Aalto University
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Understanding Reasons behind Mobile Service Platform Switching Behavior: An Inductive Analysis from Consumer Perspective

Information Systems Science

Master's thesis

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ABSTRACT

Objectives of the Study

Why do people switch their mobile phones? What factors make them to stick with their current phones? This thesis' objective is to find out the influences behind consumer mobile phone switching behavior. Academic literature has examined mobile phone switching surprisingly little since the focus has been on mobile phone related adoption research. This thesis aims to fill that gap of lacking mobile phone switching behavior research.

Academic background and methodology

An inductive approach is applied on a qualitative data set that was collected from 249 university students from three different continents to determine the consumer expressed reasons to switch and not to switch mobile phones. The results are organized based on consumer responses and examined in the light of PPM framework as well as mirrored to the established adoption literature such as the technology acceptance model and diffusion of innovations framework.

Findings and conclusions

The findings suggest that mobile phones of any sort are increasingly switched to smartphones. The main reasons pushing people to switch mobile phones were identified as rational reasons such as dissatisfaction with reliability and advanced functionalities of the device being switched from along with external forced influences. The main reasons pulling towards attractive alternatives were identified as personal desires, advanced functionalities and subjectively perceived factors again along with external social influences. Additionally, brand influence and price value perceptions were pinpointed as pulling clearly towards smartphone adoption. The main elements preventing individuals from wanting to switch their mobile phones were determined as attachment to familiar advanced functionalities and subjectively perceived factors. In a general level, the pull effect is the strongest force leading to switching and the principal causes for this pull effect stem from associations to functional elements of the mobile phones.

Keywords

Consumer Behavior, Feature Phone, Inductive Research, Migration, Mobile Phone, Mobile Service Platform, Mooring Effect, Multiple-sided Platform, Network Effect, PPM Framework, Push Effect, Pull Effect, Qualitative Research, Smartphone, Survey Research, Switching Behavior, Switching Cost

AALTO-YLIOPISTON KAUPPAKORKEAKOULU
Tieto- ja palvelutalouden laitos
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TIIVISTELMÄ
25.05.2013

TIIVISTELMÄ

Tutkimuksen tavoitteet

Mikä saa ihmiset vaihtamaan kännyköitään ja mikä saa heidät kiintymään puhelimiinsa? Tämä tutkielma pyrkii löytämään kuluttajien kännyköiden vaihtamiskäyttäytymistä määrittävät tekijät. Akateeminen tutkimuskenttä on tarjonnut yllättävän vähän vastauksia tähän aiheeseen, joten tämän tutkielman tavoitteena on täyttää tuo aukko tutkimuskentässä.

Kirjallisuuskatsaus ja metodologia

Tutkielma soveltaa induktiivista tutkimusmenetelmää selvittääkseen mitkä omin sanoin ilmaistut tekijät saavat ihmiset vaihtamaan kännyköitään. Kvalitatiivinen tutkimusaineisto on kerätty 249 yliopisto-opiskelijalta kolmelta eri mantereelta. Tulokset pohjautuvat vastaajilta kerättyyn aineistoon, joka arvioidaan PPM -viitekehysmallin pohjalta peilaten tuloksia samalla myös vakiintuneisiin teknologian käyttöönoton malleihin kuten teknologian hyväksymismalliin (*Technology Acceptance Model*) ja innovaatioiden leviämismalliin (*Diffusion of Innovations*).

Tulokset ja päätelmät

Tuloksien mukaan kännyköiden vaihtaminen suuntautuu yhä enenevissä määrin älypuhelimien käyttöönottoon. Rationaaliset syyt kuten vaihdettavaan laitteeseen liittyvä tyytymättömyys luotettavuuteen ja kehittyneemmän tason ominaisuuksiin todettiin keskeisimmiksi tekijöiksi, jotka ajavat kohti kännykän vaihtoa pakottavien ulkoisten vaikuttimien ohella. Houkuttelevia vaihtoehtoja kohti vetäviksi vaikuttimiksi tuloksissa todennettiin sosiaalisten ulkoisten vaikuttimien ohella henkilökohtaiset halut, kehittyneen tason ominaisuudet sekä subjektiivisesti havainnoidut tekijät. Näiden lisäksi brändien vaikutus ja hinta-laatusuhde osoitettiin selvästi olevan yhteydessä vetävänä voimana älypuhelimien käyttöönoton kanssa. Keskeisimmiksi vaihtamishalukkuutta alentaviksi tekijöiksi määritettiin tutut kehittyneemmän tason ominaisuudet sekä subjektiivisesti havainnoidut tekijät. Yleisellä tasolla vetävä vaikutus on voimakkain vaihtamiseen vaikuttava tekijä, jonka synty voidaan liittää pääasiassa kännykän toiminnallisiin ominaisuuksiin.

Avainsanat

Induktiivinen tutkimus, Ankkuroiva vaikutus (*Mooring Effect*), Kuluttajakäyttäytyminen, Kyselytutkimus, Kännykkä, Laadullinen tutkimus, Matkapuhelin, Migraatio, Mobiili palvelualusta (*Mobile Service Platform*), Monitahoinen alusta (*Multi-Sided Platform*), PPM -viitekehys, Työntävä vaikutus (*Push Effect*), Verkostovaikutus, Vetävä vaikutus (*Pull Effect*), Vaihtamiskustannus, Vaihtamiskäyttäytyminen, Älypuhelin

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1. INTRODUCTION

What makes people switch their mobile phone from one to another? What are the factors that keep people locked-in to their current mobile device? Despite of the prominence of mobile phone industry, surprisingly few have pondered these questions in the academi. Hence, the objective of this thesis is to drill into that void and determine the main reasons that lead people to switch their mobile phones and what factors that prevent them from switching to another phone.

The approach will be inductive drawing the conclusions from empirical data first and then reflecting these results to existing academic theories and models. The examination will be based on a qualitative data set that was collected from college students of three different geographical areas: Finland, USA and India. Moreover, the focus of the examination is on the physical hardware level of mobile phone switching instead of the software level or mobile phone subscription network level. The results suggest that variable functionality-related factors are the most prominent cause to affect mobile phone switching behavior. However, there is also evidence that desires, external influences, reliability issues and factors derived from personal perceptions have an effect on switching behavior.

This introduction chapter is organized so that first the premise for this thesis is introduced. Second, a brief summary of what makes this topic interesting and what will be the approach to the subject is given. Therefore, the research niche is also established in the second subsection. Third, research questions for this thesis are presented to clarify the objectives of this research.

After the introduction, the thesis is structured as follows; the second chapter provides a summary of academic literature in relation to mobile phone switching. The third chapter elaborates the underlying data set as well as how it has been collected and what will be the approach to it. The fourth chapter explains the methods how the underlying raw qualitative data set is restructured and how the restructured data is analyzed. The fifth chapter presents the findings and provides a discussion to the respect of research questions. The sixth chapter ultimately draws the summarized conclusions from the findings as well as provides a summation of the research limitations and suggestions for future research. Furthermore, the appendices after the chapters

will provide additional and more in-depth information regarding the thesis data contents and analyses.

1.1. Research Background, Motivation and Approach

This Master's thesis has been completed in association with a SWITCH project in Aalto University School of Business. The SWITCH Project is a research initiative with an aim to analyze and understand how people make their decisions regarding switching their mobile service platforms from one to another. As it is a quite fresh initiative, the SWITCH project has produced so far two research papers presented at research conferences (Tuunainen et al., 2012a; 2012b). This Master's thesis aims to contribute to that same vein by bringing in a new perspective to the issue. However, it should be noted that source material in this thesis is largely the same data set that has been utilized in the aforementioned antecedent studies.

The reason, which makes the subject of the SWITCH project and this thesis interesting, is that mobile cellular phones have become a central force in a communication media as well as also considerable player in general product markets. Mobile phones are currently reaching to the majority of world population with a penetration of 85.7 percent share and total amount of mobile phones achieving figure of almost 6 billion units in 2011 (International Telecommunication Union, 2012). Furthermore, the adoption has been extremely swift since mobile devices have become the fastest adopted consumer product of all time surpassing the combined annual sales of automobiles and personal computers (Clarke & Madison, 2001; Mahatanankoon et al., 2004). This fast adoption is fed even further by the rapid technological development of the product itself (Charlesworthy, 2009) which is evident from increasing adoption of smartphones all over the world (Our Mobile Planet, 2013; Statista, 2013).

Because mobile phones as a product are experiencing changes, the modern mobile phones cannot be considered anymore as mere telephones per se. Mobile phones in the form of smartphones have evolved into much more multifaceted than just telephones (Tuunainen et al., 2012b). Nowadays they incorporate variable aspects of personal computers and bundling it together with portability as well as movement and position recognition technologies. Hence, they have become

also a platform for wide range of new services and innovations (Ballon & Hawkins, 2008) leading to a change of a paradigm so that a term mobile phone can be considered synonymous with a term mobile service platform in many occasions.

Despite of the prevalence of mobile phone industry, there have yet been rather little academic articles published relating to mobile phone switching behavior. To be exact, there has been virtually no actual mobile phone or mobile service platform switching research but rather a closely related adoption research. Moreover, the academic adoption literature related mobile phones has been primarily anchored to the multiple version of technology acceptance model (see for example Davis, 1989; Venkatesh & Davis, 2000; Venkatesh et al., 2003; Venkatesh & Bala, 2008; Venkatesh et al., 2012) and its precursor behavioral theories (see for example Ajzen & Fishbein, 1980; Ajzen 1991; Triandis, 1977). The Technology Acceptance Model – henceforth referred as TAM – has attained such a status that it has been subsequently described as a dominant paradigm in the field of study (van der Heijden, 2004) even though it has not been designed specifically to the mobile phone context. Therefore, it can be argued that the true understanding of switching reasons may have been hindered by both the rapidity of change within the product itself by converging multiple previously independent technologies together as well as the anchoring to the aforementioned predefined model.

This anchoring to the dominant paradigm of the TAM constitutes also that the research relating to consumer mobile phone switching behavior has been primarily deductive. Hence, apart from the antecedent studies of the SWITCH project (Tuunainen et al., 2012a; 2012b), there has been virtually no purely inductive research based on consumer responses to understand the true reasons behind consumer mobile phone switching behavior. Therefore, the analysis conducted in this thesis utilizes a qualitative sample set with aim to extract the actual consumer expressed reasons for mobile phone switching behavior using inductive research approach. Simultaneously, the consumer switching behavior is examined in a broader context by including also consumer-expressed perceptions – both positive and negative – on their most recent mobile phones. Additionally, also the rapid technological change and emergence of smartphones are brought into the analysis by examining the changes in mobile phone manufacturer brand and mobile phone type distributions caused by mobile phone switching.

The examination is conducted at two parallel levels: a general and a detailed level. At the general level, the responses to the switching reasons and the perceptions on mobile phones are examined in the mass to understand generally what are the main factors affecting mobile phone switching. At the detailed level, the responses are in relation to various mobile phone manufacturer brands and mobile phone types – smartphones and feature phones – to distinguish if there are any exceptions to the general level results. However, it should be also noted that the examination is limited only to the most previously owned mobile phone and the currently used mobile phone for each respondent and thus only two mobile phone generations are examined for each. Furthermore, one should bear in mind that the examination is principally based on switching of a physical hardware level of mobile service platforms rather than for example a software platform layer.

1.2. Research Questions

The main research question in this thesis is structured with the help of three separate supportive questions of which each examine different aspects. The first supportive research question reflects the shifting mobile phone capability landscape by drilling into the change of smartphone and feature phone distribution accompanied with the changes within mobile phone manufacturer brand distribution. The second supportive question examines the expressed approach to the two examined mobile phone generations of a respondent in terms of positive and negative associations relating to them. The third supportive research question examines the real issue of interest: the reasons to switch mobile phones. Additionally, the second and third supportive questions take into account the levels of examination so that both generalizations in these issues can be made by controlling the possible exceptions at the more detailed level. The three supportive research questions are structured in the next page as follows:

How has the overall distribution structure of different mobile phone brands and mobile phone types changed from previous mobile phone generation to current mobile phone generation?

What are the positive and negative associations related to the previous and current mobile phone generations in general and in terms of mobile phone brands and mobile phone types?

What are the main explicitly expressed reasons to make the switch from the previous phone to the current mobile phone generation in general and in terms of mobile phone brands and mobile phone types?

The supportive research questions builds towards broad understanding of the thesis' main research question, which focuses to understand forces affecting the switching decision. The forces can be identified as follows; firstly, there are initially dissatisfaction factors that cause an individual to make a decision to switch and seek alternatives to the current situation. Secondly, attractive alternatives can provoke an altering of the current state even without initial dissatisfaction and thereby a switch will occur if an alternative value proposition is accepted. Thirdly, there might be barriers or obstacles that prevent an individual to exit from the current situation or there might be issues in alternatives that will diminish the value proposition of possible alternatives beyond acceptable. Therefore, the main research question of this master's thesis is structured as follows:

What are the main generalizable causes affecting mobile phone switching decisions and processes of an individual through invoking dissatisfaction at the initial stage before making a decision to switch mobile phones, encouraging a switching decision with compelling options to alter the current situation and creating obstacles that may thwart the switching process all together?

2. THEORETICAL BACKGROUND

This chapter explains the theoretical rooting of the mobile phone switching behavior based on academic literature. The theoretical background of this thesis is not just restricted to the variable theoretical models relating to mobile phone switching behavior. A summary of empirical studies and their results applying those theoretical models into practice is also provided in the context of mobile phone switching behavior.

This chapter is composed as follows; first, a theoretical grounding is provided for mobile phone position as a platform mediated network product. Second, the contents from a diffusion of innovations model are summarized. Third, an outlook to the history, criticism, development and contents of the influential Technology Acceptance Model (TAM; Davis, 1989) is provided along with perspectives on the motivational theory implications and conceptual fit of the model to the mobile phone switching behavior context. Fourth, a migration theory in the form of push-pull-mooring framework is presented accompanied with the conceptual connection to the mobile phone switching. Last, a summary of applied empirical mobile phone switching and adoption literature is provided including the precursor studies of the SWITCH project.

2.1. Mobile Phones as Mobile Service Platforms

To understand the mobile phone switching behavior properly, it is important to understand the underlying context related to mobile service platforms. Nowadays mobile phones can be roughly divided into two vague categories: feature phones and smartphones. Smartphones can be defined generally as mobile phones with built-in capabilities likened to a personal computer including features such as the Internet access, large display and multitude of application services built around them, while feature phones are described as phones of which features do not reach to the level of sophistication of smartphones features (Oxford Dictionaries, 2013; PC Magazine, 2013).

The more sophisticated mobile phones can be also perceived as convergence products (Shin, 2007) because the aforementioned smartphone and feature phone definitions comply with the convergence product definition – a bundle of several products incorporating both costs and

benefits into a single integrated product (Bayus et al., 2000). Additionally, these definitions coincide also with platform definition – a collection of integrated functions, which lay the foundation to variable services that are subjected to value changes over time (Taudes et al., 2000). Therefore, when describing mobile phones in general, the term mobile service platform is also justified. Furthermore, also other scholars have established mobile phones as continuously developing service platforms; mobile phones or especially smartphones have evolved into platforms for innovations such as variable m-commerce services (Ballon & Hawkings, 2008; Chang & Chen, 2005).

This platform thinking opens the door to perceive mobile phones as platform mediated networks or multi-sided platforms because multiple different entities aim to draw consumer cash flows from the multifaceted mobile service platform. Thus, these different market entities or stakeholders are also possibly affecting to the switching behavior. These network effects are not uncommon either because this type of platform market is generally quite typical for the IT industry (Hagiu & Wright, 2011).

In this case, a mobile phone can be perceived as the service platform while the groups participating in the market or network stakeholders consist of the end-users – mainly the consumers – as well as variable service provider groups including platform manufacturers, external content providers such as application developers and network service operators. These different players can be divided into subgroups with variable objectives. For example, platform manufacturers are not nowadays providers of both hardware and software platforms since external operating system software producers – such as Google with Android mobile operating system or Microsoft with Windows Mobile – have entered into the market. These companies are not necessarily tied to any mobile phone hardware manufacturers creating a new layer for end-user loyalty and switching costs. Furthermore, other external software developers may not be working for just for themselves as they might be commissioned by another organizations to build applications or even application series such as for example in mobile banking services.

As a multi-sided network, the network stakeholders may be subjected to network effects or network externalities. Traditionally network effects are divided into direct and indirect network

effects. The direct or same-side network effect occurs when the increase of in amount of participants in the same network stakeholder side increase value of all the participants on that particular side. Conversely, the indirect or cross-side network effect takes in place when value of a network increases due to increased opportunities to interact with the other network stakeholders groups. (Farrell & Klemperer, 2007). On the one hand, an example of a same-side network effect in the mobile phone switching context could be a situation in which an individual is persuaded by peers to adopt a smartphone so that he or she can use a specific type of software application to interact with his or her peers. On the other hand, an example of a cross-side network effect affecting switching decision could be a situation in which an individual is persuaded to switch a mobile phone because another mobile phone platform offers more comprehensive service and application ecosystem.

It should be noted that the mobile service platform and thus the network effects could be perceived to operate also on multiple platform layers. For example, mobile service platforms can be usually separated into three platform layers: a software based layer, a hardware based layer and a data network based layer. Even though different network stakeholders operate these platform layers, they can be perceived as interlinked because layers has been built upon each other. In this layered structure, the underlying layer is the data network layer provided by network service providers, while the hardware layer – provided by mobile phone manufacturers – is built upon this data network layer. The hardware layer serves then as a platform for the software platform layer on top of which the actual services are built upon. However, it should be noted that, the examination is primarily based on the hardware layer of the platforms. Moreover, the layered platform structure was identified during the working process of this thesis and thus these platform layers may not be distinguished very visibly from each other in the examination framework.

