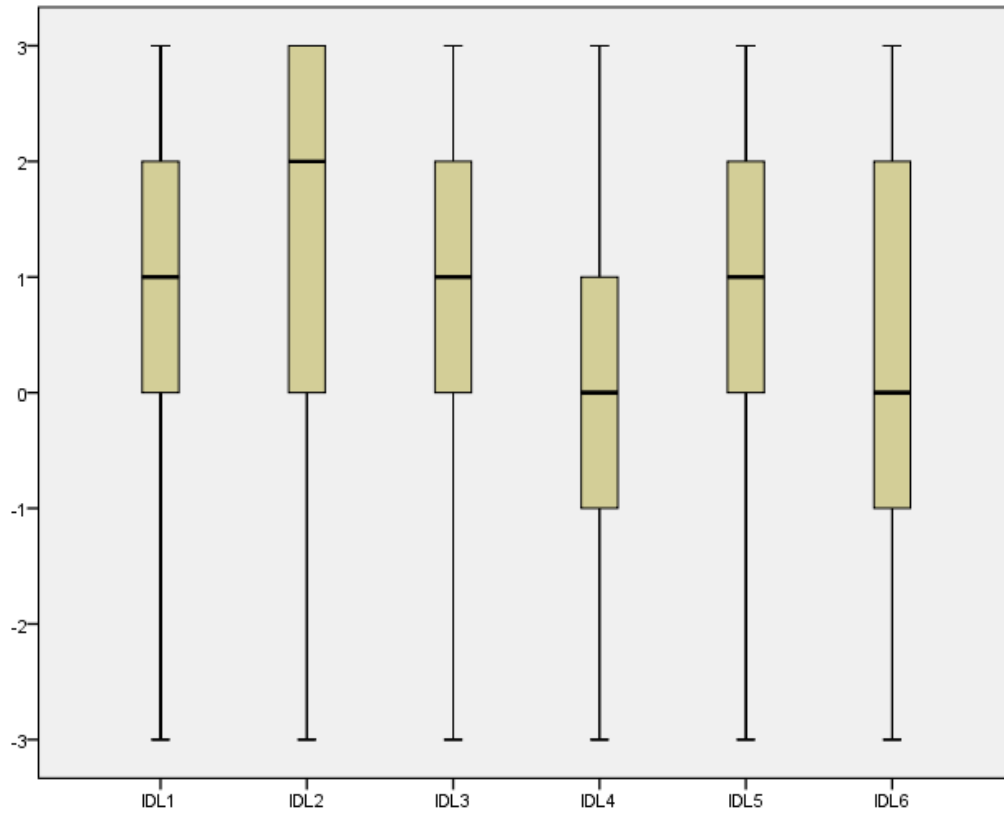
Summary Descriptive Statistics

	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
ATTB1	0.39	1.615	-0.471	0.108	-0.526	0.216
ATTB2	-0.06	1.599	-0.066	0.108	-0.688	0.216
ATTB3	0.01	1.699	-0.125	0.108	-0.879	0.216
ATTB4	0.13	1.648	-0.225	0.108	-0.658	0.216
ATTS1	-1.73	1.386	1.112	0.108	0.680	0.216
ATTS2	-1.77	1.398	1.096	0.108	0.570	0.216
ATTS3	-1.86	1.381	1.349	0.108	1.454	0.216
ATTS4	-1.76	1.476	1.249	0.108	1.017	0.216
ATTD1	0.95	1.609	-0.896	0.108	0.215	0.216
ATTD2	1.01	1.550	-0.951	0.108	0.399	0.216
ATTD3	0.69	1.674	-0.674	0.108	-0.272	0.216
ATTD4	0.57	1.624	-0.557	0.108	-0.202	0.216
ATTP1	0.86	1.727	-0.650	0.108	-0.461	0.216
ATTP2	0.76	1.826	-0.474	0.108	-0.827	0.216
ATTP3	0.92	1.705	-0.627	0.108	-0.384	0.216
ATTP4	0.67	1.680	-0.385	0.108	-0.527	0.216
SNB1	-0.52	1.535	0.195	0.108	-0.637	0.216
SNB2	0.10	1.590	-0.188	0.108	-0.755	0.216
SNB3	0.25	1.569	-0.291	0.108	-0.565	0.216
SNB4	-0.52	1.449	0.072	0.108	-0.505	0.216
SNS1	-1.03	1.467	0.399	0.108	-0.638	0.216
SNS2	-1.38	1.454	0.645	0.108	-0.366	0.216
SNS3	-0.22	1.798	0.185	0.108	-0.947	0.216
SNS4	-0.33	1.680	0.275	0.108	-0.687	0.216
SND1	0.89	1.538	-0.699	0.108	-0.078	0.216
SND2	0.55	1.460	-0.308	0.108	-0.202	0.216
SND3	0.60	1.446	-0.413	0.108	-0.191	0.216
SND4	0.28	1.432	-0.150	0.108	-0.232	0.216
SNP1	1.31	1.490	-0.840	0.108	0.197	0.216
SNP2	0.42	1.651	-0.228	0.108	-0.597	0.216
SNP3	0.25	1.659	-0.114	0.108	-0.694	0.216
SNP4	0.41	1.657	-0.206	0.108	-0.674	0.216
PBCB1	0.77	1.869	-0.556	0.108	-0.855	0.216
PBCB2	0.98	1.669	-0.709	0.108	-0.394	0.216
PBCB3	0.67	1.745	-0.505	0.108	-0.759	0.216
PBCS1	-0.14	1.866	0.053	0.108	-1.142	0.216
PBCS2	-0.05	1.958	0.005	0.108	-1.208	0.216
PBCS3	-0.83	1.834	0.472	0.108	-0.901	0.216
PBCD1	1.25	1.564	-0.877	0.108	0.043	0.216
PBCD2	1.51	1.484	-1.159	0.108	0.917	0.216
PBCD3	1.26	1.600	-0.903	0.108	0.108	0.216
PBCP1	1.43	1.648	-1.006	0.108	0.180	0.216
PBCP2	1.47	1.604	-1.023	0.108	0.237	0.216
PBCP3	1.27	1.706	-0.810	0.108	-0.320	0.216
PQM1	1.95	1.220	-1.517	0.108	2.464	0.216
PQM2	0.81	1.671	-0.456	0.108	-0.513	0.216
PQM3	1.67	1.458	-0.984	0.108	0.221	0.216
PQM4	0.67	1.654	-0.336	0.108	-0.664	0.216
PQM5	0.51	1.641	-0.265	0.108	-0.762	0.216
PBP1	1.86	1.515	-1.458	0.108	1.556	0.216
PBP2	0.26	1.616	-0.231	0.108	-0.521	0.216
PBP3	1.38	1.621	-0.889	0.108	-0.030	0.216
PBP4	-0.43	1.522	0.143	0.108	-0.354	0.216
PBP5	1.55	1.486	-0.993	0.108	0.467	0.216
PBP6	1.15	1.691	-0.713	0.108	-0.276	0.216
PLM1	0.73	1.422	-0.444	0.108	0.062	0.216
PLM2	1.39	1.375	-0.728	0.108	0.064	0.216
PLM3	1.60	1.547	-1.075	0.108	0.404	0.216