2.2. Diffusion of Innovations

As Ballon & Hawkings (2008) noted, mobile phones have evolved into platforms for innovation. Hence, these innovations integrated into mobile phones may act as triggering force for consumers to switch their mobile phones for models that incorporate – or accommodate better –

desired new features. Everett Rogers proposed a theory already in early 1960's regarding how innovations and new technologies spread among different cultures and consumer groups. This diffusion of innovations theory (Rogers, 2003) may be utilized also in examination of mobile phone switching behavior because the main elements for mobile service platform adoption coincide with the elements identified in the diffusion of innovation model (Shankar & Balasubramanian, 2009).

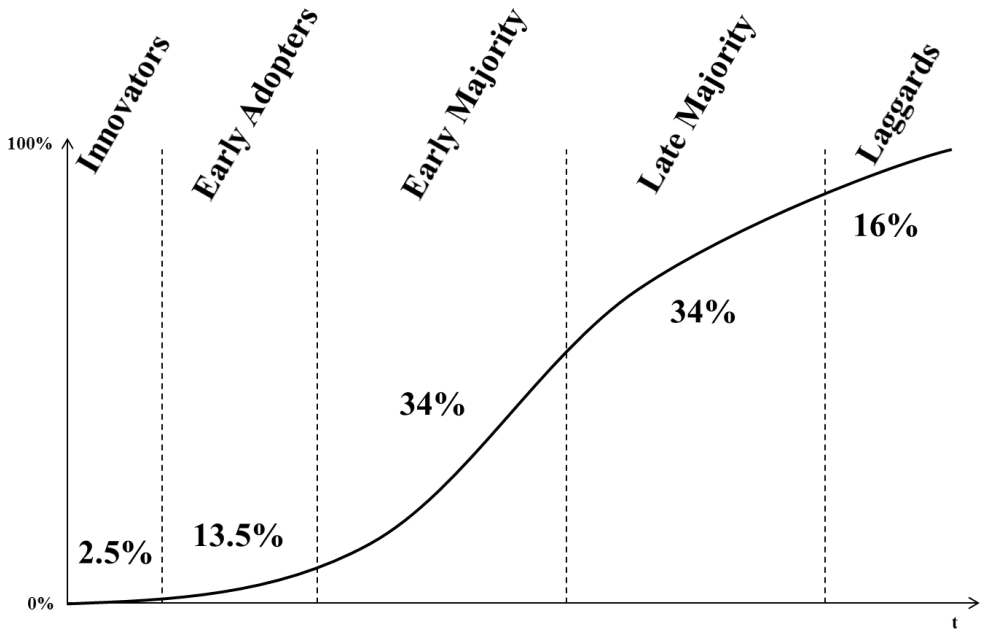


Figure 1 Diffusion of Innovation Adopter Categories Adapted from Rogers (2003)

The diffusion of innovations model is illustrated in Figure 1 where a cumulative S-curve portrays the spread of innovations among population over time. In the curve, the population is divided into five categories: innovators, early adopters, early majority, late majority and laggards. The innovators – or lead-users as von Hippel (1986) labeled them – are a small group of first movers that lead the transition towards new technology well in advance of the population majority. The second category, early adopters, is already larger group and they tend to adopt the technology before it has become established. The middle categories, the majorities, encompass the bulk of population and they transition the new technology from novelty towards a standard. The last category, the laggards, consists of rest of the population that is less than eager to comply with the

transformation of technological standards and may even postpone their adoption to the latest possible moment before abandoning the old technology. (Rogers, 2003).

The adoption decision process is described in five phases. First, there is just mere knowledge of the innovation existence without any particular interest to adopt it. Second, the general knowledge within an individual transforms into interest to seek more information regarding the innovation. Third, the individual begins pondering the positive and negative aspects of the innovation adoption and makes the initial decision whether to accept or reject the innovation. Fourth, the individual enters the trial phase wherein he or she seeks more in-depth and hands-on experiences regarding the innovation to ascertain his or her initial stance. Last, phase is the confirmation in which the individual makes the final decision over the continuation of the innovation usage. This stage may have also an interpersonal aspect wherein the individual also seeks an acceptance of people related to the innovation adoption. (ibid.).

Multiple factors though moderate the adoption decision process. At a highest level, the decision is dependent naturally upon who actually makes the decision and whether it is made by an individual's own decision without any external influences. Furthermore, the adoption decision is moderated by a nature of the innovation, a time dependency of the decision, communication channels through which the information regarding the innovation is communicated and a surrounding social system. (ibid.)

Building upon these moderating factors, three types of innovation adoption decisions were identified. First, the decision may be optional so that the individual wishes to differentiate him- or herself from the surrounding social system. Second, the adoption decision can be done collectively so that the decision is agreed upon together with the individuals within the social system. Third, the individuals may not make the decision by themselves but rather the decision to adopt a new technology can be dictated by an authority figure or authorities with an influence over individuals within a social system. (ibid.).

At lower level, the adoption decision is moderated by factors influencing the nature of innovation element. Such a factor is for example a relative improvement in which the capabilities of the new technology are compared to the capabilities of the previous generation. Furthermore,

factors such as how well the innovation conform to the requirements of the individual's needs and how easy it is to use have also influence over the nature of innovation. Additionally, the adopting decision is also affected by the extent of how easily the innovation is possible to test and be experienced prior to the adoption decision. Moreover, also the visibility of the innovation to others may have an effect to the adoption decision because the visibility evokes more reactions and these reactions can be amplified even further through communication within a social system. (ibid.).

2.3. Technology Acceptance Model and Motivational Theory

2.3.1. Evolution of Technology Acceptance Model

The TAM has been defining the technology adoption literature over the years. It has been described as the dominant paradigm in this field of study (van der Heijden, 2004), but it has been also required to go through multiple revisions too (see for example, Venkatesh & Davis, 2000; Venkatesh et al., 2003; Venkatesh & Bala, 2008; Venkatesh et al., 2012). The TAM was originally coined by Fred Davis (1989) drawing the foundation for it from the theory of reasoned action (Ajzen & Fishbein, 1980). The initial version of the theory proposed two factors to moderate technology acceptance: perceived usefulness and perceived ease of use. The perceived usefulness was defined as a level at which an individual believes he or she can take advantage of technology's capabilities in job performance context. Furthermore, the perceived ease of use is defined as a level at which an individual believes that utilizing the particular technology will be free of great efforts.

Although perceived usefulness and perceived ease of use has been proven by subsequent research as important elements of technology adoption (Benbasat & Barki, 2007; Tuunainen et al., 2012b), the context related inconsistency of relationships among main elements found across various studies has questioned the generalizability technology acceptance model (Sun & Zhang, 2006). Furthermore, the model has been described as "parsimonious in nature" (Yang et al., 2012, p. 530) leading originally to an omission of multiple applicable aspects. Such aspects or elements have been identified as for example a behavioral and a subjective norm (Pedersen, 2003) as well

as variables that encompass ubiquitousness of mobile technology in mobile service platform context (Kim et al., 2007; Legris et al., 2003).

Due to the popularity of the TAM and arising criticism towards the model, multiple refinement efforts have been conducted to the model over the years in response. Viswanath Venkatesh has principally led these further development efforts. This has led to consideration of social influences of technology acceptance and a proposing of extension elements to the model such as a subjective norm, experience and voluntariness that moderate the adoption process (Venkatesh & Davis, 2000). The subjective norm is defined as a perception of an individual of how he or she is expected to act in any given situation. Moreover, the experience is viewed as prior familiarity with the examined system while voluntariness is the perceived extent freedom in decision-making.

Additionally, four constructs were identified to have an effect to the perceived usefulness element: image, job relevance, output quality and result demonstrability (Venkatesh & Davis, 2000). Moreover, the model was extended later with determinants affecting perceived ease of use. These elements were computer self-efficacy, perception of external control, computer anxiety, computer playfulness, perceived enjoyment and objective usability (Venkatesh & Bala, 2008). As one can see these constructs are more or less anchored to work-related systems maybe apart from image, defined as an extent of enhancing an individual's status in a social system by using the technology (Venkatesh & Davis, 2000) and perceived enjoyment, defined as extent of which a user finds the actual usage of a particular system enjoyable (Venkatesh & Bala, 2008).

2.3.2. Motivational Perspective to Technology Acceptance Model

It should be noted that the roots of the TAM have been in production-oriented information systems. This is natural since the TAM is originally a derivative of theory of reasoned action (Ajzen & Fishbein, 1980) that has been subsequently described as rationale emphasizing and affection discarding theory (Brave & Nass, 2002). Thus, due to its premise, the TAM has been principally applicable only to work related research settings (Kleijnen et al., 2007; Moon & Kim, 2001). Therefore, it can be deduced that the primary motivational assumption in these models is

that the users are motivated through an extrinsic motivation. The extrinsic motivation can be described as a motivation for activity to produce a separable outcome (Ryan & Deci, 2000).

Mobile phones on the other hand can be perceived as more pleasure oriented, hedonic information systems rather than work-oriented systems. For example, if mobile phones can be considered as luxury goods, according to Truong and McColl (2011) the principal motivation to use these luxury goods is an intrinsic motivation. The intrinsic motivation can be defined as a counterpart for extrinsic motivation aimed for activity that is self-fulfilling and inherently satisfying without a separable output (Ryan & Deci, 2000).

Hur et al. (2012) identified emotional and epistemic values along with functional values to affect acquisition intentions relating to convergence products. The emotional and epistemic values can be defined as the value gained from a capacity to provide originality, invoke interest or satisfy a craving for knowledge and a capacity to invoke feelings or affection, respectively (Sheth et al., 1991). These values can be related to intrinsic motivations, as they are associated with internal satisfaction. Conversely, functional values can be associated with utilitarian, extrinsic motivations. As mentioned in the first chapter, mobile phones can be perceived as convergence products (Shin, 2007). Thus, by extension, it may be suggested that these motivations associated with convergence product acquisition can be related to mobile phones too.

A further evidence of intrinsic motivations related to mobile phones has been found also; young user groups have been identified to utilize mobile phones also as artifacts of self-expression by giving them an additional purpose of a fashion statement (Katz & Sugiyama, 2006). Moreover, also Tuunainen et al. (2012a) found evidence of linking mobile phones to users' social identity. Additionally, the increasingly common usage of the Internet even in mobile phone context has been linked strongly to intrinsic, hedonic motivations (Bruner & Kumar, 2005; Wakefield & Whitten, 2006).

2.3.3. Evolution to Unified Theory of Acceptance, Use and Technology

The perspective differences regarding the use motivation of technologies has hindered the universal applicability of the TAM. Consequently, it has been pointed out that a different type of

evaluation tactics should be utilized to hedonic information systems as opposed to production oriented, utilitarian information systems (van der Heijden, 2004). The aforementioned criticism regarding the underlying motivational and use context assumptions has led to reforming of the TAM again to incorporate more universal perspective towards technology acceptance. Thus, the TAM has evolved into Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003) – henceforth referred as UTAUT – which has been developed further along the supplementary development of the TAM.

The new model introduced performance expectancy, effort expectancy, social influence and facilitating conditions as determinants for adoption and use of technology. The performance expectancy – a broader construct of perceived usefulness – is the extent of which an individual thinks he or she can enhance his or her performance related to the underlying technology, while the effort expectancy is in broader terms the degree of ease of use. Moreover, the social influence refers to the extent of which an individual believes others to have expectations regarding the technology usage. Furthermore, the facilitating conditions are defined as the extent of how much organization and technical infrastructure supports the use according to the individual's perception. Additionally, these constructs were identified to be affected by demographical elements of age and gender along with the previously recognized experience and voluntariness. (Venkatesh et al., 2003).

Recently the UTAUT has been taken into a consumer context with an inclusion of new variables. The additional elements consist of hedonic motivation, price value and habit that are defined as an enjoyment stemming from the usage, a subjective trade-off between gained benefits and monetary loss as well as behavioral tendencies to which individuals automatically revert, respectively. Furthermore, the newer version of the UTAUT omitted element of voluntariness from the consumer context. (Venkatesh et al., 2012). However, it should be noted that the omission of voluntariness could be interpreted as an assumption that individuals are free to make the decision on their own in every consumer technology adoption situation. Conversely, this may not be the case all of the time in the switching context as will be shown on the course of this thesis.

2.3.4. Evolving Technology Adoption Models and Mobile Phone Switching

The iterative evolution of the TAM as well as the widespread utilization of it among researchers has been described as problematic. The multiple versions have left the researcher community without a consensus about which of the TAM's versions should be considered as the final version (Benbasat & Barki, 2007). This has led to a wide variety of the TAM frameworks being utilized in technology adoption literature. To add the confusion, the parsimonious nature of the TAM has caused a surge of context related extension elements to be included across various studies. Yet still, the models have been applied often without any critical evaluation of the original construct relationships (Straubt & Burton-Jones, 2007).

In the light of the criticism, the fit of the TAM and the UTAUT to the mobile phone switching behavior can be questioned. Although the models comprehensively provide a good foundation and a lot of applicable components for the examination of mobile phone switching behavior from consumer perspective, they may not be the best possible fit for the concept as a whole. The underlying premise of the TAM and the UTAUT is principally that something completely new is taken into use. Conversely, nowadays in the case of mobile phones, nearly no one is unfamiliar with the basic functionalities of a mobile phone since it is an antecedent of a far older invention: a telephone. Furthermore, in the sample set examined in this thesis less than 10 percent of the sample population had not owned a mobile phone themselves prior to the most recent mobile phone adoption. Therefore, it can be argued that the mobile phone switching is usually a mixture of an adoption some new features as well as migration to use some familiar features on a different platform.

The research utilizing the TAM and the UTAUT frameworks in mobile phone context has been focusing primarily on specific features such as the mobile internet or variable mobile services (see for example Kleijnen, 2004; Shin, 2007; Wang & Li, 2012). Moreover, the TAM research in the mobile phone context is brought to more comprehensive terms only when discussing new market changing, convergence technologies such as the smartphones (see for example Chun et al., 2012; Kang et al., 2011; Park & Chen, 2007). Hence, the mobile phone adoption is not examined as a whole but only through a subset. Therefore, it can be argued that the experience

component and the trade-off comparison between old and new inherent to the migration may have been underrepresented in the TAM and UTAUT if the theories are brought into the broader context of mobile phone switching behavior. Since the novelty aspect seem to be characteristically present with the TAM based studies, the influence of use experience is somewhat hindered or possibly skewed in the models as they do not take into account the what was the origin state prior to adoption or switching and thus provide only a narrow perspective on the experience component.

2.4. Push-Pull-Mooring Framework and Switching Costs

As mentioned, mere adoption frameworks such as the TAM and the UTAUT may not be sufficient when we are examining switching behavior. This is due to that switching is not thematically just about adoption but rather about migration, which involves the previous generation of technology and familiar elements associated to it more comprehensively. The TAM on the other hand inherently assumes a component of novelty in the model, which may not be involved in every imaginable mobile phone switching decision. For example, a switch from a particular mobile phone model to that same model seems to be an alien concept in the TAM and the UTAUT contexts. Therefore, the TAM categorically overlooks the complexity of use experience influences of previous technology generations in the consumer context. Conversely, an extended version of a traditional migration theory called Push-Pull-Mooring framework (Lee, 1966; Moon, 1995) – henceforth referred as PPM framework – provides more comprehensive outlook to mobile phone switching. It takes into account also the experience and conditions of the state prior to switching as well as acknowledges the possibility of switches that incorporate only a switch of a physical device without any changes at the functional or content level. Thus, the PPM framework will be utilized as an outline for evaluation in the mobile phone switching behavior examination.

In general, the term migration signifies a movement of a people for a measurable term of time (Boyle & Halfacree, 1998). The migration theories have thus a long tradition dating back to the 19th century since they are conceived to model spatial movement of people (Bansal et al., 2005). The PPM framework of migration models consists of three key effects or forces that moderate

the migration decision: push effect, pull effect and mooring effect. The push effect has been defined as negative factors relating to the place of origin that encourage an individual to leave while the pull effect is comprised of positive attracting factors of a potential new destination (Lewis, 1982). Furthermore, the moorings effect can be defined as personal or social aspects that can hinder a migration decision or ease a decision not to migrate (Bansal et al., 2005; Moon, 1995). These definitions can be easily conveyed to mobile phone switching context by assuming the place of origin to be the previously used mobile phone and the potential destination to be the target of the switch: a newly adopted mobile phone.

Although the PPM framework originates from completely different context to mobile phone switching behavior, the framework has been successfully – though sparingly – applied to information technology and consumer service switching contexts. However, no prior application of PPM framework to a comprehensive examination of mobile phone switching could be found. Hence, the framework has been only applied to contexts such as for example: a general consumer service switching (Bansal et al., 2005), a general information technology service switching (Lui, 2005) and mobile shopping service switching contexts (Lai et al., 2012). Additionally, multiple studies have applied the framework for switching of variable internet-related services (Cheng et al., 2009; Chiu et al, 2011; Hou et al, 2009, 2011; Hsieh et al., 2012; Ye, 2009; Zhang et al., 2008).

As the model is applicable to also mobile phone switching, the components of PPM framework runs parallel also with elements of relational theories presented earlier. For example, the relative improvement component in the diffusion of innovations (Rogers, 2003) is effectively evaluation of trade-off between pull effect factors and balance between push and mooring effect factors. Furthermore, the mooring effect is closely related to a network effects associated concept of switching costs. Classic switching costs are inherent to a situation in which a consumer find it costly to switch vendors and thus continues repeatedly to buy from the same vendor (Farrell & Klemperer, 2007). High enough switching costs are manifested in a concept of a lock-in (ibid.), a situation in which the mooring effect becomes so powerful that it prohibits migration from a platform to another completely. The lock-in can be non-mandated as in the case where consumer believes that there is no better alternatives and thus continues as a customer of a particular

vendor. The mandated lock-in effect on the other hand is present for example in the case of SIM-card lock-in; a mobile service platform is designed in such a way that it will only work with the SIM-card of a particular network provider.

As the PPM framework has been originally conceived for a migration of people, a concept of multi-homing has not been previously incorporated into the framework. Effectively this would mean that in migration context a migrant would decide to end up in a multiple destinations simultaneously or even migrate from multiple origins. However, in the mobile service platform context this is possible when multiple platform providers offer different type of value to the consumer. If the value proposition are high enough for a consumer to adopt them and a converging product including all of these value propositions integrated in a single platform is lacking from the market, then in this type of situations the consumer may opt using multiple platforms simultaneously. This situation of multiple platforms in use is called multi-homing (Farrell & Klemperer, 2007). This is though a rather rare case due to increasing homing costs – such as adoption, operation and the opportunity costs of time related to additional mobile service platform – hinder the multi-homing adoption (Eisenmann et al., 2006).

2.5. Related Mobile Phone Switching and Adoption Research

The anterior research regarding mobile phone related switching and adoption has been leaning towards adoption and primarily connected to the rather dominant TAM as indicated in the previous chapters. Though to be more precise, the literature has been examining principally the adoption of mobile phone related features and services rather than examining adoption of mobile phones as a whole product. Moreover, when the focus is not just on the features or services, the examination is often restricted to a particular mobile service platform category such as smartphones.

For example, mobile phone switching related adoption research has been looking into mobile internet. Teo and Pok (2003) utilized the theory of planned behavior (Ajzen, 1991) and an adapted TAM (Davis, 1989) to conclude that attitudinal and normative factors moderate early stage mobile internet adoption. Similar results has been found also with a modified TAM

framework in the terms of attitudinal factors (Shin, 2007). Furthermore, in mobile internet adoption context, context dependency (Yang et al., 2012) and social pressure (Shin, 2007) have been found to affect technology adoption also.

Pedersen (2003) utilized a similar adapted TAM as Teo and Pok (2003) to mobile internet services concluding also with similar results that attitudinal factors moderate the adoption. On the other hand, Karaiskos et al. (2012) found with model adapted from the TAM antecedents theory of reasoned action (Ajzen & Fishbein, 1980) and theory of planned behavior (Ajzen,, 1991) as well as from theory of human behavior (Triandis, 1977) that hedonic enjoyment and utilitarian perceived usefulness along social factors affect mobile data services adoption. However, the hedonic factors have been found also being strikingly less effective measure of adoption compared to the other two measures in the same context (Kim & Han, 2009). Conversely, the social influence along with system quality has been also identified as a significant adoption component when an adapted TAM model is utilized in a mobile commerce context (Kleijnen et al., 2004) as well as in a mobile internet services context (Lu et al., 2005). Additionally, the traditional TAM constructs, the perceived usefulness and the perceived ease of use from utilitarian perspective has been confirmed as mobile service adoption denominators (Lu et al., 2005; Phan & Daim, 2011; Wang & Lin, 2012). Moreover, also brand equity has been singled out as a moderator affecting mobile service adoption (Wang & Li, 2012).

The adoption research examining the hardware layer of mobile service platforms rather than just virtual software platforms or services has determined that perceived ease of use is the most distinctive moderating factor for mobile phone adoption (Kwon & Chidambaram, 2000). Based on the result of Kwon & Chidambaram (ibid.) van Biljon & Kotze (2007) proposed their own, heavily the TAM and the UTAUT influenced model for the mobile phone adoption. The model singled out social influence as moderator for perceived usefulness and perceived ease of use. Furthermore, all the model components are identified to be affected by facilitating conditions. Moreover, all of the model components are also determined to be influence by mediating factors such as demographic factors, socio-economic factors and personal factors.

While many of the aforementioned researches studied mobile phone related adoption behavior principally in an individual level, Roberts & Pick (2004) examined a corporation-led mobile phone adoption. From corporation perspective, the most important adoption determinants were identified in technological level as security, reliability, digital standards and internet connectivity while customer service was identified as most important non-technological mobile phone adoption factor.

More recently the literature on consumer level mobile service platform adoption has been examining more technically advanced mobile service platforms such as smartphones and their antecedents: personal digital assistants. In the personal digital assistant context, utilitarian perceived usefulness was found to be a determinant for adoption (Bruner & Kumar, 2005). However, the hedonic enjoyment was indicated to be even stronger determinant than the utilitarian aspect in the mobile internet device adoption (ibid.). In smartphone context though the hedonic and utilitarian aspects are deemed as equally important while social influences and positive self-image are reported as influencing factors too (Chun et al., 2012). Other adapted TAM studies relating to the smartphone adoption suggested that there might not be a direct link between perceived ease of use and smartphone adoption but rather an indirect one. Furthermore, these studies also concluded that attitudinal factors, functional factors and perceived usefulness affect the adoption directly (Kang et al., 2011; Park & Chen, 2007). Moreover, a support were found also for monetary influences such as perceived costs savings and company's willingness to fund along with moderating factors such as experience and job relevance (Kim, 2008).

The antecedent studies related to the SWITCH project have been examining the whole switching process by incorporating perspective of multiple mobile phone generations in their examination instead of just a single generation, as is usually the case in the TAM related adoption studies. The first one (Tuunainen et al., 2012a) concludes that the expressed reasons to switch mobile phones were rational. The rational reasons were described to be related to mobile phone price, technical problems with the previous generation of phones or desires relating to potential next generation phones. However, a role of social influences was also identified as a source for switching reasons. The social influences are described as strong and peer-related in association with application migration while more tacit social influences are associated with the hardware

level switching. Additionally, the role of brands was recognized in regards of switching behavior along with network effects. In the case of network effects, the cross-side network effects relating to especially application availability were determined as strong.

The second SWITCH study (Tuunainen et al., 2012b) examined the differences of mobile phone switching influencing factors between lead and lag markets. The lead and lag markets refer to matured market with high distribution of smartphones and young market with low distribution of smartphones, respectively. The study concluded that the effect of social influences diminishes in the lead markets while the role of functional factors increases regarding the consumer expressed mobile phone switching.

3. EMPIRICAL DATA

This chapter establishes the approach used and explains the underlying data set that is utilized for this thesis by describing the data content as well as data collection and definition methods. Furthermore, a description is provided on the data handling and interpretation methods along with the definitions for the key concepts such as mobile phone types. Moreover, an outlook is given on the general sample profile to certify the usability of the data set.

The three subsections of this chapter are organized in the following manner; first, the data gathering method, a survey questionnaire, is presented in terms of content, coverage and restrictions. Second, an approaches to data harmonization and possible missing pieces of the data are described as well as the differentiation between smartphones and feature phones is defined. Third, a profile of the sample that was used in the more detailed analyses is provided in terms of demographical and mobile phone related variables.

3.1. Data Gathering Methods and Survey Questionnaire Content

The data set was collected in form of a questionnaire survey from 249 college students. Four different universities were targeted as a setting to collect the data. These universities were Aalto University School of Business in Finland, University of Oulu also in Finland, University of Nebraska-Lincoln in the United States and Punjabi University in India. In Aalto University and University of Nebraska-Lincoln, the surveys were conducted to students participating on a particular course and the participants were able to receive extra study credits for completing the questionnaire, while in University of Oulu and Punjabi University the participants were offered a chance to voluntarily participate in the survey. In the case of the Punjabi University, a little less than one quarter of the sample were extended with randomly targeted sampling in the university campus due to voluntary turnover remaining too low compared to samples from other locations.

The questionnaire consisted of multiple types of questions – open-ended and in likert scale for example – regarding respondents' approach on usage of mobile phones and switching between them, mobile platform services as well as mobile network operators. Additionally, these surveys

had a little bit of variation across the different countries regarding the questions asked because of questionnaire design evolution. However, the variation of the surveys does not affect the examination of this thesis since the primary focus of the examination is restricted only to five open-ended questions that were structured in the same fashion across all the survey questionnaire versions. The questions upon focus are:

- *What did you like about your previous mobile phone?*
- *What did you dislike about your previous mobile phone?*
- *What do you like about your current mobile phone?*
- *What do you dislike about your current mobile phone?*
- *Explain in your own words, what were the reasons for the switch?*

Additionally, information regarding the referred mobile phones in the question above were collected in terms of mobile phone manufacturer brand and model along with questions regarding demographic and mobile phone switching related factors. The answers to these questions were involved in the examination to provide comprehensive outlook on the sample characteristics. These characteristics included age, gender, working situation, the time of last mobile phone switch measured in months, total number of feature phones owned, total number of smartphones owned, phone bill payer and primary use purpose of the phone along with the brand and type of the previous and current phones. An excerpt of the relevant questionnaire content is provided in the Appendix A.

3.2. Data Harmonization and Definitions

3.2.1. Incomplete Data and Approach to Data Harmonization

The qualitative answers in open-ended questions were standardized to more quantifiable form using qualitative data coding. The coding process and its underlying framework will be presented more elaborately in the subsequent methodology chapter. In addition to the open-ended answers, also some ordinal and categorical data points required standardization due to variability of answering techniques and interpretation of the question contents. For example, a number of respondents left part of the questions unanswered, while several respondents – particularly in the

American sample subset – referred to a brand of their mobile service operator instead of the intended mobile phone manufacturer brand. This section will discuss about the approach and practice of how the data of varying quality will be interpreted.

In a questions regarding respondents' number of mobile phones used, quite a few of the respondents left either the number of smartphones owned and number of feature phones owned question unanswered. In these occasions if only the other field was left blank, the interpretation was that the respondents have not owned a phone of that particular category and the response was not deemed as undeterminable. On the other hand, in the case in which a respondent had left both of the answering fields blank, the answer in this case is deemed as undeterminable and excluded from the demographic profile examination.

Similarly in the question regarding the time passed since the last mobile phone switch, few respondents left the question completely unanswered. As in the case of number of mobile phones owned, these were excluded from the sample. Additionally, 11 respondents were unable to provide an answer in an asked time span of one month and approximating the most recent switch time in a span of one year. These 11 responses were included in the examination so that their last switch time was approximated at the middle point of the year's time span.

In the American subset, it was evident that the strong role of mobile service operators in the mobile phone market was affecting the brand identification of the respondents. This was manifested through question regarding mobile phone brands as instead of referring the mobile phone manufacturer brands, some of the respondents referred only to the mobile service operator brands. However, as the mobile phone manufacturers were the interest of this question, the actual manufacturers were attempted to track and determine based on given mobile phone model name. The identification of mobile phone manufacturer brand was successful in most of the cases. However, few remained unsolved and these responses were accounted as undeterminable in the data.

3.2.2. Mobile Phone Type Definition and Identification

An important mobile phone type definition determines how to divide the phones between smartphones and feature phones. It is important because the definition gives a clear and generalizable indication of technical standards and service capabilities of the mobile service platform. This technical differentiation can also easily illustrate the technological transition inherently experienced in mobile phone markets as was pointed out in the previous chapters.

Making a distinction between smartphones and feature phones has been quite difficult for a long time since no comprehensive consensus has not been reached regarding the exact definition. Rather the presented definitions often remain fuzzy or vague about the complete list of functions, features and qualities that differentiate smartphones from feature phones. For comparison, Kang et al. (2011) in their research with quite similar objectives as this thesis cite Park & Chen's (2007) very vague and already maybe a bit archaic definition; a smartphones is a combination of various functionalities of a generic mobile phone and a generic personal digital assistant including the mobile internet. However, the technological change in half of a decade has been immense. The broad range of evermore-sophisticated functionalities has become available in mobile platforms labeled as smartphones while wide range of the features previously considered as smartphone functionalities has been commoditized in all types of mobile phones – even the ones usually labeled as feature phones. This has made the differentiation evermore fuzzy and the continuing technological race will persist to do so even in the future (Charlesworthy, 2009).

Since the definitions still remain rather broad and vague in the field, the industry definition by Gartner Inc. (2012a) was chosen as a baseline for this thesis due to its practical value. The Gartner definition is not too dissimilar to the aforementioned definitions of Oxford Dictionaries (2013) and PC Magazine (2013) either. In the definition, Gartner establishes the differences between smartphone and feature phones at an operating system level and regards mobile platforms running on closed, proprietary and non-branded operating systems as feature phones. In practical terms, only the phones with identifiable and branded smartphone operating systems – such as Android, iOS, Symbian, Maemo or Meego – are labeled as smartphones in this data set.

As the definite differentiation between smartphones and feature phones remain fuzzy partially even in the academi, it was not purposeful to ask straightforwardly from the respondents how they label their mobile phones. Therefore, all of the given answers regarding mobile phone models were to be verified individually. The need of verification to harmonize the data was amplified by the fact that respondents were not always very exact concerning the actual model of their mobile phone or the names of the same models varied a bit between different regions. Especially determining the previous phones was rather difficult since many of the respondent seemed to have trouble to remember the exact model of their previous phone. However, this is quite natural since in some occasions the respondents had switched phones previously already years before participating in the underlying survey of this thesis.

The mobile phone models and the status as either smartphone or feature phone were confirmed by cross-referencing the given details such as the mobile phone brand and model names from multiple different online sources. The online sources included the manufacturer's websites and – in the case of older models already withdrawn from the sales – mobile phone models aggregating websites such as GSMarena (2012) and Wikipedia (2012). Obviously, these websites may not be the most reliable or scientific sources of information to verify whether the phone in question is a smartphone or a feature phone based on technical specifications. However, an availability of sufficient technical experts for the evaluation is very scarce since the evaluated sample consists of more than 400 mobile phone model names given in varying detail accompanied with the fact that these models are from different parts of the world and with oldest ones having their initial sales release more than a decade ago. Hence, on the purposes of this thesis, the determination of the smartphone-feature phone differentiation must rely on the information provided by these aforementioned websites. Conversely, the cross-referencing from at least two sources serves as the assurance of the data integrity so that the results should be expected to be reasonably accurate regarding the smartphone-feature phone differentiation.

3.3. Sample Set Demographic Profile

The examined sample consisted of responses from 249 respondents of which 82 are from Finland, 81 are from the United States and 86 are from India. Yet, it should be noted that Finnish sample

consisted of two subsets: the main set of 68 respondents from Aalto University and the supplementary set of 13 respondents from University of Oulu. Nevertheless, in the context of this thesis, these geographical sample subsets are primarily aggregated together and examined as a single sample set in order to simplify the data presentation. However, these sample subsets provide an intriguing opportunity to compare differences between different geographical market areas for the purposes of further research.

As the sample consisted of college students, it is natural that the mean age of the respondents is only under 25 years of age. Furthermore, as the standard deviation of age is only 4.40, one can infer that this is rather homogenous sample regarding the respondents' age. Moreover, the gender distribution is inclined towards males as their share of the respondents was over 60 percent. The male dominance was especially amplified by the Indian subset, which had over 70 percent share of males among the respondents. Additionally, the share between working and not working respondents was almost equal with grave differences among different geographical subsets. Consequently, these measures indicate that on the whole this sample is not very generalizable to represent whole mobile phone user population. The itemization of age variable can be found on Table 1 Ordinal Demographic Variables while the gender and working status itemization can be found on Table 2 Nominal Demographical Variables.

When examining the demographical variables relating to mobile phone ownership and switching behavior, it can be inferred that the respondents have relatively fast adoption cycle for new mobile phones if the time of their last switch is used as a proxy for estimation. The average time since the last switch was a bit over 14 months while the median was only 10 months. Depending on the sources, on average the life cycle of a smartphone has been estimated between 18 and 24 months (Cellular-News, 2009; NDP Group, 2011). With the standard deviation being a bit less than 14 months, we can say that variability of last switch times is high as expected. Therefore, on average the respondents seem to switch phones maximally within 28 months according to this proxy estimation, which also would accommodate the other estimations (ibid.).

Table 1 Ordinal Demographical Variables

	Range	Median	Mean	Standard Deviation	Notes
Age	19–47	24	24.63	4.40	Age standardized to be measured at the end of year 2012
Time Since Last Switch in Months*	0–81	10	14.22	13.83	In unclear cases the middle point of the given time span was utilized.
Feature Phones Owned**	0–15	3	3.61	2.42	
Smartphones Owned**	0–10	1	1.54	1.43	
Total Phones Owned**	1–18	5	4.99	2.99	

**n=234 **n=218*

Table 2 Nominal Demographical Variables

Group	Amount	Share
Gender Demographics		
Males	153	61.45 %
Females	96	38.55 %
Working Status		
Working	115	46.18 %
Not working	124	49.80 %
Unclear	10	4.02 %
Current Phone Primary Use Purpose		
Personal	208	83.53 %
Mixed Personal and Business	23	9.24 %
Business	7	2.81 %
Unclear	11	4.42 %
Current Phone Carrier Bill Payer		
User	118	47.39 %
Family Member	115	46.18 %
Employer or Other Organization	12	4.82 %
Shared Payment with a Family Member	2	0.80 %
Unclear	2	0.80 %

The faster adoption cycle compared to estimations of aforementioned sources can be explained with the fact that measurement proxy utilized in this case examines how long the respondents have owned their current phone while they still use the phone. In other words, the phone used has not reached to the end of its life cycle making the measurement incomplete. However, as mentioned earlier, this measurement is only utilized as a proxy measure instead of an absolute measure. Additionally, the sample profile may have some effect on the quickness and variation of switching cycle portrayed by the sample of this thesis. The sample consists of relatively young people in terms of age and as university students, they are more probable eventually to rank in higher social classes. This coincides with the profile characteristics of innovators, the first movers in diffusion of innovations model (Rogers, 2003). Von Hippel (1986) described these innovators as visionaries who sense the future needs of a general population regarding possibilities created by new technological applications well in advance. Hence, the innovators make an interesting group for examination as they can be utilized as a test bed for predicting future needs of the general population (Tuunanen et al., 2011). An itemized presentation of the last switch variable is provided in the Table 1 Ordinal Demographical Variables.