PLM4	1.51	1.460	-0.852	0.108	0.058	0.216
PLP1	-0.72	1.688	0.386	0.108	-0.782	0.216
PLP2	-0.73	1.657	0.403	0.108	-0.734	0.216
PLP3	-0.57	1.653	0.238	0.108	-0.810	0.216
PLP4	-0.76	1.601	0.385	0.108	-0.565	0.216
INTB1	-0.69	1.723	0.286	0.108	-0.907	0.216
INTB2	-0.27	1.769	-0.061	0.108	-1.081	0.216
INTB3	-0.43	1.730	0.085	0.108	-0.916	0.216
INTS1	-1.83	1.358	1.128	0.108	0.531	0.216
INTS2	-1.96	1.290	1.285	0.108	1.068	0.216
INTS3	-1.94	1.335	1.217	0.108	0.831	0.216
INTD1	0.51	1.755	-0.481	0.108	-0.691	0.216
INTD2	0.12	1.748	-0.244	0.108	-0.846	0.216
INTD3	0.47	1.732	-0.507	0.108	-0.628	0.216
INTP1	1.16	1.738	-0.920	0.108	-0.023	0.216
INTP2	0.84	1.846	-0.658	0.108	-0.564	0.216
INTP3	0.92	1.797	-0.691	0.108	-0.447	0.216
IDL1	0.72	1.600	-0.634	0.108	-0.165	0.216
IDL2	1.41	1.540	-1.001	0.108	0.605	0.216
IDL3	1.19	1.421	-0.778	0.108	0.530	0.216
IDL4	-0.14	1.676	-0.018	0.108	-0.649	0.216
IDL5	0.54	1.659	-0.488	0.108	-0.390	0.216
IDL6	0.43	1.859	-0.369	0.108	-0.825	0.216

Correlation Matrices

Correlations for Bricks-and-Mortar Channel

		ATT_B	SN_B	PBC_B	INT_B	PQM	PBP	PLM	PLP	IDL
ATT_B	Pearson Correlation	1	0.285**	-0.556**	0.565**	0.333**	-0.060	-0.042	0.081	0.245**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.174	0.339	0.066	0.000
	N	511	511	511	511	511	511	511	511	511
SN_B	Pearson Correlation	0.285**	1	-0.203**	0.266**	0.206**	0.084	0.163**	0.108*	0.099*
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.056	0.000	0.014	0.025
	N	511	511	511	511	511	511	511	511	511
PBC_B	Pearson Correlation	-0.556**	-0.203**	1	-0.513**	-0.344**	0.113*	0.170**	-0.167**	-0.216**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.011	0.000	0.000	0.000
	N	511	511	511	511	511	511	511	511	511
INT_B	Pearson Correlation	0.565**	0.266**	-0.513**	1	0.332**	-0.100*	-0.068	0.094*	0.179**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.024	0.125	0.033	0.000
	N	511	511	511	511	511	511	511	511	511
PQM	Pearson Correlation	0.333**	0.206**	-0.344**	0.332**	1	0.123**	0.105*	0.143**	0.301**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.006	0.018	0.001	0.000
	N	511	511	511	511	511	511	511	511	511
PBP	Pearson Correlation	-0.060	0.084	0.113*	-0.100*	0.123**	1	0.498**	-0.116**	0.134**
	Sig. (2-tailed)	0.174	0.056	0.011	0.024	0.006		0.000	0.009	0.002
	N	511	511	511	511	511	511	511	511	511
PLM	Pearson Correlation	-0.042	0.163**	0.170**	-0.068	0.105*	0.498**	1	-0.083	0.149**
	Sig. (2-tailed)	0.339	0.000	0.000	0.125	0.018	0.000		0.061	0.001
	N	511	511	511	511	511	511	511	511	511
PLP	Pearson Correlation	0.081	0.108*	-0.167**	0.094*	0.143**	-0.116**	-0.083	1	0.032
	Sig. (2-tailed)	0.066	0.014	0.000	0.033	0.001	0.009	0.061		0.471
	N	511	511	511	511	511	511	511	511	511
IDL	Pearson Correlation	0.245**	0.099*	-0.216**	0.179**	0.301**	0.134**	0.149**	0.032	1
	Sig. (2-tailed)	0.000	0.025	0.000	0.000	0.000	0.002	0.001	0.471	
	N	511	511	511	511	511	511	511	511	511