Regarding the amounts of phones owned, the respondents does not remain exactly novice users of mobile phones as the mean and median amount of mobile phones owned in their life time is approximately five. Therefore, for many parts it also debunks the novelty assumption inherent to the adoption research at least in the mobile phone switching context. However, it should be noted that 21 respondents – 19 from India and 2 from the United States – reported currently having their first mobile phone in use. When examining the variability of the phone ownership, it can be inferred based on standard deviation that on the average a respondent has owned between one and eight mobile phones during their life time of which majority has been phones labeled as feature phones. The itemization of phone ownership can be found in the Table 1 Ordinal Demographical Variables.

The primary use purpose questions revealed that in this sample respondents utilize their mobile phones on personal use. Only approximately one in ten respondents used their current phone – primarily or partly – in working context. The large portion of personal use as primary phone use purpose implies that labeling mobile phones primarily as hedonic information systems should be

correct. Additionally, the share of personal use also implies that on average the influence of employers should be rather small as the respondents primarily dictate the usage of their phones on their own. Furthermore, the weight of employers' influence on switching decision by large is also expectedly diminished by the fact that only one in twenty of the respondents have their employer responsible for continuous costs of the mobile phone. However, the external social influences cannot be omitted from the examination since according to this sample more than half of the respondents are not financially self-sufficient regarding their phone bill. In these cases, a family member – usually parents or another close relative – primarily pays the carrier bill. This fact of course implies about possible social influence on switching decisions by these close relatives. The exact figures of primary phone use purpose and bill payer identity are provided in the Table 2 Nominal Demographical Variables.

4. DATA ANALYSIS METHODOLOGY

This chapter elaborates the methodologies utilized in this thesis. Principally the methodologies concern the inductive coding process and framework that ultimately creates the analyzed data set. Hence, a methodological grounding for the inductive approach and coding of qualitative data is provided. Moreover, a description of coding process in this thesis is delivered along with an elaboration of how this process constructs the data into a coding framework. Additionally, a detailed description of the framework content, codes and code categories are given. Aside of coding methodology, an elaboration of the analysis methods utilized on the codifications is also presented in this chapter.

The chapter is split in to three subsections: the theoretical grounding of research methods, the coding methodology and the analysis methodology. The first subsection summarizes how methodological handbooks have approached the inductive research and the coding of the qualitative data. The second subsection, the coding methodology, begins with the descriptions of coding process and framework and then continues with code category descriptions. However, the more elaborate descriptions for each individual code are provided in the Appendix B. Last, the chapter concludes with the explanation of analysis methods used both at the general level of examination as well as at the detailed level of examination.

4.1. Theoretical Grounding of Research Methods

A research process can be divided into deductive and inductive approach, which is illustrated in a Research Wheel (Rudestam & Newton, 2007) in the Figure 2. The deductive approach builds research from conceptual frameworks already existing in the academic literature and aims to evaluate the existing frameworks, models and theories based on empirical observations. Conversely, the inductive research approach draws from the collected data and empirical observations on order to generalize these observations towards a model or a framework.

As stated in the previous section, the related research to mobile phone switching behavior has been more or less mainly deductive research basing principally on the TAM frameworks.

Therefore, there seem to be a void of inductive research regarding the subject. Furthermore, this thesis is based on qualitative material. Consequently, the inductive approach is inherently built in this research as methods applied to qualitative research material are essentially inductive (VanderStoep & Johnston, 2009). Therefore, along these facts, a general inductive analysis approach is more justified method for the purposes of this thesis than the deductive approach.

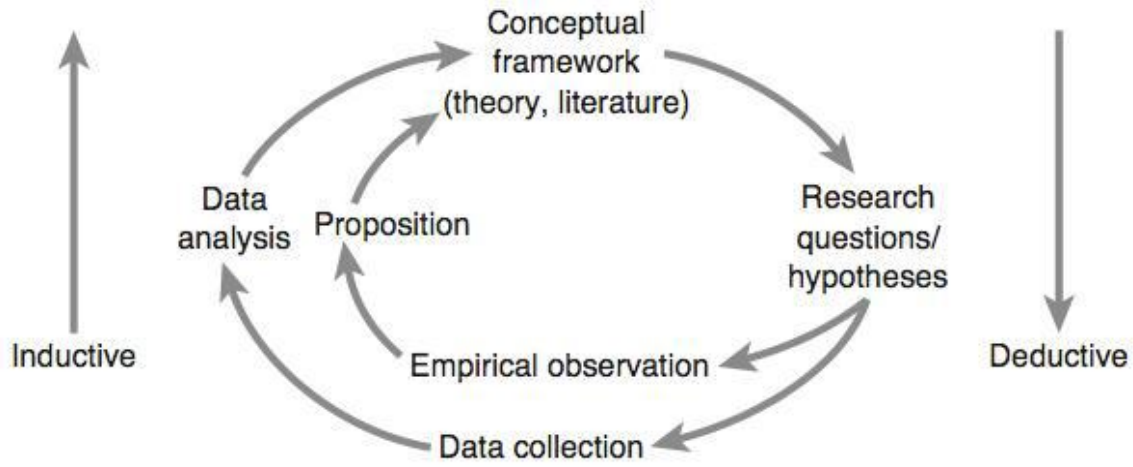


Figure 2 Research Wheel (Rudestam & Newton, 2007, p. 5)

The general inductive analysis approach can be described as a systematic process guided by a specific objectives or principles to analyze a qualitative data set. In the academic research context, these objectives or principles concur usually with the research questions. The process of general inductive approach can be divided into three steps. First, a vast, original raw material is summarized into brief and more approachable format. Second, transparent and defensible links are established between the summarized data and research objectives. Third, a model is develop to embody the empirical observations derived from the raw material. (Thomas, 2006).

To implement the general inductive approach, a method of coding should be utilized as according to Hahn (2008) every foremost qualitative approach uses coding techniques to organize and analyze vast amounts of data. A code can be defined as "a word or short phrase that

symbolically assigns a summative, salient essence capturing and/or evocative attribute for a portion of language-based or visual data" (Saldana, 2009, p. 3). The purpose of coding is to link data and ideas together (Richards & Morse, 2007) and thus enable grouping and categorization of similarly coded concepts together (Saldana, 2009).

As an example, Thomas (2006) divides his proposition for a coding process of qualitative data into five phases. The first phase consists of initial familiarization with the data set by reading it through. The second phase begins the formatting of the data set by identifying specific segments of information. The third phase deals with labeling these segments with codes in order to create categories. At this point, the amount of categories is advised to be between 30 and 40 different categories. The fourth phase aims to reduce possible overlapping and redundancy among categories reducing the estimated amount of categories between 15 and 20 categories. The last, fifth phase is about creating a model that include 3-8 most prominent categories.

One should bear in mind though that this proposition is only an example of how to conduct a coding process. Moreover, Saldana (2009) points out that coding is a cyclical process that rarely ends up in a comprehensively representative form after the first round of coding. Furthermore, a universally correct way to conduct a coding process is yet to be identified (ibid.).

4.2. Coding Methodology

4.2.1. Coding Process and Coding Framework

The qualitative data set described in the previous chapter was approached with coding conducted using Atlas.ti program designed for management and analysis of qualitative material. The philosophy behind the coding process was conducted by applying inductive research approach as indicated in the previous subsection in order to avoid anchoring the examination – neither deliberately nor involuntarily – into any dominant theory paradigms such as the technology acceptance model. Therefore, the coding was conducted before the initiation of the literature analysis. Thus, in other words the coding and code classification should be derived from the responses of the participants rather than from the existing models. Moreover, the coding process

itself was also conducted prior to the familiarization with the methodological theories described in the previous subsection to ensure a firm basis for the inductive research approach utilized.

The coding of this thesis was structured as an iterative process consisting of four coding rounds or iterations. Despite of the fact that the coding process approach was not deduced from the earlier methodological literature, the coding process was identified to align quite well with the proposed framework of Thomas (2003) after the literature review of coding methods. Thus, the credibility of coding process utilized in this thesis can be confirmed in the light of methodological literature.

The purpose of the first iteration was to identify the passages of responses that actually answer to the examined question. In Vivo codes for recording just plain passages of text was used for this round of coding. In the second iteration, the accumulated In Vivo codes were typified into specific codes with the inclusion of variable code dimensions. In the third iteration these typified codes were harmonized to represent the underlying four-dimensional framework of which will be discussed more elaborately later in this section. The final iteration of coding established the generalized code categories for the purposes of statistical aggregation and illustration. The elaboration regarding the codes and code categories will be provided in the after the subsequent subsection: 4.2.2. Codes and Code Categorization.

Initially the plan was to conduct the coding in two dimensions, which would include both positive and negative associations to the mobile phones in question. However, along the coding process it became evident that the presence aspect could not be left out from the examination since such a large mass of respondents were referring to it. Almost exclusively these references to the presence aspect mentioned the negative aspect of some particular feature or function being absent from the mobile phone in discussion. Therefore, presence and non-presence aspects were included in the coding framework and a four-dimensional coding framework was devised for this thesis to structure and illustrate the qualitative answers of the respondents.

The four dimensions of the framework can then be divided further into two dimension pairs or dimensional axes. The primary dimension pair is the negative and positive mental association of a respondent to an issue, perspective, feature or function relating to the examined mobile phone.

This dimension is prevalently present already in the question structuring since the survey questions specifically asked about what the respondent likes and dislikes regarding their previous and their current mobile phones. The second dimension pair is the aforementioned presence and non-presence referring to aspects that are either present or absent in the mobile phone. The presence axis can also be perceived as measure for quality of a particular issue or feature since it is basically impossible to sensibly determine on the basis of some responses whether the respondent is actually referring to the presence or the quality of that particular issue or functionality.

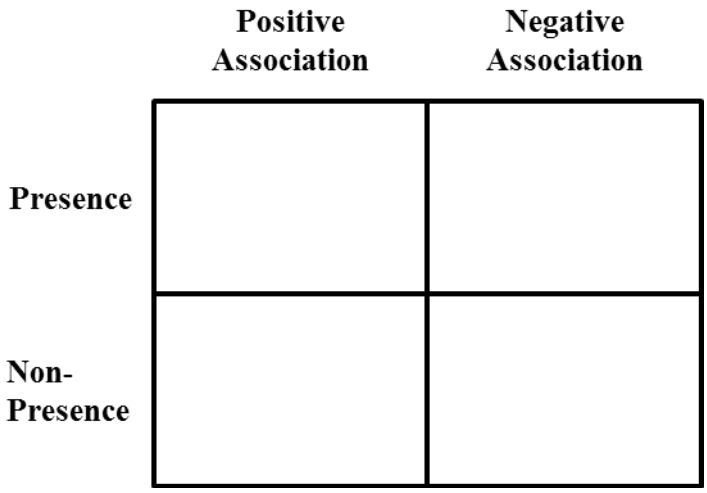


Figure 3 The Coding Framework

These two dimension pairs subsequently create a two-by-two grid wherein the code associations can be the positioned and the framework is illustrated in the Figure 3. However, it should be noted that one of these code blocks or perspectives is principally non-existent due to the ways people normally recognize and express variable issues relating to mobile phones and products in general. The respondents nearly never claim that an absence of some feature or function would be a positive issue, which is only natural because the respondents are not requested to consider all the possible features or functionalities their mobile service platforms might have.

The presented framework is applicable to the most of the codes assigned. Conversely, due to varying perspectives and issues targeted by the codes, the coverage of this framework is not complete. Therefore, the codes needed to be divided further to a different code classes depending

on how they position to the respect to code dimensions. The illustration of these code class positions to the respect of framework and framework dimensions are presented in the Figure 4.

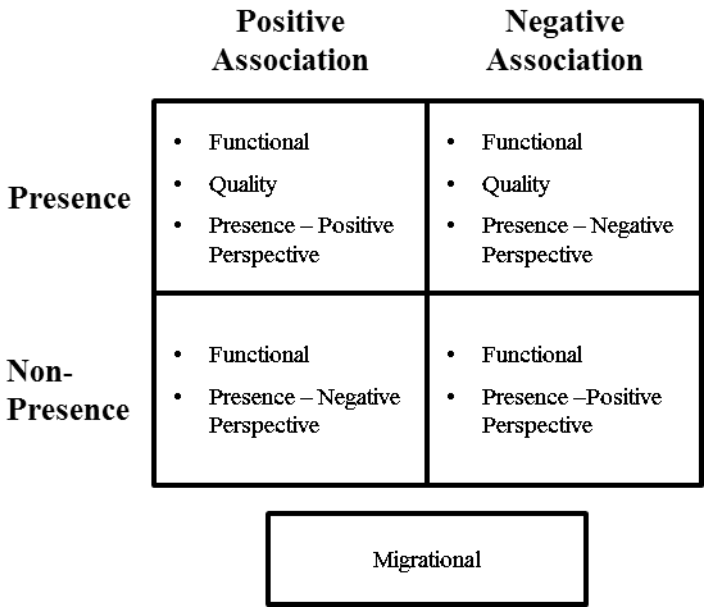


Figure 4 Code Class Positioning in the Coding Framework

Principal and most frequent code class is the functional codes which is also the only class that can exist in all of the four dimensions. These codes account little more than half of the codes identified in the material. Generally, these functional codes illustrate some feature or function that is not necessarily available in all of the mobile phones. For example, a respondent's associations to camera functionality or physical QWERTY keypad are functional codes since these functions may be perceived being of good or bad quality but also they can be absent from a mobile phone entirely.

Another code class is quality codes that refer to a quality of some functionality. Quality codes also involve codes that refer to some basic functionality that is present in all of the mobile phones. Essentially this means the functionalities that make mobile service platforms a mobile phone such as for example a capability to place phone calls. Additionally, codes that cannot exist in non-presence dimension are included into this code class. In other words, quality class codes

can only exist in two dimensions: intersection of presence dimension and positive or negative association.

Another two-dimensional code class is presence. This class involves codes that are only presentable in presence and non-presence axis. Furthermore, this code class can be divided into two subsections based on the perspective on the issue on positive and negative axis. For example, the perspective on some type of malfunctions within a mobile phone is normally negative, while vice versa the absence of malfunctions can be normally viewed as a positive aspect on a mobile phone. Conversely, claiming the presence of malfunctions of any type in a mobile phone can be considered illogical and hence this side of the code can be omitted essentially making this code a two-dimensional code. Moreover, the perspective of presence class codes can be also positive if we for example consider price offerings – reductions on an initial purchase price. The price offerings are normally perceived as positive issues relating to mobile phone price while conversely the lack of price offerings can be considered as a negative issue. On the contrary, it would be generally illogical to consider a price offering as a negative issue relating to mobile phone. Thus, also price offerings must be considered as two-dimensional codes only from a positive perspective when compared to for example variable malfunction codes.

The last code class – migrational codes – is a peculiar one since it does not position in to the coding framework at all since these codes do not necessarily refer to just a single mobile phone. These codes exist only in the migration context meaning that these codes are only given as reasons why a respondent switches from one mobile phone to another. In other words, these codes appear only in responses to the fifth examined open-ended questionnaire question; *explain in your own words, what were the reasons for the switch?* This code class consists of codes that can be assigned straightforwardly to neither positive–negative axis nor presence–non-presence axis. Hence, this fact validates creation of artificial fifth dimension to the coding framework: the migrational codes. Such codes are for example various external influences such as influence of family, peers or other closes associates or influence of mobile network provider. The reason why these codes do not position in positive-negative axis is that the result or effect of the influence is not explicitly expressed by any of the respondents. This is most probably because the actual

effects of the possible external influence remain ambiguous to the respondent and thus the evaluation on positive-negative axis becomes impossible.

4.2.2. Codes and Code Categorization

The coding process resulted with 127 different codes. Moreover, these codes can be divided into 382 potential dimensions excluding all the migrational codes. However, only 186 code dimensions of the potential total were mentioned in the questionnaire response material. All the mentioned codes were then further generalized into 11 code categories – including also migrational codes – to ensure the more fluid presentation and evaluation of the data. These code categories are also all mutually exclusive for the purposes of statistical analysis. In other words, no code appears in more than one code category even though arbitrarily some of the codes could be placed in variable categories depending on the perspective. In this section, the code categorization is explained in detail along with how certain codes are placed into these 11 categories. However, due to large amount of the codes identified, not all of the underlying codes within code categorization are explained. Hence, the full list of codes accompanied with descriptions is available at Appendix B.

If presented in alphabetical form, *Brand* is the first code category excluding the migrational code categories. This *Brand* category involves – as the name states – the perceptions of respondents to brands relating to mobile phones. The association can be described as more image based than rationale based making this category maybe bit more emotionally charged. These codes refer to the brands of the hardware service platform layer meaning the mobile phone manufacturers responsible for hardware production such as Nokia or Samsung. Furthermore, the references may be also targeted towards some of the most recognized, branded and non-proprietary smartphone software platforms such as Android or Symbian. In the case of Apple iPhone – the most referred brand – the brand reference includes both software and hardware aspects which may have further enhanced the brand reference frequency in this case. Additionally, the brand references may also exist in non-presence dimension since a respondent was not satisfied with the subjectively perceived obscure brand of his mobile phone and wished to have more renowned phone brand.