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations for the Street Vendors Channel

		PQM	PBP	PLM	PLP	IDL	INT_S	ATT_S	SN_S	PBC_S
PQM	Pearson Correlation	1	0.123^{**}	0.105^{*}	0.143^{**}	0.301^{**}	-0.049	-0.149^{**}	-0.128^{**}	-0.015
	Sig. (2-tailed)		0.006	0.018	0.001	0.000	0.265	0.001	0.004	0.737
	N	511	511	511	511	511	511	511	511	511
PBP	Pearson Correlation	0.123^{**}	1	0.498^{**}	-0.116^{**}	0.134^{**}	0.064	0.099^{*}	0.072	0.320^{**}
	Sig. (2-tailed)	0.006		0.000	0.009	0.002	0.151	0.026	0.106	0.000
	N	511	511	511	511	511	511	511	511	511
PLM	Pearson Correlation	0.105^{*}	0.498^{**}	1	-0.083	0.149^{**}	-0.136^{**}	-0.128^{**}	-0.024	0.124^{**}
	Sig. (2-tailed)	0.018	0.000		0.061	0.001	0.002	0.004	0.596	0.005
	N	511	511	511	511	511	511	511	511	511
PLP	Pearson Correlation	0.143^{**}	-0.116^{**}	-0.083	1	0.032	0.005	-0.094^{*}	-0.122^{**}	-0.075
	Sig. (2-tailed)	0.001	0.009	0.061		0.471	0.905	0.034	0.006	0.091
	N	511	511	511	511	511	511	511	511	511
IDL	Pearson Correlation	0.301^{**}	0.134^{**}	0.149^{**}	0.032	1	-0.013	-0.058	-0.076	-0.030
	Sig. (2-tailed)	0.000	0.002	0.001	0.471		0.765	0.191	0.084	0.500
	N	511	511	511	511	511	511	511	511	511
INT_S	Pearson Correlation	-0.049	0.064	-0.136^{**}	0.005	-0.013	1	0.573^{**}	0.433^{**}	0.258^{**}
	Sig. (2-tailed)	0.265	0.151	0.002	0.905	0.765		0.000	0.000	0.000
	N	511	511	511	511	511	511	511	511	511
ATT_S	Pearson Correlation	-0.149^{**}	0.099^{*}	-0.128^{**}	-0.094^{*}	-0.058	0.573^{**}	1	0.536^{**}	0.194^{**}
	Sig. (2-tailed)	0.001	0.026	0.004	0.034	0.191	0.000		0.000	0.000
	N	511	511	511	511	511	511	511	511	511
SN_S	Pearson Correlation	-0.128^{**}	0.072	-0.024	-0.122^{**}	-0.076	0.433^{**}	0.536^{**}	1	0.233^{**}
	Sig. (2-tailed)	0.004	0.106	0.596	0.006	0.084	0.000	0.000		0.000
	N	511	511	511	511	511	511	511	511	511
PBC_S	Pearson Correlation	-0.015	0.320^{**}	0.124^{**}	-0.075	-0.030	0.258^{**}	$.0194^{**}$	0.233^{**}	1
	Sig. (2-tailed)	0.737	0.000	0.005	0.091	0.500	0.000	0.000	0.000	
	N	511	511	511	511	511	511	511	511	511

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations for the Digital Music Shops Channel

		PQM	PBP	PLM	PLP	IDL	ATT_D	SN_D	PBC_D	INT_D
PQM	Pearson Correlation	1	0.123**	0.105*	.143**	.301**	.271**	.203**	.240**	.264**
	Sig. (2-tailed)		0.006	0.018	.001	.000	.000	.000	.000	.000
	N	511	511	511	511	511	511	511	511	511
PBP	Pearson Correlation	0.123**	1	0.498**	-.116**	.134**	-.126**	.104*	-.115**	-.237**
	Sig. (2-tailed)	0.006		0.000	.009	.002	.004	.019	.009	.000
	N	511	511	511	511	511	511	511	511	511
PLM	Pearson Correlation	0.105*	0.498**	1	-.083	.149**	.039	.258**	-.009	-.154**
	Sig. (2-tailed)	0.018	0.000		.061	.001	.377	.000	.846	.000
	N	511	511	511	511	511	511	511	511	511
PLP	Pearson Correlation	0.143**	-0.116**	-0.083	1	.032	.129**	.060	.107*	.090*
	Sig. (2-tailed)	0.001	0.009	0.061		.471	.003	.179	.016	.043
	N	511	511	511	511	511	511	511	511	511
IDL	Pearson Correlation	0.301**	0.134**	0.149**	.032	1	.205**	.169**	.216**	.180**
	Sig. (2-tailed)	0.000	0.002	0.001	.471		.000	.000	.000	.000
	N	511	511	511	511	511	511	511	511	511
ATT_D	Pearson Correlation	0.271**	-0.126**	0.039	.129**	.205**	1	.431**	.527**	.562**
	Sig. (2-tailed)	0.000	0.004	0.377	.003	.000		.000	.000	.000
	N	511	511	511	511	511	511	511	511	511
SN_D	Pearson Correlation	0.203**	0.104*	0.258**	.060	.169**	.431**	1	.362**	.296**
	Sig. (2-tailed)	0.000	0.019	0.000	.179	.000	.000		.000	.000
	N	511	511	511	511	511	511	511	511	511
PBC_D	Pearson Correlation	0.240**	-0.115**	-0.009	.107*	.216**	.527**	.362**	1	.499**
	Sig. (2-tailed)	0.000	0.009	0.846	.016	.000	.000	.000		.000
	N	511	511	511	511	511	511	511	511	511
INT_D	Pearson Correlation	0.264**	-0.237**	-0.154**	.090*	.180**	.562**	.296**	.499**	1
	Sig. (2-tailed)	0.000	0.000	0.000	.043	.000	.000	.000	.000	
	N	511	511	511	511	511	511	511	511	511