Second code category is *Functionality: Advanced*. This code category includes codes that refer to functionalities and features often – but not exclusively – associated with smartphone capabilities. Furthermore, this also makes it the largest code category in terms of number of different codes included – as indicated in the Table 3 – because the category encompasses vast variability of different functionalities such as various software applications, camera, mobile internet, e-mail and touchscreen. Moreover, also the references to more advanced mobile phone operating systems such as Android and iOS are included into this category. It should be noted also that the brand references of mobile operating systems are separated from references to the actual mobile operating system associations even though the same references are coded into both code categories as a brand and as operating system functionality. The separation of the perspectives is based on the fact whether the respondent is actually mentioning the brand name or just referring to the generic expressions such as operating system or user interface. If the brand name is not mentioned, only the operating system functionality code is assigned. Conversely, if the brand name is mentioned, then the reference is included into both categories.

As an anecdote, it should be mentioned also that the only reference to functional positive association regarding non-presence dimension was found in this category: the touchscreen functionality. In this case, respondents preferred strongly physical keypad to touchscreen after an unfortunate attempt to try touchscreen mobile phone with the previous phone. Furthermore, as the more advanced features seem to be the most sought after functionalities, the quantity of non-presence dimension in negative association is very well represented in this category. This means that the respondents do recognize the absence of the capabilities or functionalities in a mobile phone that they would like to have. This is also visible in Table 3 as the vast majority of Non-Presence column values coincide with the *Functionality: Advanced* code category row.

Third code category is *Functionality: Basic* which consist of the most rudimentary level functionalities, features and qualities which mobile service platforms can and should possess in order to be labeled as a mobile phone. For example, functionalities such as calling functionality, display size and shape, processing speed and battery durability can be considered as functionalities that are essential to a mobile phone to function properly. Additionally, the more rudimentary mobile phone operating systems are included into this category. These operating

systems are non-branded feature phone operating systems and hence they do not coincide with the brand category's codes referencing to operating system brands. Since this code category consists of functionalities that are essential for a mobile phone, the quantity of Quality Class codes appear in high numbers in this category as indicated in the Table 3.

Table 3 Aggregation of Code Dimension and Code Class Occurrences

Code Category	Total Codes	Total Code Dimensions	Negative Associations	Positive Associations	Non-Presence	Quality Class	Presence Class
Brand	8	13	6	7	1	0	0
Functionality: Advanced	48	89	49	40	18	4	0
Functionality: Basic	18	31	16	15	0	14	0
Functionality: Unspecified	2	4	2	2	1	0	0
Perceptual Factors	12	20	12	8	1	3	5
Physical Design	6	10	4	6	0	3	0
Price Value and Costs	5	8	3	5	1	2	3
Reliability and Durability	9	11	8	3	0	2	6
Desire	5	*Migrational Code Class*					
External Influences	11	*Migrational Code Class*					
Timing	3	*Migrational Code Class*					
Total	127	186	100	86	22	28	14

Fourth code category – and the final relating straightforwardly to functionality – is called *Functionality: Unspecific.* This category only involves codes of which references remain too unspecific to be targeted to any particular functionality. Typical responses in the questionnaire

answer material utilized only words such as “function” or “facility”. As these references could not be assigned undisputedly to neither of aforementioned functionality categories, thus the ambiguous *Functionality: Unspecific* category was created. The ambiguous nature of these functions may be also interpreted so that a respondent may not be completely definite to which features or functionalities he or she is actually referring. Hence, these references may also be expected to include subjectively perceived image or belief of the mobile phone capabilities that may not actually be associated with the phone in at all.

In the alphabetical order, the fifth code category is *Perceptual Factors.* This rather heterogeneous category consists of codes that are dictated by a respondent’s subjective perception. These codes are not necessarily based on factual evidence or information but rather they convey images of different mobile phone related elements through subjective perception. These codes can be often interpreted as emotionally charged because the associations on these issues are more based on subjective image rather than objective perception. The various subjective perspectives cause the accumulated codes to vary greatly as this code category includes codes such as Enjoyment, Ease of Use, Familiarity and Perceived Overall Quality. Furthermore, one of the most frequently mentioned codes in this category were the Perceived Smartphone Image, which was assigned whenever respondents are expressing association to the smartphone concept rather than discussing in detail about the specific features relating to smartphones. Additionally, rather frequently referred code was the Unspecified Association, which was largely assigned to unspecified responses that can be interpreted as emotionally charged such as “my phone is the best”.

Physical Design – the sixth code category – is rather straightforward category. It involves various references to physical shape, size or appearance of the mobile phone. Purpose of this category is to enable examination of how much are the respondents affected by the implementation of the hardware layer in form of physical design or are these switching decisions primarily driven by the software related aspects nowadays.

The seventh code category in alphabetical order is *Price and Cost Value*. The principal idea behind codes in this category adapts the concept by Dodds et al. (1991) so that the price is

perceived subjectively as trade-off between a benefit gained and monetary loss. This can also be extended to continuous costs in mobile phone context so that the trade-off is construed between the benefits from service utilized and costs accumulated by using it. Therefore, the codes in this price category are not just limited to the initial purchasing price but they do also take into account the cost cumulating from mobile phone usage as is illustrated by the included codes of this category that are presented in the Appendix B.

Last code category containing non-migrational codes is *Reliability and Durability*. This is also rather unambiguous category referring both physical durability of the hardware aspect as well as reliability of the software side of a mobile service platform. The reliability side contains codes referring to variable bugs and software malfunctions irrespective whether these are originated from the operating system or applications provided by third party developers. Additionally, the durability side looks into issues related to the hardware durability such as problems with cracking of mobile phone cover casing or gratitude over owning phone with special durability capabilities such as a waterproof insulation. Consequently, the issues with variable malfunctions may also cause the mobile phone to become completely inoperable which is portrayed in Fatal Malfunctions codes. In these cases, the voluntariness of switching decisions is revoked and thus the switch will be conducted due to forced switching reasons instead of voluntary reasons.

Desire, is alphabetically the first category of the Migrational codes categories. These codes reflect to initial hopes and desires the respondents had regarding the possible mobile phone switch before they actually make it. These codes cover desires regarding rather generic wants such as wanting to have a new phone or wanting to purchase a phone that is better or more up to date than the current phone. Moreover, also more specified functionality-related desires are mentioned as a number of respondents wanted to have either a smartphone or a phone with touchscreen functionality.

External Influences is the second code category comprised of Migrational Class codes. This category contains primarily variable network effects influencing the switching behavior of the respondents apart from cross-side network effects by mobile phone manufacturers and third party content developers as these are present for the most parts in the other code categories. However,

the cross-side network effects from the network enabler, mobile network operators are present in this category. Furthermore, also variable forms of same-side social network effects such as influence of peers, family members and other close associates as well as larger influence schemes such as trends and popularity can be found in the codes of this category. Additionally, also codes with more ambiguous connection to the network effects are present in this category such as Change in Life Situation and Phone Lost. These codes refer respectively to drastic changes in life that also have an effect to the mobile phone switching decision and the situation in which a respondent is required to purchase a new mobile phone because he or she has lost his or her mobile phone for good. Consequently, also the Phone Lost references can be considered as forced switching reasons in the same vein as aforementioned Fatal Malfunctions since the phone's operability is not forfeited voluntarily in these cases.

The last code category as well as the last category containing Migrational Class codes, *Timing*, refers to influence of temporal aspect to the mobile phone switching decision. The timing for mobile phone switch may be right for multitude of reasons. However, in this material only three codes were identified with temporal categorization. Frequently no specified reason for the timing to be correct to switch a phone was given. Hence, the Unspecific Reason for correct switch timing was added to this category. The only explicitly expressed reasons the timing to be correct were to the respect of general technological development – Technological Advancements code – and to the respect of respondent's own phone – Had Had the Current Phone Long Enough code.

4.3. Analysis Methodology

The analysis is conducted in three sections along the lines of the supportive research questions. The first section examines the general tendencies of switching behavior within the analyzed sample by looking into the distribution changes of mobile phone brands and mobile phone types over the most recent mobile phone switch. This is conducted by using Microsoft Excel software to produce a simple accumulation of mobile phone brands and types in graphical format in both the previous and the current mobile phone context. Subsequently, the two set of brand and mobile phone type distributions are compared against each other to verify the underlying general switching tendencies

The second and third sections examine the perceptions on mobile phones and explicitly expressed reasons to switch mobile phones basing on the accumulation of earlier presented codes. Both of these two analysis sections are conducted in the same manner and in two different levels: in a general level and in a detailed level in relation to brands and mobile phone types. The general level examination is produced by simple accumulations of the subjective positive and negative associations. The accumulations investigate how many of the respondents have referred to a particular code category irrespective of how many different codes they might have referred within that code category. Additionally, an outlook to the most prominent codes within the code categories is provided. The examination of non-presence dimension is not conducted separately as it is embedded along the association examination due to the limited amount of responses in the non-presence dimension.

The accumulations are presented in a graphical format by using Microsoft Excel at the code category level. In the mobile phone perceptions section, the examination will be conducted for both of the examined mobile phone contexts: the previous and current mobile phone. Consequently, the accumulations in the both contexts are examined both individually as well as compared against each other to understand how the respondents perceive their phones generally. In the explicitly expressed reasons for switching context, the results are examined individually as well as compared to the mobile phone perception results to determine what referred perceptions generally result in as explicitly expressed reasons to switch these mobile phones.

At the detailed level of examination in relation to brands and mobile phone types, the respondents' perceptions to mobile phone and explicitly expressed switch reasons at code category level are coupled with the brands and mobile phone types by utilizing cross tabulation method. The cross tabulation is conducted with IBM SPSS statistics software. After that, the accumulated cross tabulation data is utilized for distribution comparison to determine if some code categories are distinctively associated or prominently not affiliated with a particular mobile phone brand or each of the mobile phone types. The distribution comparison examines the percentage point differences in the distribution of mobile phone brands in the sample's total mobile phone population and the distribution responses relating to code categories in terms of mobile phone brands.

In the detailed level brand examination, the percentage point comparison works in the following manner. For example, if a share of Apple iPhones from the total mobile phone population is 13.4 percent and a share of responses referring positively to the Apple as a brand is 47.0 percent from all the accumulated positive brand references, we can conclude that the difference is 33.6 percentage points. This constitutes as a significant deviation from the general brand distribution suggesting that the Apple is mentioned positively proportionately more often among the respondents than other brands on average. The comparison operates the other way around too by signifying low levels of responses. For example, if a share of Nokia mobile phones is 44.0 percent of the total phones and a share of positive advanced functionality references associated with Nokia phones is 36.7 percent, the comparison indicate that respondents are proportionately 7.3 percentage points less likely to refer Nokia's advanced functionalities positively than the other brands on the average. Subsequently, these comparison figures are utilized to determine which of the code categories associated with which brands are interesting enough to look into the more detailed code level. In the interesting cases, the most prominent codes are compared to the findings of the general level to determine whether there are any detailed aspects in which some brands might excel even compared to the generalized data.

The similar comparison is also conducted on the mobile phone types in a similar fashion as for the mobile phone brands to determine how associations differ from each other in relation to smartphones and feature phones. Additionally, in the brands examination it should be noted that the comparison figures are only conducted for major mobile phone brands in this sample set in order to exclude brands that have do not have considerable impact on the total mobile phone population. To be constituted as a major brand in this sample the brand share of the total mobile phone brands should be over two percent. All of the figures referred above in the examples are derived from the cross tabulation examination data, which is presented in the tables of Appendix D.

5. FINDINGS AND DISCUSSION

The findings of this thesis can be most easily presented in the light of PPM framework (Lee, 1966; Moon, 1995) since the framework's forces – push, pull and mooring – are rather easily identifiable from the data. This chapter is constructed to match the research question layout and to explain the PPM framework effects in the mobile phone switching context. The first three subsections will be based on the data for the three supportive research questions respectively. The fourth subsection then provides a broader discussion to determine the answer to the actual research question.

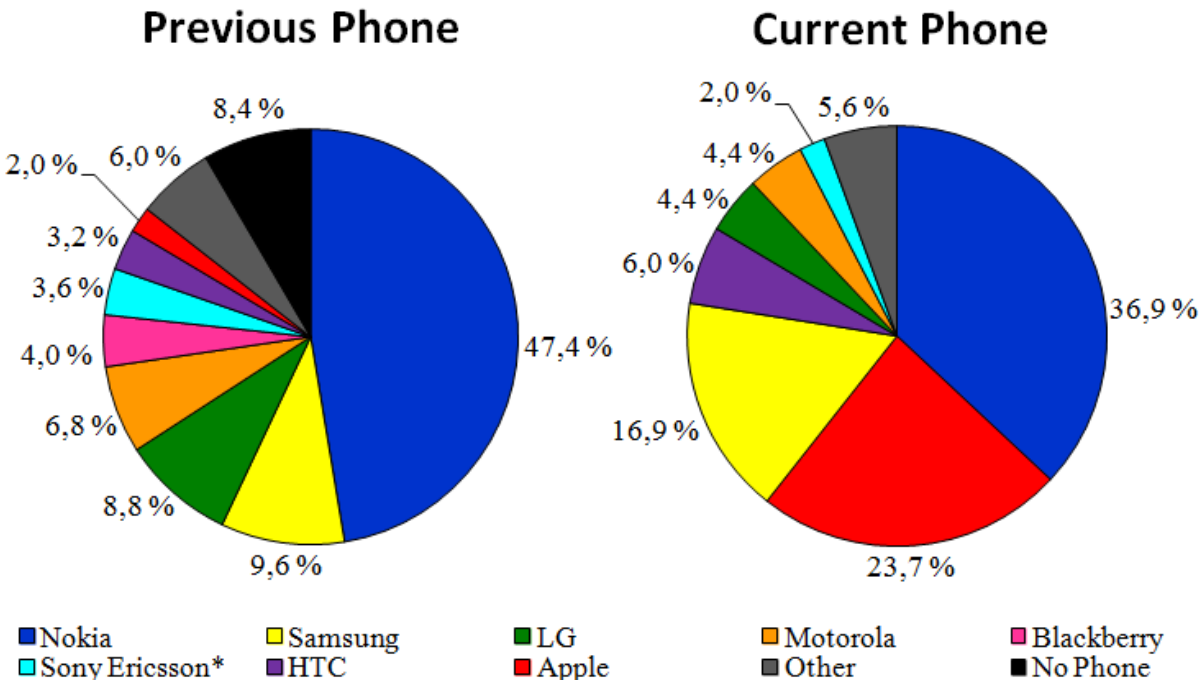
More precisely, the content of this chapter is organized as follows; first, a description on how the distribution of mobile phone brands and types has changed over the examined mobile phone generation switch. Second, the respondents' general perceptions on the both mobile phone generations are provided. Third, an accumulation of explicitly expressed switch reasons is given. Last, a discussion is provided to generate an answer to the actual research question based on the findings in the three earlier subsections and to the respect of prior academic research.

5.1. Mobile Phone Brand and Type Distribution

The first supportive research question dealt with the subject of how the switching of mobile phones from the previously owned generation of mobile phones to the currently used generation has altered the overall distribution of mobile phone manufacturer brands and mobile phone types among the respondents. From the data, it is evident that the distribution of brands and mobile phone types has changed considerably during the examining period. It should be noted that the examined generational switch from previously used mobile phone to currently used mobile phone occurred between years 2005 and 2012. However, on the average switch period is weighted towards more recent years because most of the switches occurred between years 2010 and 2012.

The change over the mobile phone generation switch is illustrated in the Figure 5 with the mobile phone brands utilized by the respondents before their most recent switch presented on the left

hand side and the mobile phone brand distribution adopted after the switch on the right hand side. Additionally, it should be noted that the group for other brands with small share of the brand distribution includes also all the unidentified mobile phones while the No Phone segment in the previous mobile phone generation refers to respondents that acquired their first mobile phone during the examination.



* Sony Ericsson share includes also pre-merger Ericsson and Sony mobile phones

Figure 5 Change of Mobile Phone Brand Distribution

A few clear changes are visible in the Figure 5. First, the clear leader in brand distribution, Nokia, has lost its position considerably. Second, Samsung, HTC and especially Apple have increased their share distinctively. Third, all the other brands have lost their share among the respondents. It seems that the principal winners of the mobile phone adoption in this sample have been the manufacturers of the most prominent smartphone models such as Apple iPhone or Samsung Galaxy. When these results are compared to global mobile phone sales statistics between years 2010 and 2012 (Gartner, 2012b; 2013), the results are principally aligned.

The only prominent differentiation from the global sales statistics is the share of HTC mobile phones which experienced considerable increase in utilization among the respondents of this sample while the global sales had a mixed sales development experiencing an increase in 2011 and then again a drop in 2012 (Gartner, 2013). Furthermore, the utilization shares present in the sample of this thesis do not respond to the global annual sales figures comprehensively. However, there are few natural explanations to these clear variations from the global statistics. First, the statistics portrays the annual adoption of new mobile phones and hence disregards the actual distribution of mobile phones that are still currently in use. The examination in this thesis on the other hand regards that mobile phone distribution that is currently in use. The second possible explanation for this variation from global sales statistics could be that the sample is extracted only from three different countries and hence this sample does not account the global variation of mobile phone adoption by brands. Moreover, this would explain the absence of globally distinguished East Asian brands such Huawei and TCL (ibid.) from the sample utilized in this thesis.