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Correlations for the P2P Channel

		PQM	PBP	PLM	PLP	IDL	PBC_P	INT_P	ATT_P	SN_P
	Pearson Correlation	1	.123**	.105*	.143**	.301**	-.003	.173**	-.129**	-.035
PQM	Sig. (2-tailed)		.006	.018	.001	.000	.950	.000	.003	.434
	N	511	511	511	511	511	511	511	511	511
	Pearson Correlation	.123**	1	.498**	-.116**	.134**	.500**	-.396**	.453**	.385**
PBP	Sig. (2-tailed)	.006		.000	.009	.002	.000	.000	.000	.000
	N	511	511	511	511	511	511	511	511	511
	Pearson Correlation	.105*	.498**	1	-.083	.149**	.404**	-.312**	.326**	.300**
PLM	Sig. (2-tailed)	.018	.000		.061	.001	.000	.000	.000	.000
	N	511	511	511	511	511	511	511	511	511
	Pearson Correlation	.143**	-.116**	-.083	1	.032	-.112*	.065	-.058	-.077
PLP	Sig. (2-tailed)	.001	.009	.061		.471	.011	.145	.189	.080
	N	511	511	511	511	511	511	511	511	511
	Pearson Correlation	.301**	.134**	.149**	.032	1	.122**	-.053	.068	.015
IDL	Sig. (2-tailed)	.000	.002	.001	.471		.006	.236	.124	.732
	N	511	511	511	511	511	511	511	511	511
	Pearson Correlation	-.003	.500**	.404**	-.112*	.122**	1	-.451**	.477**	.445**
PBC_P	Sig. (2-tailed)	.950	.000	.000	.011	.006		.000	.000	.000
	N	511	511	511	511	511	511	511	511	511
	Pearson Correlation	.173**	-.396**	-.312**	.065	-.053	-.451**	1	-.648**	-.410**
INT_P	Sig. (2-tailed)	.000	.000	.000	.145	.236	.000		.000	.000
	N	511	511	511	511	511	511	511	511	511
	Pearson Correlation	-.129**	.453**	.326**	-.058	.068	.477**	-.648**	1	.519**
ATT_P	Sig. (2-tailed)	.003	.000	.000	.189	.124	.000	.000		.000
	N	511	511	511	511	511	511	511	511	511
	Pearson Correlation	-.035	.385**	.300**	-.077	.015	.445**	-.410**	.519**	1
SN_P	Sig. (2-tailed)	.434	.000	.000	.080	.732	.000	.000	.000	
	N	511	511	511	511	511	511	511	511	511

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Factor Analysis Bricks

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.692	19.724	19.724	7.692	19.724	19.724
2	5.015	12.858	32.582			
3	3.133	8.033	40.615			
4	2.435	6.243	46.857			
5	1.961	5.029	51.887			
6	1.555	3.988	55.875			
7	1.493	3.827	59.702			
8	1.220	3.128	62.830			
9	1.068	2.739	65.570			
10	1.027	2.633	68.203			
11	.894	2.293	70.496			
12	.873	2.239	72.736			
13	.816	2.093	74.828			
14	.799	2.049	76.878			
15	.751	1.925	78.803			
16	.642	1.646	80.449			
17	.619	1.587	82.036			
18	.594	1.523	83.559			
19	.558	1.430	84.989			
20	.488	1.250	86.240			
21	.481	1.233	87.472			
22	.427	1.094	88.566			
23	.405	1.038	89.604			
24	.391	1.001	90.605			
25	.360	.923	91.528			
26	.342	.878	92.406			
27	.321	.824	93.229			
28	.319	.817	94.047			
29	.314	.805	94.852			
30	.282	.722	95.574			
31	.242	.621	96.195			
32	.222	.568	96.764			
33	.220	.563	97.327			
34	.203	.521	97.848			
35	.194	.496	98.344			
36	.181	.463	98.807			
37	.173	.443	99.250			
38	.154	.395	99.645			
39	.138	.355	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis Street

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.396	16.401	16.401	6.396	16.401	16.401
2	5.225	13.397	29.798			
3	3.876	9.938	39.737			
4	2.558	6.560	46.296			
5	1.945	4.987	51.284			
6	1.754	4.497	55.780			
7	1.505	3.859	59.639			
8	1.285	3.294	62.933			
9	1.260	3.230	66.163			
10	1.026	2.631	68.794			
11	.924	2.370	71.165			
12	.903	2.316	73.480			
13	.856	2.195	75.675			
14	.778	1.996	77.671			
15	.756	1.938	79.609			
16	.747	1.916	81.525			
17	.630	1.615	83.140			
18	.549	1.409	84.549			
19	.528	1.354	85.903			
20	.471	1.208	87.111			
21	.449	1.151	88.262			
22	.421	1.079	89.341			
23	.377	.968	90.309			
24	.364	.934	91.243			
25	.341	.874	92.117			
26	.333	.853	92.970			
27	.310	.794	93.764			
28	.291	.747	94.511			
29	.274	.702	95.213			
30	.252	.645	95.859			
31	.233	.598	96.457			
32	.230	.589	97.046			
33	.200	.512	97.558			
34	.185	.474	98.032			
35	.183	.469	98.501			
36	.170	.436	98.937			
37	.163	.417	99.354			
38	.134	.345	99.699			
39	.117	.301	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis Digital

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.104	20.779	20.779	8.104	20.779	20.779
2	5.178	13.276	34.055			
3	3.229	8.280	42.335			
4	2.434	6.242	48.577			
5	1.906	4.888	53.464			
6	1.612	4.134	57.599			
7	1.430	3.668	61.266			
8	1.402	3.595	64.861			
9	1.042	2.671	67.532			
10	1.007	2.582	70.114			
11	.945	2.422	72.536			
12	.904	2.317	74.853			
13	.814	2.087	76.940			
14	.772	1.981	78.921			
15	.735	1.885	80.806			
16	.649	1.665	82.470			
17	.557	1.429	83.899			
18	.494	1.267	85.166			
19	.477	1.224	86.389			
20	.442	1.133	87.522			
21	.404	1.035	88.557			
22	.386	.989	89.546			
23	.369	.947	90.493			
24	.359	.920	91.413			
25	.347	.889	92.302			
26	.305	.783	93.085			
27	.299	.767	93.851			
28	.290	.743	94.595			
29	.252	.647	95.242			
30	.246	.631	95.873			
31	.233	.598	96.471			
32	.228	.584	97.055			
33	.201	.514	97.570			
34	.189	.486	98.056			
35	.176	.451	98.506			
36	.163	.418	98.924			
37	.151	.388	99.312			
38	.137	.352	99.663			
39	.131	.337	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis P2P

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.679	24.817	24.817	9.679	24.817	24.817
2	4.438	11.380	36.197			
3	2.716	6.963	43.160			
4	2.440	6.257	49.417			
5	1.782	4.568	53.985			
6	1.615	4.140	58.126			
7	1.500	3.847	61.973			
8	1.396	3.579	65.552			
9	1.042	2.671	68.223			
10	.969	2.486	70.709			
11	.899	2.306	73.015			
12	.880	2.256	75.271			
13	.849	2.176	77.448			
14	.786	2.016	79.463			
15	.718	1.840	81.303			
16	.622	1.594	82.897			
17	.606	1.553	84.450			
18	.556	1.426	85.876			
19	.495	1.270	87.147			
20	.474	1.216	88.363			
21	.420	1.078	89.440			
22	.395	1.014	90.454			
23	.363	.930	91.384			
24	.359	.920	92.304			
25	.323	.828	93.131			
26	.318	.815	93.946			
27	.289	.742	94.688			
28	.284	.729	95.417			
29	.255	.654	96.071			
30	.229	.588	96.659			
31	.203	.521	97.179			
32	.198	.508	97.688			
33	.180	.460	98.148			
34	.157	.402	98.550			
35	.146	.374	98.924			
36	.132	.338	99.262			
37	.116	.296	99.559			
38	.104	.266	99.825			
39	.068	.175	100.000			

Extraction Method: Principal Component Analysis.
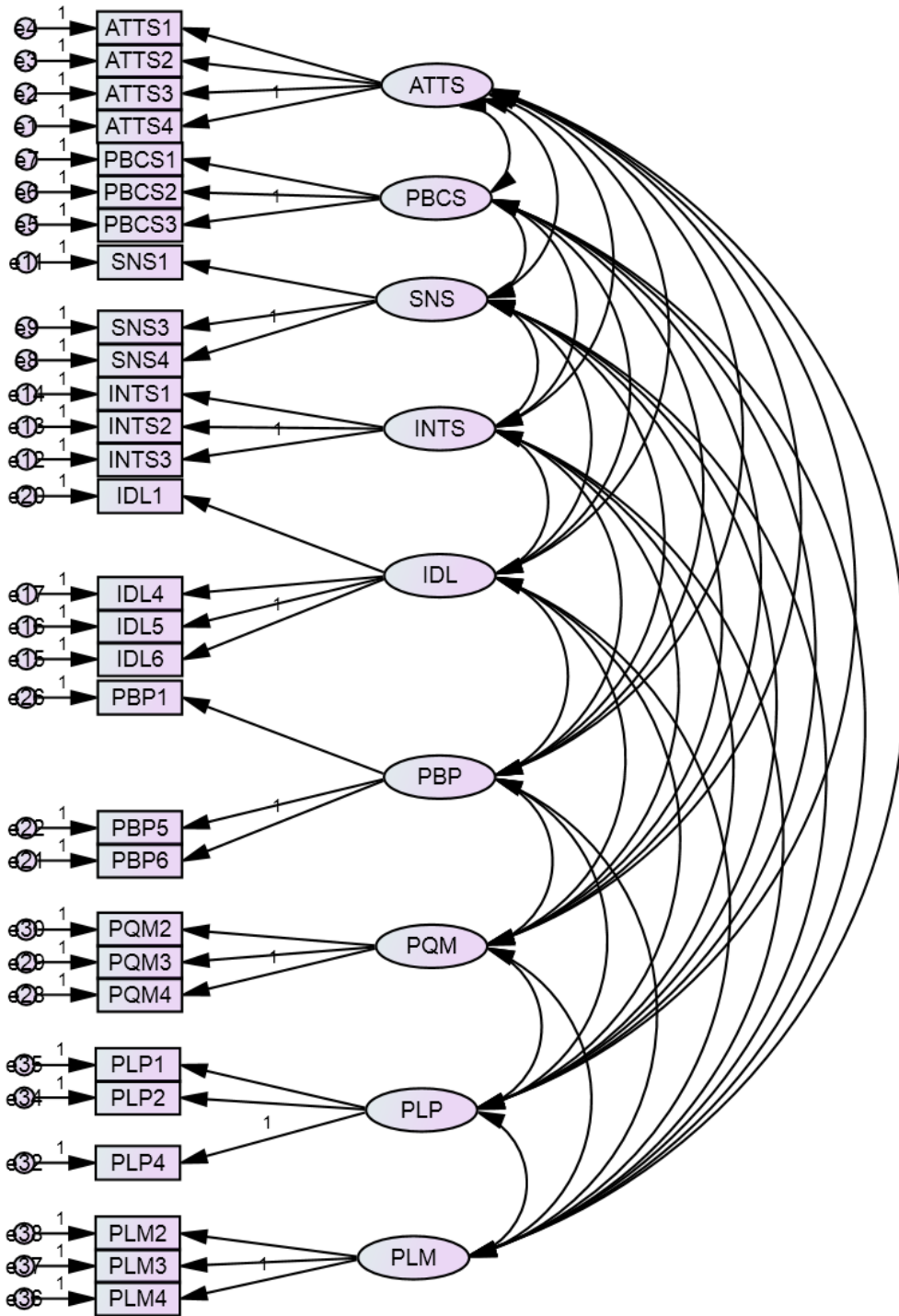
Appendix K