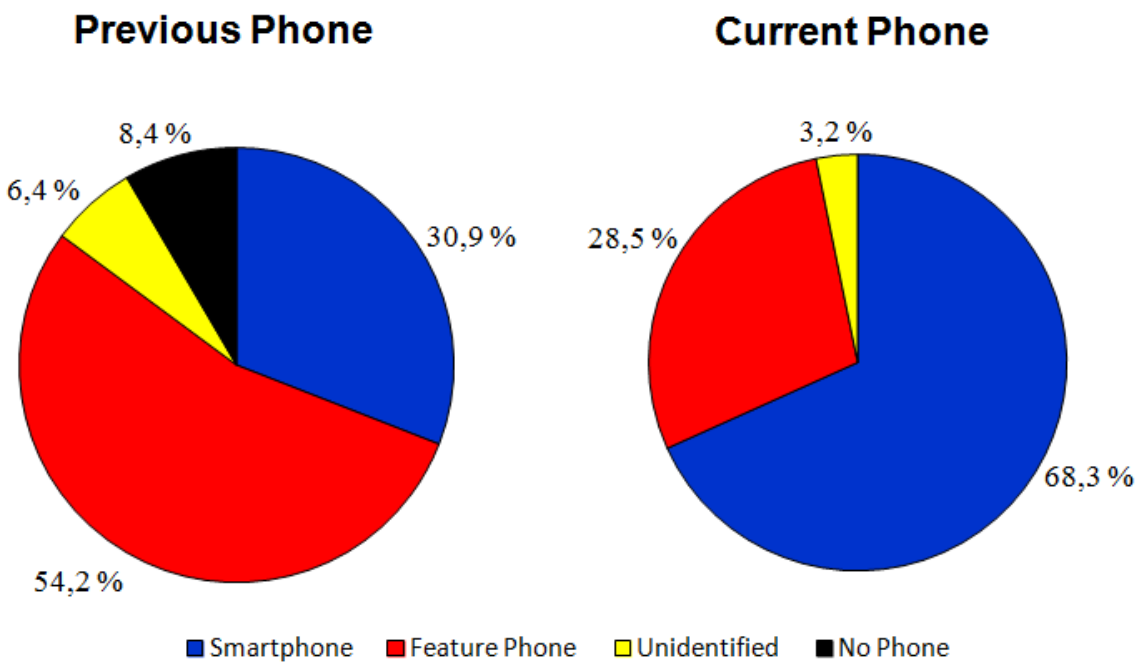


Figure 6 Change of Mobile Phone Type Distribution

When the mobile phone switching behavior is examined from the mobile phone type perspective – the distribution between smartphones and feature phones – the switching tendencies are very straightforward; the share of smartphones in use grew almost 40 percentage units from the previously used mobile phone generation to currently used generation. Hence, the smartphone penetration in currently used mobile phones in this sample is nearly 70 percent. The mobile phone type distributions are illustrated in the Figure 6.

The result of distinctive increasing development in smartphone penetration is quite consistent with the global statistics (Our Mobile Planet, 2013; Statista, 2013). For example, between years 2011 and 2012 smartphone penetration has increased in every examined country with sufficient sample when examining the total population in the statistics provided by Our Mobile planet (2013). Interestingly, only four of them exceed 50 percent penetration opposed to the whopping 68.3 percent of this sample. However, when the examination is limited to 18-29 year olds, which represent sufficiently similar sample as with this study in terms of age, the penetration level differences are not that drastic. In almost all countries with sufficient sample – excluding Italy – the smartphone penetration has increased over the examined period among 18-29 year olds. Furthermore, only in the case of Italy and Japan the penetration does not exceed 50 percent penetration in 2012 while in most of the examined countries the penetration lies around 70 percent and even exceeding as high as 82 percent penetration in Sweden. Hence, we may conclude that the sample is also rather representative to the respect of mobile phone type distribution in this particular age category.

5.2. Perceptions Related to Mobile Phones

The second supportive research question examines the most prominent positive and negative associations that the respondents have expressed in relation to both their previously owned mobile phone and their currently used mobile phone. The examination of how do the respondents perceive their previous and current mobile phones gives an indication of possible push, pull and mooring effects that affect their switching decision. Generally, the positive associations on current mobile phones can be interpreted as possible pull effect factors while the negative associations on previous mobile phones can be interpreted as push factors in this mobile phone

switching context. Moreover, the positive association related to previous mobile phone can be interpreted as a mooring effect obstructing the possible wish to switch mobile phones.

Also the negative associations portrayed on the current phone can also be interpreted as the mooring effect factors as logically any negative association towards possible target of switching would cause an individual to at least reconsider his or her switching decision. However, it should be noted that these negative associations are though ambiguous in the switching context because the subjective association data was collected after the actual switching process. This makes it impossible to determine whether these negative perceptions were actually already known before the adoption of the most recent mobile phone or did these associations arise only during the use of the device.

Furthermore, it should be noted that these positive and negative associations in this mobile phone perception context do not necessarily reveal any factual evidence about their actual switching intentions or reasons. However, they lay a premise for the switching decisions to take a place. Moreover, they may indicate generalizable indirect influences that affect the switching decision without them being recognized and expressed as the direct reasons to switch mobile phones. Furthermore, the examination of explicitly expressed switch reasons does not reveal any information about possible underlying mooring effects that are on the other hand recognizable from the subjective associations in the this mobile phone perception context.

5.2.1. General Level Examination

The general level examination of code categories reveals most prominently that the perceptions associated to mobile phones are quite scattered since no code category exceed even half of the respondent mass and there are no categories that are perceived as absolutely either positively or negatively associated. Furthermore, it is evident that the subjective associations are expressed more abundantly and positively regarding the current mobile phones than the previous mobile phone generation. The advanced functionality category is identified as the most positively associated category along with perceptual factors while reliability has been recognized as the most negatively associated code category. The itemized code accumulation upon which the analysis is based on can be found in the Appendix C.

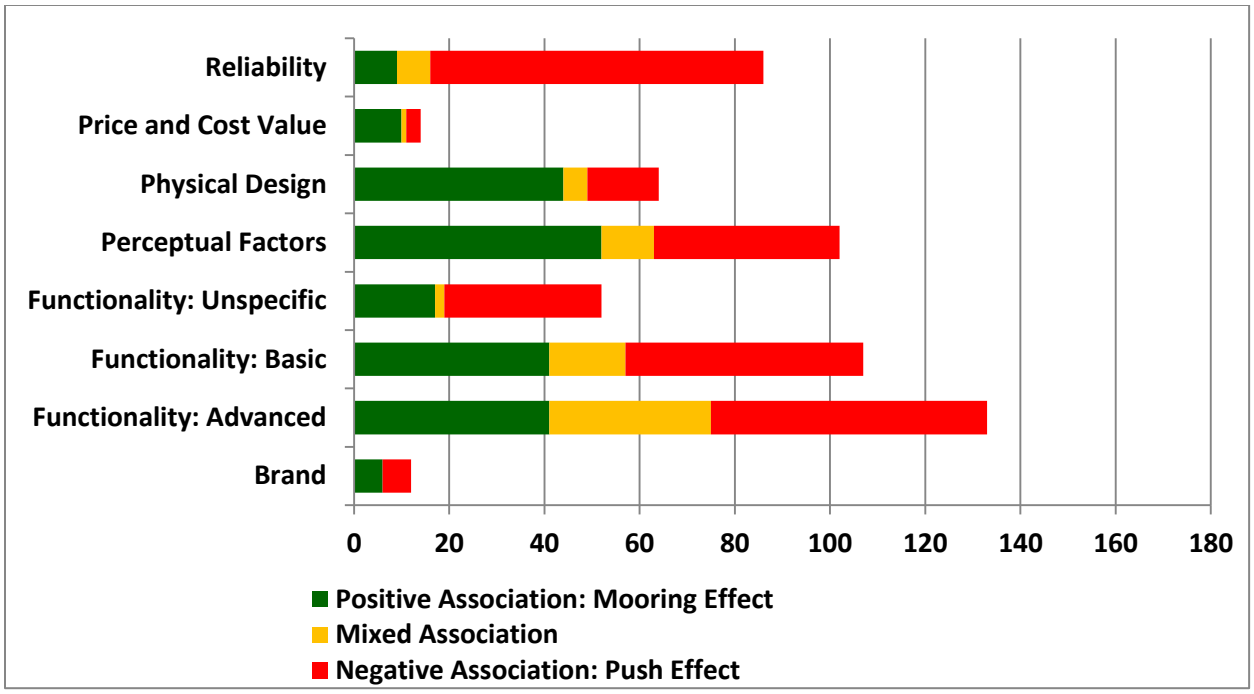


Figure 7 Positive and Negative Associations in Previous Phone Context

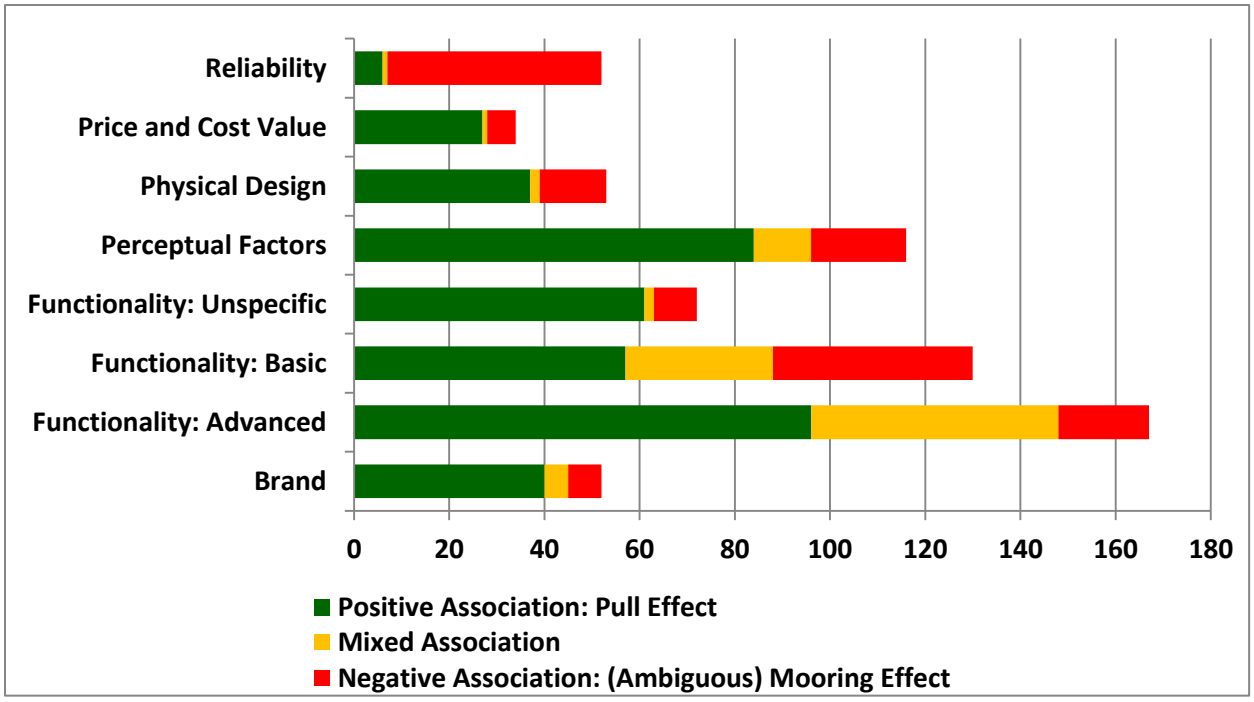


Figure 8 Positive and Negative Associations in Current Phone Context

The aggregated subjective associations are illustrated in the Figures 7 and 8 in the following page so that Figure 7 represents the associations to previous mobile phone generation while Figure 8 illustrates the associations of currently used mobile phones. To be more precise, the figures portray the absolute amounts of respondents that have found at least one aspect or code within the particular code category. Along with positive and negative associations are mixed associations, which refer to a situation in which a respondent has identified an aspect or aspect in both positive and negative associations. Usually these mixed positive and negative associations refer to different codes within a code category but in some cases, may be targeted paradoxically to a single code also portraying a mixed feelings towards that particular mobile phone aspect.

Both in the context of previous and current mobile phone generation, the mixed associations are concentrated principally on three code categories: advanced functionality, basic functionality and perceptual factors. This is quite natural since these categories are the most abundant and heterogeneous in terms of codes. Additionally, the codes in these categories are not principally mutually exclusive either so that the respondents can express their dissatisfaction to an aspect of their mobile phone while simultaneously expressing a satisfaction to another aspect within a code category. These mixed associations serve principally as an indicator that the mental associations or feelings of respondents are not all aligned either for or against even within the broad categorization level hence implying about difficult tradeoffs between variable mobile phone functions, features and qualities.

Previous Phone Context: Push and Mooring Effects

From the previous phone context in Figure 7 we can point out that reliability is the biggest possible pushing factor along with advanced functionality. Additionally, also basic functionality and perceptual factors can be perceived as considerable pushing factors along with unspecified functionality. The durability issues were primarily comprised various forms of malfunctions with the emphasis on software level malfunctions. Consequently, more than every third of the respondents referring to malfunctions as a source of negative association considered malfunctions so severe that they rendered the phone completely inoperable and thus forcing an acquisition of a new mobile phone. The most recognizable driver for the negative advanced

functionality associations was the mobile internet and browser functionality. Almost half of the respondents referring to the advanced functionalities negatively referred also either to the quality or the lack of mobile internet functionality. In the basic functionality context, the most prominent itemized pushing factors were the processing speed and the battery durability while in the perceptual factors context the most noticeable factors were perceived outdatedness and ease of use.

From the positive association side in the previous mobile phone generation context, the mooring effect is created most recognizably by attachment to advanced functionality and perceptual factors. At the itemized code level, the most noticeable references in advanced functionality category were QWERTY keypad, mobile internet and camera quality with share of 20 to 25 percent of the respondents referring to advanced functionality positively. In the perceptual factors code category, the most significant standalone code was ease of use, which was referenced by over 73 percent of the respondents referencing to perceptual factors. In addition, basic level functionality and physical design indicate also rather strong possible mooring effects. The drivers for basic functionality category were primarily battery durability along with the most mundane functions: calling and text messaging. In the case of physical design, the responses were strongly concentrated on the size and shape of the phone as more than 70 percent of the respondents mentioning codes from physical design category referred also to the mobile phone size and shape.

On a side note, it is very evident from the Figure 7 that the influence of brands and price value in previous mobile phone generation context on either association direction – positive or negative – can be deemed minimal. However, this can be explained through a few facts. First, the brand recognition is predominantly linked to the smartphones according to sample utilized in this thesis (see Appendix D) and as illustrated in the previous section 5.1, the share of smartphone has been considerably lower in the previous mobile phone generation than in current generation. Second, the price and cost value associations are more prevalently related to the initial acquisition costs rather than the continuous use costs (See Appendix C) and there may have been several years since the acquisition of the previous generation mobile phones have been made. Therefore, as the recentness of these initial purchasing costs has been waned over time, the respondents are not

anymore inclined to mention their associations to the initial acquisition costs. Moreover, it can be said that neither price and cost value nor brands cannot be considered as majorly associated code categories in the current mobile phone generation context either – as illustrated in the Figure 8. This further marginalizes the impact of these aspects to mobile phone switching behavior in the general mobile phone perceptions context.

Current Phone Context: Pull and Ambiguous Mooring Effects

When examining the associations in relation to current mobile phone generations context as presented in the Figure 8, it is evident that advanced functionality is the strongest code category for pulling factors. Additionally, perceptual factors, basic functionality and unspecified functionality seem to be portraying the pulling effect rather comprehensively. At the itemized code level, the most prominent standalone codes are unspecific functionality and mobile internet from the advanced functionality category. More than every fifth of the total respondents referred to either of these functionality aspects. The other recognizable standalone codes were camera quality from advanced functionality category; battery durability and messaging functionality from basic functionality category and ease of use from perceptual factors category.

These aforementioned itemized results of the current mobile phone perception context aligned somewhat with the positive association distribution of previous mobile phone generation context. However, there were also some considerable differences as applications, e-mail function and touchscreen function all attained recognizable shares of the advanced functionality references hinting about the shift towards more technologically advanced mobile phones. Moreover, also processing speed in the basic functionality category as well as perceived smartphone image and unspecified positive association in the perceptual factors category achieved a noteworthy amount of references. These changes seem to indicate that the positive associations are more concentrated on advanced technical features and that some respondent may have difficulties to really grasp or express these features explicitly. Thus, we will observe respondents to revert using ambiguous expressions such as the unspecified functionality, the smartphone image or the unspecified association.

In the current mobile phone generation context, the negative associations can be interpreted also as factors causing mooring effect. The most noticeable code categories in this examination are advanced and basic functionality along with the reliability. At the more itemized code level, the examination reveals that the principal standalone issues hindering switching are battery durability of basic functionality category and software malfunctions of the reliability category – issues commonly associated with smartphones more often than with feature phones. Additionally, other issues noticeably referred were processing speed from the basic functionality, performance consistency from the reliability as well as camera quality, mobile internet and touchscreen function from the advanced functionality.

Comparison of Perceptions to Mobile Phone Generations and Non-Presence Dimension

When the two contexts – previous and current mobile phone generation – are compared against each other, it seems that the focus has shifted more heavily on perceptual factors and multiple functionality categories. Furthermore, the recognition of price and cost value as well as brand influence has increased while the references to physical design and reliability have diminished. Additionally, it is evident that pushing and pulling effects outweighs the mooring effects when the data is examined in the PPM framework context. This can be considered natural since it would be odd if the respondents would refer abundantly on various mooring factors while still conducting a mobile phone switch. Moreover, the pulling effects seem to be more widely referred than the pushing effects, which suggest that the pull effect could be a stronger force in the mobile phone switching context than the push effects.