CFA Graphs

Bricks-and-Mortar Stores
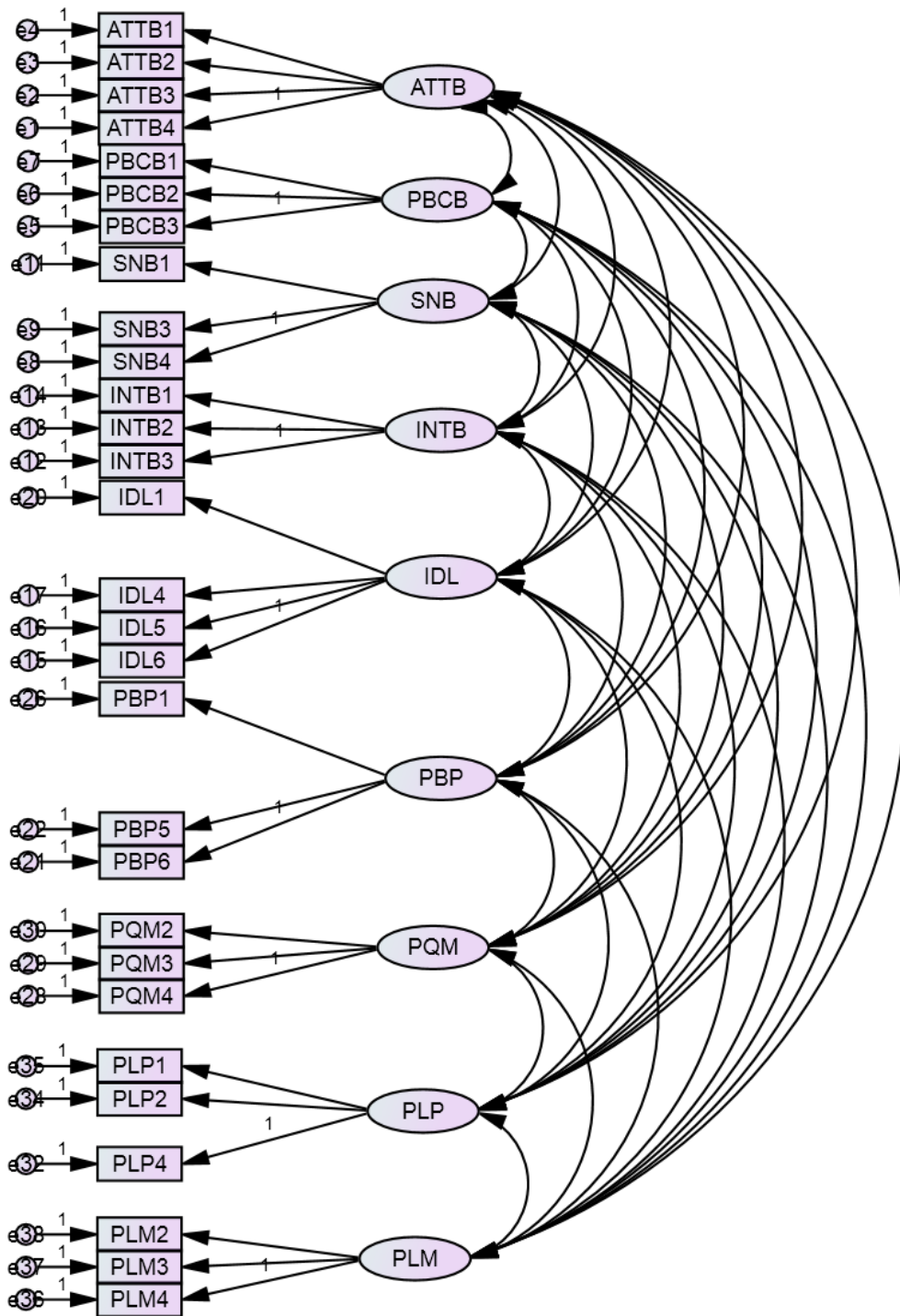
Street Vendors

Digital Music Shops