The coding framework also included the presence and non-presence dimensional axis for the examination. While the examinations presented above inspect the associations principally in the presence dimension, the examination can be also extended to the non-presence dimension. However, the perspective for lacking elements in mobile phones is distinctively underrepresented compared to presence dimension and thus it provides rather little value to the analysis. The examination results are following; on the general level, the references to non-presence elements are principally related advanced functionality category while single codes from unspecified functionality and perceptual factors categories arise also. Furthermore, the references are chiefly

concentrated on negative previous mobile phone associations which is quite expected since – as mentioned before – the positive non-presence associations were nearly non-existent and the previous mobile phones is a natural target for these codes as the previous phones are generally less sophisticated for the technological perspective.

When looking into previous phone associations at the itemized level, the most prominent lacking elements are mobile internet, applications, and camera from the advanced functionality category. Additionally, the general or unspecified features and functions along with perceived ease of use and perceived smartphone image arose from the unspecified functionality and perceptual factors categories respectively. The current phone context follows the same lines as the context of previous phone and though the results are generally even sparser. The aggregation of non-presence code distribution is presented in the Appendix C.

5.2.2. Detailed Examination in Relation to Brands and Mobile Phone Types

Mobile Phone Brand Examination

When the codified data is related to the mobile phone manufacturer brands and mobile phone types utilizing cross tabulation, the perceptions on mobile phones do not straightforwardly follow the overall distribution of brands and mobile phone types. Hence, it is hinting about some interesting differences between both manufacturer brands and mobile phone types. The cross tabulation examination tables are provided in the Appendix D; the mobile phone brand cross tabulation tables can be found in the Tables 6 and 7.

Generally, the reliability category was identified as a most significant pushing factor within the negative associations. The mobile phone brand comparison reveals – as is indicated in the Table 6 – that proportionally the heaviest burden falls into Motorola and LG brands regarding reliability and durability issues. This hints that the reliability issues might be the real reason behind the migration away from these brands as was indicated by their diminishing share in the overall mobile phone brand distribution presented in the previous section 5.1. Similarly, Blackberry phones have the proportionally largest share of negative remarks regarding physical design, which can be interpreted also as a reason indicating their poor consumer retention and

attraction in this sample. Additionally, Nokia's poor performance may be due to the proportionally largest negative associations in the perceptual factors, unspecific functionality, advanced functionality and brand influence categories. The relative negative association concentration seemed to correlate especially strongly with Nokia brand in the brand influence, unspecific functionality and perceptual factors categories. Furthermore, the negative responses in the basic level functionality concentrated proportionally on two brands Motorola and HTC.

The positive associations' cross tabulation examination in Table 7 indicates that Apple is the most prominent brand attracting through positive brand, advanced functionality, unspecified functionality and perceptual factors associations. Of these, the positive association concentration was especially strong within the brand and unspecified functionality categories. Interestingly, Nokia has the proportionately largest concentration of pulling and mooring factors in the other categories: basic functionality, physical design, price and cost value as well as reliability and durability. The success in positive associations regarding Nokia may seem odd since Nokia was in fact losing a share in the overall brand distribution over the switching period in this sample. However, one should bear in mind that these code categories that Nokia had success with were all the least referenced code categories as a pulling factors apart from brand influence. This may imply that these code categories are not as strong as creating a pulling or mooring effect to avert the migration away if the categories such as advanced functionality, unspecified functionality or perceptual factors are not properly addressed.

Intriguingly, the other brands that were able to increase their share of overall mobile phone distribution along with Apple – HTC and Samsung – had also at least moderately large proportional concentration of positive pulling associations in the same categories as Apple. This can be interpreted as a further evidence of these code categories being the strongest pulling forces in the mobile phone switching. In addition to these categories, HTC was relatively more positively referenced in the price value category compared to Apple while Samsung succeeded both in price value and in physical design. This implies that these successful brands do exhibit a bit different attractive pulling factors from each other. Therefore, HTC and Samsung are competing more with the price value while Apple on the other hand has created considerably stronger positive associations in the brand category than the two other brands.

Even though the brand influence associations were not generally regarded such strong pulling factors, they were almost exclusively associated with the smartphones as is indicated in the Tables 8 and 9 of Appendix D. Coincidentally, the three proportionally strongest manufacturers in this code category were also the same as the only three manufacturers that were able to increase their share in total mobile phone population: Apple, HTC and Samsung. This leads one to suspect that the brands will become increasingly important factor in the switching decisions in the future since the smartphone adoption is on the rise also. This speculation would also support the suggestion to include brand influence also into technology adoption theory (Wang & Li, 2012). Interestingly, the brand references seem to be targeted towards software level brands as for example in the case of Samsung all the mentions referred to Android platform rather than the physical Samsung platform.

Mobile Phone Type Examination

When the cross tabulation with mobile phone types is examined regarding the other code categories both from push and pull perspective in Tables 8 and 9 of Appendix D, all the responses seem to be more heavily concentrated on smartphones than on feature phones. There are only two exceptions; negative push associations concentrate proportionally more to feature phones in the unspecified functionality category while the same happens in the positive pull associations of reliability and durability category. However, the mention differences between smartphones and feature phones in these exception categories are smaller – especially in the reliability category – than in the other categories with inverse results.

There are a few possible explanations for these results. First, the majority share of overall mobile phone type distribution in the current mobile phone generation may amplify the proportionally large amount of association mentions related to smartphones. As the smartphones are more concentrated on the current mobile phone generation and the respondents seem to be more inclined to respond more abundantly about their current mobile phones, it is only natural that the smartphones are proportionally more referenced mobile phone type. Second, the negative association concentration on unspecific functionality can be explained by a genuine dissatisfaction on the feature phone capabilities. The dissatisfaction is targeted to the unspecified

functionality category because it is not completely evident for the respondents what are the actual functions that they would require to become satisfied. Third, the possible explanation to positive association difference regarding reliability category is that the respondents actually perceive the feature phones generally more reliable and durable than the smartphones.

5.3. Explicitly Expressed Reasons for Switching

This section examines the explicitly expressed reasons that the respondents have indicated as the main causes that led them to switch mobile phones. Therefore, the objective of this section is to answer the third supportive research question, which seeks to find out the main explicitly expressed reasons for mobile phone switching both at the general level as well as in relation to the detailed analysis of mobile phone brands and types. The examination involves negative and positive associations hence creating the push and pull effects for switch reasons. Since the switch reasons are in focus in this section, the mooring effects are not evaluated. Furthermore, the underlying survey question structure did not enable a straightforward observation of the possible mooring effects either.

The analysis includes same code categories as the previous section. However, now the additional migrational code categories are also included in the examination as the focus is now on switching between mobile phones rather than just a single mobile phone generation. It should be noted also that the explicitly expressed switch reasons are not expressed as abundantly and diversely as the general mobile phone associations in the previous section since these are specifically the reasons to switch phones, a narrower concept than the general perceptions on a mobile phone.

This section follows the pattern of the previous section by first providing the general examination of the explicitly expressed reasons for switching and then looking into the more detailed level with cross tabulating the switch reasons with the mobile phone brands and types. In the detailed level examination, the reasons will not be associated with the brands and types per se but rather with the switch scenarios from one brand and type to another as is illustrated in the tables of Appendix D.

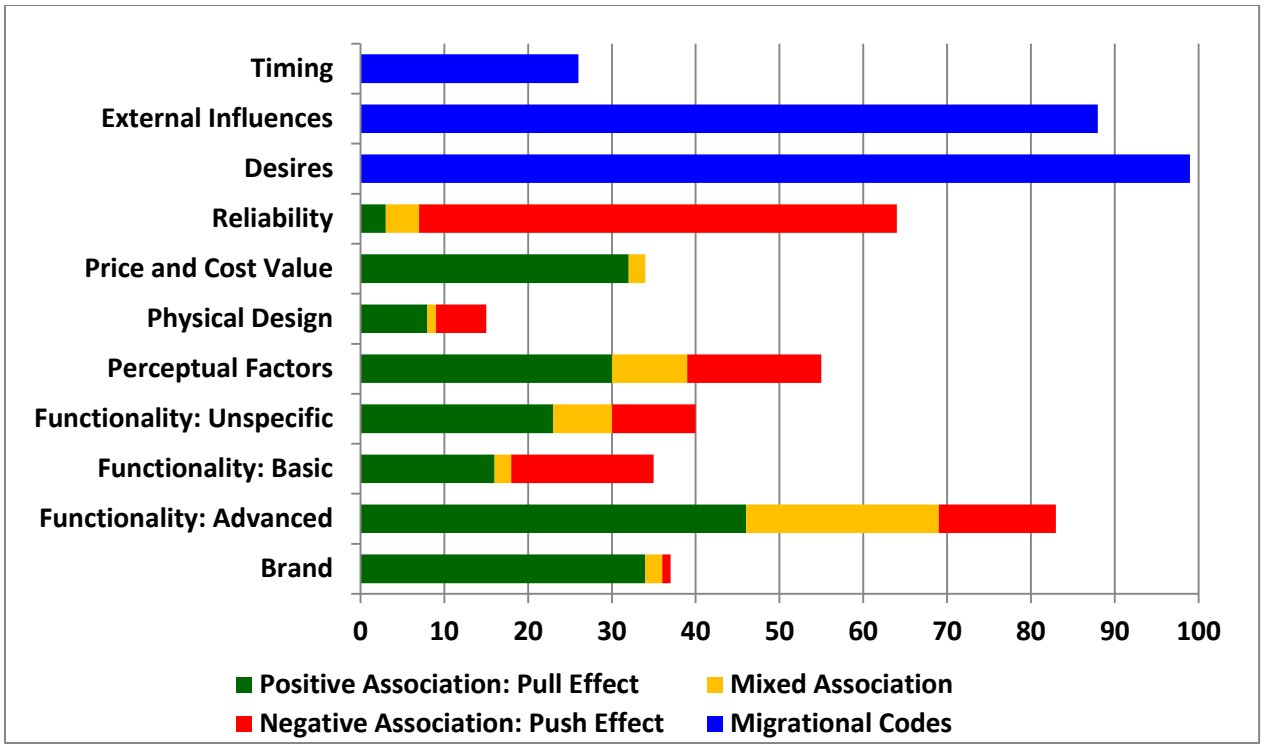


Figure 9 Aggregation of Explicitly Expressed Switch Reasons

5.3.1. General Level Examination

Push Effects

Generally, it can be said that there is a single strong push factor that drives mobile phone switching: the reliability issues. The pull factors that entice switching mobile phones through attractive alternatives on the other hand are more dispersed with the strongest pulling categories being advanced functionality, perceptual factors, brands and price and cost value. However, the evident push and pull factors are clearly outshone by the additional categories that are only mentioned in switching context: the migrational code categories. Of these the desires and external influences are generally the strongest broad level categories that are explicitly expressed as reasons to switch mobile phones or at least having a strong and direct influence on those switching decision. The switch reason data is illustrated in the Figure 9, which is derived from the total accumulated codes presented in the Appendix C.

When the switching reasons are examined from the pushing perspective, by far the most mentioned category is the reliability and durability category. The itemized drivers within this category are problems with performance consistency and variable malfunctions. In the nearly half of the cases the malfunctions were deemed so severe that they forced switch as the previous mobile phone had become inoperable.

The other categories with a considerable impact as a push factors were the functionality categories and the perceptual factors. In the functionality categories, the responses were very dispersed among multiple codes apart from unspecified functionality, which was primarily concentrated on the lack of the functionalities instead of the quality of them. Of the dispersed codes, the ones relating to mobile internet rose as the most numerous in the advanced functionality category while processing speed and battery durability achieved the same in the basic functionality category. In the perceptual factors category the condensation of responses was on the perceived outdatedness, which was mentioned over the half of the respondents referring to that category.

Pull Effects

Of the positive pulling factors, the advanced functionality arises considerably above other code categories. Within the category, the most noticeably mentioned standalone pulling factors were the multiple types of applications and the mobile internet. Additionally, touchscreen and e-mail functions gathered somewhat amount of mentions among the respondents. Consequently, this concludes that the explicitly expressed switch reasons as pulling factors in the most referred category, the advanced functionality, are rather straightforwardly similar with the itemized code level as in the general mobile phone perceptions, which were presented in the previous section.

As for the other pulling categories, the perceptual factors maintained its position as the second most prominent pull category with the perceived smartphone image being by far the most referred standalone code within that category. The other relatively strong pulling categories are brand influence, price and cost value as well as unspecified functionality. At the more itemized level, the positive associations on Apple and Android's brand images were widely referred brands – Apple being especially strong in this case. In the price and cost value category, the

associations were especially concentrated on the pulling effect of initial acquisition price rather than the positive effect on continuous costs. On a side note, almost half of the respondents referring price value positively had received their current mobile phone completely free of charge principally through work organizations or gifts.

Migrational Reasons for Switching

The migrational code categories seem to have the greatest influence on the switching decision through desires and external influences. However, those categories cannot be straightforwardly divide into push, pull and mooring factors since they are only reference in the context of switching from one phone to another and hence they cannot be targeted to only a single phone. On a general notion though, it can be speculated that the desire factors seem to be quite exclusively pulling factors while the external influences and timing categories are comprised of a mixed composition of push and pull factors.

The largest category of the migrational codes is desires in which the itemized referenced were mainly targeted to desire over improved phone model. To the lesser extent, the desires targeted smartphones or just new mobile phones in general. The second largest category, the external influences, had multiple noticeable codes at the itemized level of examination. The most mentioned code was the mobile network operator influence which depending on the particular case can be deemed as either push or pull factor. For example, the mobile network operators may entice consumers by offering attractive subscription deals bundled with mobile phones or they may have created a lock-in situation, which can be exited only by switching mobile phones. Other prominent codes in external influences were influence of family, friends and/or peers as well as influence of popularity or trends. These social influence codes can be considered principally – although not exclusively – as pulling factors. Additionally, an obvious pushing factor code mobile phone lost gathered also somewhat number of mentions.

The last migrational code category, the timing, was not as prominent as the aforementioned two transactional code categories. However, the remarkable share of mentions within that category referred the timing to be right for switching mobile phone because of the technological

advancements that has been made in the mobile phones. Consequently, the technological advancements are more easily perceived as pull effect instead of push effect.

Comparison to General Level Mobile Phone Perceptions

When the explicitly expressed switch reasons are examined in the non-presence dimension, the results are very much aligned with the results found in the previous section of perceptions to mobile phones. Similarly as mentioned also in the previous section, the results were quite underrepresented compared to the presence dimension and hence the value for generalization is very questionable. However, it can be mentioned that the lack of three elements were identified as the principal reasons to switch mobile in this coding dimension. The reasons were the lack of unspecified functionality, the lack of mobile internet and the lack of applications. Essentially these also seem to be the features that the respondents seem to refer to most often. However, the inclusion of unspecified functionality also brings in an element of uncertainty that may disperse these references even further. On the other hand, it may be interpreted also as capabilities that are not clear even to the respondents themselves.

Interestingly, when the switch reasons' results are compared to the mobile phone perception results in the pulling context, the basic and unspecified functionality has lost relatively their appeal while brand influence and price value on the other hand have increased theirs. Furthermore, as switch reasons the brands and price value present themselves almost exclusively as pulling factors. Additionally, when the comparison is conducted from the push factor perspective, the reliability has risen genuinely as the single most important pushing category while the other categories – maybe apart from advanced functionalities – have reverted as more subtle pushing effects.

5.3.2. Detailed Examination in Relation to Brands and Mobile Phone Types

Mobile Phone Brand Examination

The more infrequent response rates in the explicitly expressed switching reasons makes the detailed level analysis more difficult and unreliable compared to the relatively abundant responses in the mobile phone perceptions of the previous section 5.2. This problem persists in

the both examined cross tabulation contexts: the mobile phone brands and types. Nevertheless, the cautious analysis presented in this subsection is based on the Tables 10–14 which can be found from the Appendix D.

In the Table 10 the cross tabulation analysis of push factors and mobile phone brands is not sensible to present here for each code category since the amount of negative responses were so low for multiple categories. Of the more widely referenced categories, it seems that issues with advanced and unspecified functionality as well as perceptual factors have led respondents to switch their Nokia phones to other brands. On the other hand, the results also indicate that negativity on the basic functionality of Nokia phones lead more often the respondents to remain loyal to Nokia than switching to other brands. However, these results may also be affected by the concentration of Nokia mobile phones to the Finnish subset and the tendency of the Finns to answer more abundantly than the other subsets of the sample. In the most referenced pushing category apart from migrational code categories, the reliability and durability, the proportionately most referenced brands was Samsung. However, the differences were rather small in this category as reliability was also mentioned as pushing factor in switching away from brands such as Sony Ericsson, LG and Blackberry.

In the examination of migrational code categories' relation to mobile phone brands as push factors, the desires leading to switching were proportionately concentrated on switching away from Blackberry and LG phones. The external influences on the other hand played proportionately the largest role in switching away from Samsung, Blackberry and Motorola devices. Interestingly, the timing references concentrated on the switches in which the respondents remained loyal to Nokia and switched away from Sony Ericsson mobile phones.

In the Table 11, as the positive mentions about brand influences are examined, the proportionately strongest pull forces were towards switching to Apple mobile phones. Additionally, also HTC gained relatively positive amount of mentions. In the case of HTC, the references were evenly distributed between references to the hardware brand, HTC, and the software brand, Android. The advanced functionality was one of the most referenced pulling factor category at a general level. In the relation to manufacturer brands, proportionately

strongest brands in this category were HTC and Samsung so that relatively speaking most mentions concentrated on switching to HTC mobile phones while in the case of Samsung the concentration was relatively strongest for the respondents remaining loyal to Samsung phones. The basic level functionality on the other hand seemed to have relatively strongest pull effect on switching to LG phones while the unspecified functionality's pull effect was considerably strongest on respondents switching to Apple brand mobile phones. Then again, in the perceptual factors category, the pull effect was relatively strongest towards switching to HTC phones while also the switching towards Apple phones hauled proportionally a considerable amount of mentions. The pricing on the other hand was mentioned as a pulling factor proportionately most in the case of switching to Nokia and HTC phones while it was also approximately equally strong pulling factor to remain loyal to Samsung mobile phones.