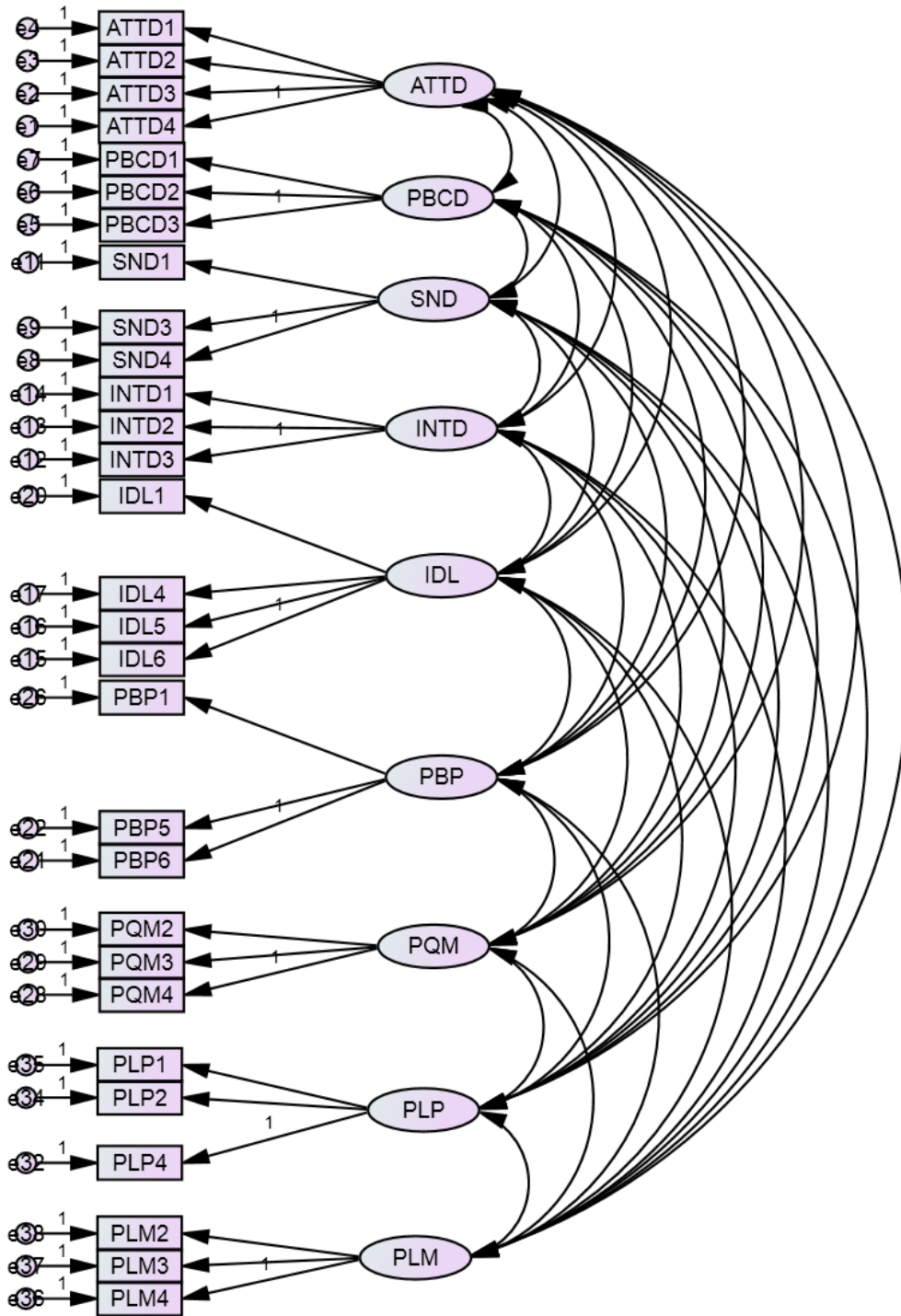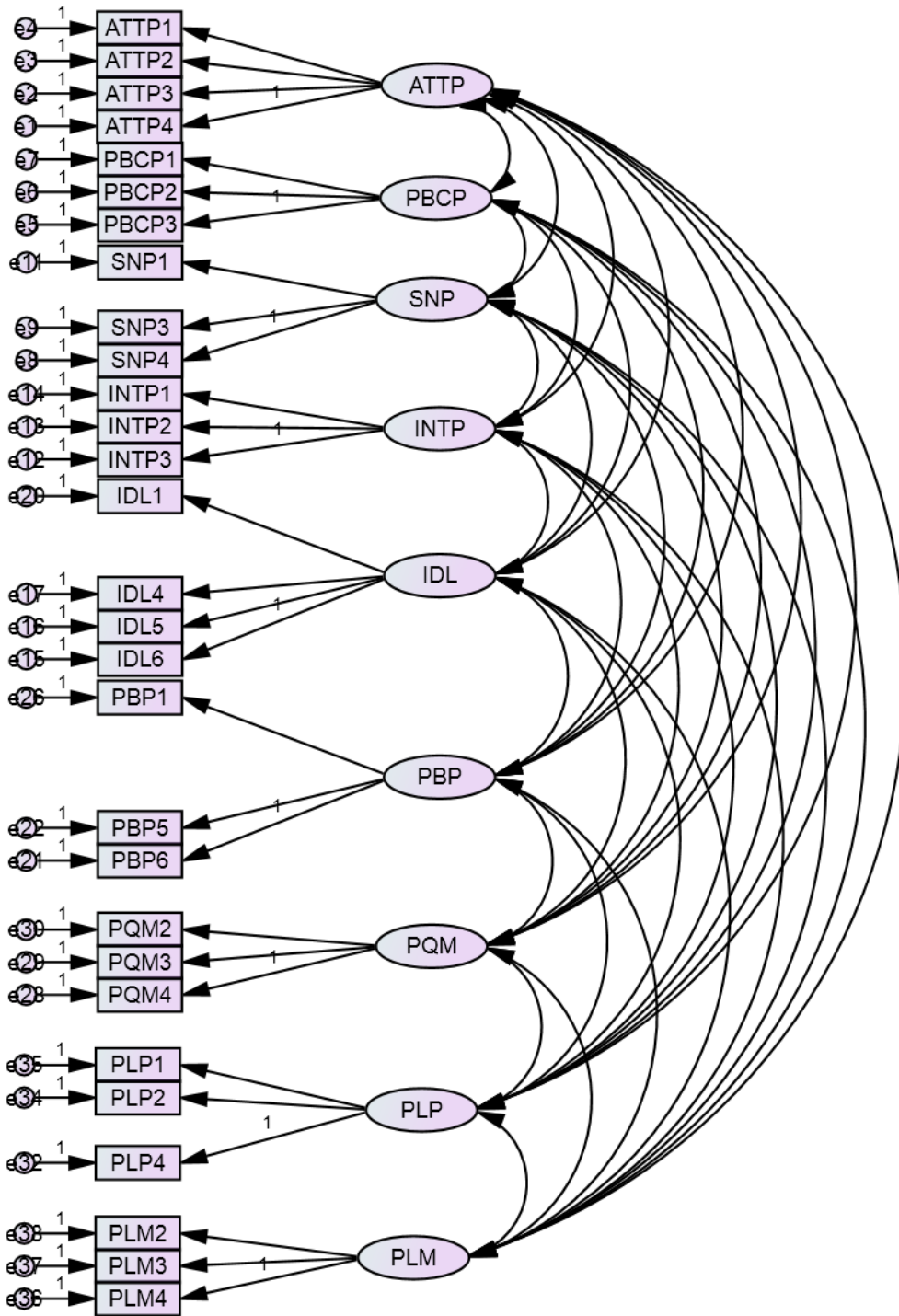
P2P Platforms

Appendix L

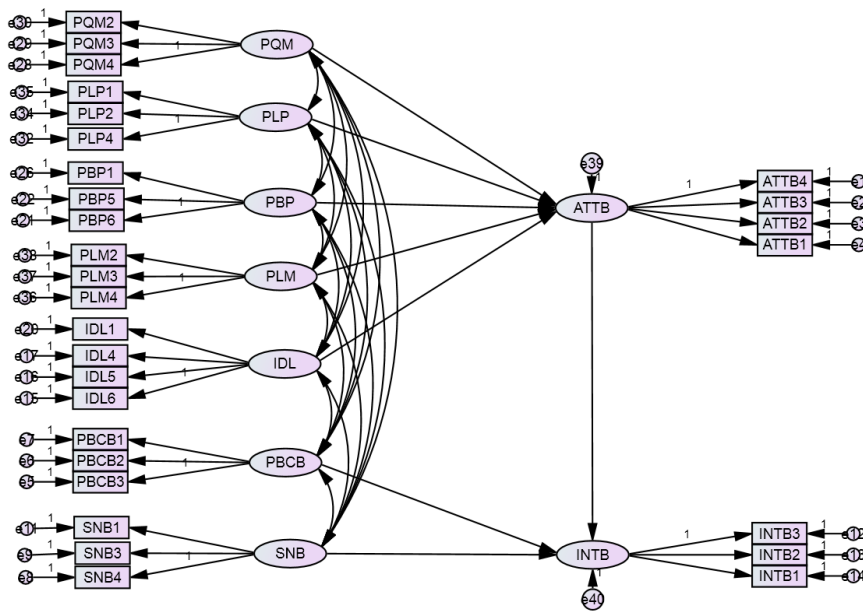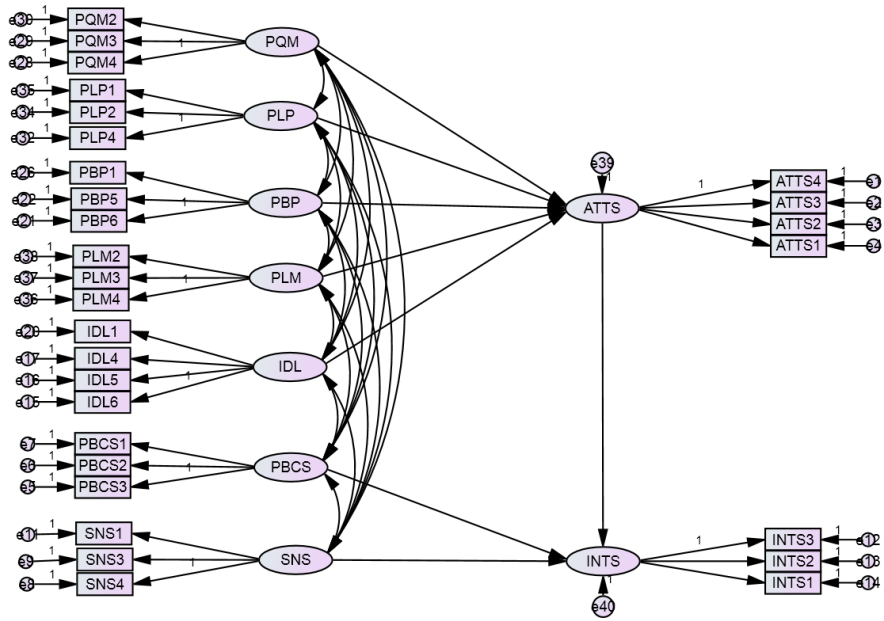## SEM Graphs

Bricks-and-Mortar Stores

Street Vendors

Digital Music Shops

P2P Platforms