When the migrational codes are examined as a pulling forces, the desires seem to have the relatively strongest pulling influence on switching to Samsung and HTC mobile phones. The external influences on the other hand pull the respondents proportionally most towards switching Apple and HTC phones. In the case of timing references, proportionally the reference concentrations could be found from respondents switching to Samsung phones and remaining loyal to Nokia phones.

Mobile Phone Type Examination

The similar examination as above was also conducted to mobile phone type switches. The analysis examining the negative perspective of push effect is presented in the Table 12 and it indicated that the advanced functionality was proportionally pushing mostly away from feature phones towards smartphone adoption rather than any other mobile phone type switching scenario. The pushing effect was also similar in the case of unspecified functionality category. However, in the case of basic functionality, the push effect was relatively strongest when switching from a smartphone to another smartphone. Furthermore, the push of perceptual factors was highlighted in situations where the switching resulted an acquisition of a smartphone irrespective of what type the previous mobile phone was. The reliability and durability issues were proportionately pushing switching from a smartphone to another smartphone. However, generally reliability's

push effect was also relatively visible when feature phones were switched to another phone irrespective of what mobile phone type the new phone ended up being.

When the switch reasons are examined from the positive pulling perspective, the analysis in the Table 13 indicates that the pull effect is the strongest in every category when switching to smartphones. The pull effects are especially strong in every category when a feature phone is switched to a smartphone. However, a relatively strong pull effects can be detected also in the case of smartphone-to-smartphone switches in the brand influence, basic level functionality as well as price and cost value code categories.

Table 14 of Appendix D examines the migrational code categories' impact on mobile phone type switching. It indicates that the pull effects are relatively speaking strong in relation to switching to smartphones. Desire and timing categories are especially linked to switches from feature phones to smartphones while interestingly external influences have proportionally highest impact on smartphone to smartphone switches.

5.4. Discussion on Elements Affecting Switching Behavior

What can be made of the results presented above then? How do the results answer to the main research question, which was constructed to determine the main factors for pushing, pulling and mooring effects related to the mobile phone switching behavior? This section aims to determine the answer to these questions.

At the general level, it can be said that if the relationships among these PPM framework (Lee, 1966; Moon, 1995) constructs – the push, pull and mooring – are examined, the attractive pulling factors seem to be dominating the dissatisfaction invoking pushing factors. Additionally, these push and pull effects seem to be more referred compared to the switching hindering mooring factors that were identified in the section 5.2. However, the smaller amount of references to mooring effects is only natural since every respondent of this survey has overcome those switching costs in order to conduct the examined mobile phone switch. Furthermore, as the survey questionnaire did not provide a question specifically targeted to assess the mooring

effects, the examination is left to analyze only a narrow perspective to the mooring effects in this thesis.

5.4.1. Push Effect and Involuntary Switching

At the high level of the switching decisions, it can be said that the selection of a new mobile phone and the acquisition time are primarily conducted by individuals' own decisions. Only approximately one fifth of the respondents were facing a situation in which they were pushed to switch their mobile phone possibly involuntarily instead of their own free will. Principally, these forced switches were comprised of the phones breaking down or losing the previous phone. To the lesser extent, the forced switches were caused also by lock-in created by either the mobile network operators or the organizations that provided the mobile phone in the first place. The rather low levels of influence by external organizations also rules out at least a considerable and wide-spread role of external decision maker which was suggested as possible influencing factor in the diffusion of innovations (Rogers, 2003) as well as the TAM and the UTAUT frameworks (Venkatesh & Davis, 2000; Venkatesh et al., 2003; Venkatesh & Bala, 2008; Venkatesh et al., 2012).

When mobile switching is conducted on more voluntary basis, earlier adoption literature has addressed the pushing effect relatively little. However, in this thesis the strongest pushing categories have been identified as reliability and advanced functionality in the mobile phone switching context. Additionally, also the perceptual factors gathered the push effect references to some extent. In the perceptual factors category, the perceived outdatedness was the most referred standalone issue. While there is no straightforward counterpart for these pushing categories in the adoption literature, these issues can be related to the relative improvement element of diffusion of innovations theory (Rogers, 2003). Whether the phone is deemed as troublesome due to malfunctions, a poor quality of required functionalities, useful functionalities are lacking altogether or the image of the phone just being old-fashioned, a rational solution to these dissatisfaction and push forces evoking issues can be achieved through relative improvement by switching mobile phones to a more advanced or reliable model. Yet it should be still emphasized that the pushing effect presents itself also to lesser extent in form of involuntary switching. As

mentioned, about one fifth of the respondents were forced to switch mobile phones due to external influences or fatal mobile phone malfunctions.

In conclusion, the push effects as the basis of the switching reasons can be primarily perceived as rational and utilitarian reasons. Apart from the perceived outdatedness, all the other pushing reasons for mobile phone switching can be considered as straightforwardly rational. However, also in the case of the perceived outdatedness there is an underlying functional perspective since the perception on outdatedness may not necessarily just stem from the perceived image of them mobile phone but also from the concrete lack of useful converging functionalities which have been enable by the technological development.

5.4.2. Pull Effect and the Influence of Functional, Emotional and Epistemic Values

The aspects that arise in the examination of the pull effects are more easily relatable to the adoption literature than the push effects. The desires and advanced functionality seem to be the most widely considered categories for the pull effect. For the most part the content of these functionality-emphasizing categories can be related to the key concept of the TAM and the UTAUT frameworks: the perceived usefulness. However, it is important to differentiate the underlying use motivations behind the attraction to these usefulness factors. While traditional perspective of the TAM emphasizes the extrinsic use motivations, in the context of mobile phones the use motivations can be expected to be leaning more towards intrinsic or hedonic motivations. This is because firstly, the large majority of the sample population is utilizing their mobile phone solely in personal use as indicated in the Table 2. Secondly, the most significant standalone pull factor within the advanced functionality, the mobile internet has been previously linked to hedonic motivations (Bruner & Kumar, 2005; Wakefield & Whitten, 2006). Thirdly, the increasingly adopted smartphones can be perceived as convergence products (Shin, 2007) which have been liked to extrinsic motivations along with intrinsic motivations (Hur et al., 2012).

Interestingly, when the strongest pull factors are brought into the platform context, it seems that the pull effects – especially in the advanced functionality category – occur strongest at the software layer of the stacked mobile service platform gestalt. The rather noticeable pulling force of a cross-side network effect of software services such as applications and mobile internet of the

advanced functionality category emphasizes the draw of software layer. Similarly, the most referred standalone elements of desires category – desires for a phone upgrade, a smartphone and a new phone – can be related to the software based functionality and hence lending further proof for the software layer dominance.

Parallels from the pull effects of desires and advanced functionality can be draw also to Rogers' (2003) diffusion of innovations compatibility component. For example, the newer phone models may be deemed more useful by the respondents due to their capability to converge more usability within the mobile phones thus possibly easing a burden from other aspects of life. This is especially accentuated in the pinnacle of convergence mobile phones, the smartphones, as was indicated in the previous section 5.3. Furthermore, the largest standalone reference within desire category, desire for improvement or a quality phone can be viewed also as a straightforward manifestation of relative improvement of diffusion of innovations. On the other hand, the other considerable standalone references within desires category such as desire for a new phone and desire for a smartphone can be interpreted as sign of emotional and epistemic values (Sheth et al., 1991) entering in to the switching decision process. The respondents seem to express a pull towards something new that they cannot necessarily fully comprehend yet. Especially the technology converging aspect of smartphones would relate these elements to the findings of Hur et al. (2012) on convergence products. However, the role of functional values such as perceived usefulness cannot be overlooked in the connection of smartphone references since the term can also be related to the actual functionality instead of just the mental images it evoke.

Another quite widely referred pulling effect can be found from perceptual factors category which connects with the emotional and epistemic values since within that category the most standalone references were targeted to the perceived smartphone image. The images related to mobile phones can be understood as self-fulfilling factors and social identity which can be further related to intrinsic motivations. Moreover, the emotional values' influence can also explain the smaller scale pull effect caused by unspecific functionality; a novelty is sought above all and hence a comprehension of the desired functionality remains fuzzy. Furthermore, this functional unspecificity can be linked particularly to smartphones as was identified in the previous sections 5.2. and 5.3.

External influences bore also significance in the pull effects especially if the examination of this category is narrowed to social influences: family, friend and peer influences at a more proximate level and general trends and popularity at a more general level. In the value context (Sheth, 1991), these social influences would be closest to epistemic values since it can be argued that the personal relationships or connections to general trends are more often build upon emotional and mental affection rather than upon seeking utilitarian or functional value. When the close level social influences are examined in the PPM framework context (Lee,1966; Moon, 1995), the peer influence has been identified as a pull factor in the switching literature (Cheng et al., 2009). Additionally, the external influences can be also related to the communication channels concept of diffusion of innovations at a large scale; the external parties are there to provide information about alternatives and thus creating possible pull effects towards those alternatives. Moreover, also the TAM related literature has acknowledge the possibility of peer influence's effect (Shin, 2007).

These external influences indicate that the switching decisions are not usually conducted in isolation even though the decisions are made voluntarily. A further hint about the gravity of the peer level social influences is also accentuated by the fact that over 50 percent of the respondents were not paying their mobile phone bills themselves. Thus, it may be expected that party responsible for the bill – in the most cases a family member – will have a some level of influence in the mobile phone switching decisions too. However, this wide scale social influence yet still remains at the level of speculation as in many cases the social influences were not mentioned explicitly despite of the external party being responsible for the phone bill.

Though the definite social influences in switching decisions can be verified based on the explicitly expressed responses, the role of them do not reach to the influence of explicitly expressed functional factors. However, this balance between social and functional influences can be explained to be caused by a diminishing impact of social influences in the lead markets (Tuunainen et al., 2012b); two thirds of the respondents in the data set of this thesis reside in the lead market areas: Finland and USA.

Brands and price value can be considered as an emerging pull factors since these categories are primarily associated with the transpiring smartphones as indicated in the section 5.3. However, only few studies have included brands (Wang & Li, 2012) and price value (Venkatesh et al., 2012) in the technology adoption literature and these inclusions has happened only very recently. On the other hand, the adoption literature has not considered technology adoption in the consumer context until recently either. In any case, the foundations for these two pulling factors are very different. The brands can be associated with softer mental associations such as perceived images and epistemic value while – as Tuunainen et al. (2012a) indicate – the foundation for price value can be considered as rational reasoning as it is a tradeoff between monetary loss and goods received. Furthermore, both of the categories are strongly linked smartphone adoption smartphone adoption and brand influences sharing also a strong link with the Apple brand mobile phones as indicated in the previous section 5.3. Moreover, the strong link between brands and smartphones – and especially the software level of brands – is also consistent with the emphasized software brand aspect of the utilized smartphone definition (Gartner, 2012a).

Timing category does not bear a great significance to either push or pull effects due to low reference rates as well as the fact that it cannot be straightforwardly related to neither of these effects. The timing can be perceived as an internally split category because the two most prominent standalone aspects for timing to be correct for switching, technological advancements and expression of having had the previous phone long enough, can be perceived as pull and push factors respectively. If these concepts are associated with the technology adoption literature, they can be linked to the relative improvement (Rogers, 2003) as well as with some reservations to the facilitating conditions (Venkatesh et al., 2003; Venkatesh et al., 2012). The second most prominent timing construct – had had the previous phone long enough – can be linked to relative improvement (Rogers, 2003) if it is interpreted similarly as the timing influenced by technological advancements. However, another interpretation for this element could be also boredom. In other words, it is not about seeking for improvement but rather a novelty or difference ultimately linking it to emotional value – and perhaps also epistemic value.

In summary, it can be said that the strongest pull effect seem to stem from the functional reasons to switch mobile phones. However, there is also a wide range of pull factors that can be associated with the soft non-utilitarian values such as emotional and epistemic values. These soft values can be associated with evaluation categories such as desires, social influences, perceptual factors, brands and unspecified functionality as well as to some extent with the most prominent functional category: advanced functionality.

5.4.3. Mooring Effect and Multi-Homing

The ease of use element within the perceptual factors category is interesting in the light of its prominence in the adoption literature. It is a major component in the TAM and the UTAUT frameworks (Davis, 1989; Venkatesh & Davis, 2000; Venkatesh et al., 2003; Venkatesh & Bala, 2008; Venkatesh et al., 2012) as well as the diffusion of innovations (Rogers, 2003). However, the ease of use has been deemed not to have a direct impact to adoption, but rather an indirect impact through perceived usefulness (Kang et al., 2011; Park & Chen, 2007). This can be observed also from the data set of this thesis as the ease of use is mentioned rather often in the context of general perceptions on mobile phones giving it a credit that it has an effect to the switching behavior at a some level. In spite of this, the mentions of ease of use as an explicitly expressed reason to switch phones are distinctively absent. Hence, the ease of use does not seem to have a direct impact on the switching decisions process on form of bearing the gravity of becoming a reason to switch phones. Conversely, it may be also speculated that the new phones have become relatively more intuitively usable or the usage methods do not anymore differ from the previous mobile phone generation so that nowadays the mobile devices are so easy to use initially that it rarely has any real impact on the switching considerations. This can be further stressed by the fact that only a few respondents was explicitly informing that their current phone was hard to use. Often the respondents referred rather to having issues using only certain specific functions instead of complaining about the ease of use in general.

The ease of use of perceptual factors category can be also perceived as a considerable mooring factor since it evokes many positive references in the previous mobile phone generation context. In addition to perceptual factors, also advanced functionality, basic functionality and physical

design can be perceived as noteworthy mooring factors due to same reason. In the advanced functionality category, the most referred standalone aspects that evoke mooring effect are QWERTY keypad, mobile internet and camera quality. In the case of basic functionality, the most noticeable standalone aspect is the battery durability while in the physical design category it is the size and shape of the phone.

Common elements to most of these mooring factors are a familiarity and a requirement to substitute them if the phone is switched to another even though the respondents do not explicitly express it. For example, the ease of use will not be perceived necessarily as smoothly in the possible new phone as in the old phone unless the old phone is substituted with an identical model. This is due to a requirement to familiarize oneself with the new phone's functionality thus creating switching costs. Furthermore, when switching to smartphones some people may be turned off by the usually larger size of smartphones, shorter battery life or the lack of physical keypad in favor of the touchscreen functionality. Therefore, these mooring effects create a requirement for weighing tradeoffs between these possibly lost elements and the additional usability provided by a newer model. Since the respondents have conducted the switches despite of these mooring effects, it is evident that giving up on these functionalities is not considered such a considerable nuisance that the value gained in the tradeoff cannot overcome it. As for the more advanced functions such as the mobile internet or camera, it may be speculated that the tradeoff comparison focuses rather on the quality of these functions rather than their presence. Thus, for such people these functions may have become new standards always when they are considering switching mobile phones. At the underlying values level these attachments may be argued to be derived from either functional values with an extrinsic purpose to retain the current status and performance level or from epistemic values with intrinsic purpose to retain the situation due to mental affection.

Multi-homing is an interesting phenomenon in the light of the mooring effect since it enables both sticking with the old phone due to switching costs while simultaneously adopting a new phone. The multi-homing element is present in two different codes, multiple phones and dual SIM, both of which can be found from the advanced functionality category. The multiple phones represent a more traditional case of multi-homing by replicating the whole mobile service

platform in all of the three platform layers. The dual SIM on the other hand is more finely tuned multi-homing occurring only at the data network layer of the mobile service platform by allowing a use of two mobile phone subscription to operate simultaneously in a mobile phone. While the both of these multi-homing codes were referred very sparsely in the general mobile phone perceptions, from the respondents' demographic responses it can be determined that multi-homing at a general mobile service platform level is not an alien concept in the consumer field. Over 20 percent of the respondents from Finnish and Indian subsets claimed to be using currently a secondary mobile phone aside of their current primary mobile phone. However, the sample for the examination was unfortunately incomplete due to missing data from the American sample and thus it does not warrant sufficiently a further examination and speculation regarding the subject. Moreover, in the case of dual SIM functionality, the sparse answer concentrated exclusively to the Indian subset. Unfortunately, the scope of this thesis does not extend to examine the differences of mobile phone use and switching behavior between different market, cultural or geographical areas. However, it must be pointed out despite of the narrow scope to the evaluation of multi-homing that these multi-homing perspectives emphasize the shortcomings of adoption literature when it is applied to switching context since the literature does not seem to acknowledge the existence of multi-homing at all.

In brief, the mooring effects can be summarized followingly in the mobile phone switching context; these effects are principally driven by the attachment to variable advanced functionalities and perceptual factors. The attachment to these features can be derived from epistemic as the mental connection or affection to the familiarity may prevent the willingness to switch mobile phones. Additionally, the mooring effect may also have a functional aspect since the possibility to lose the level of ease of use can be perceived as crucially performance hindering such as might be the case in the subjective tradeoff evaluations between QWERTY keypad and touchscreen. Additionally, while the multi-homing is an interesting related concept, its impact to the mobile phone switching behavior seems to be quite small according to the sample.

6. CONCLUSIONS

6.1. Summary of Findings and Contributions

6.1.1. Findings to Supportive Research Questions

The first supportive research question examined a broad level switching tendencies in terms of mobile phone brands and types. The examination identified a strong pull towards smartphone adoption. In terms of brands, the respondents tend to switch their mobile phones towards brands known for their smartphones – in this sample to brands such as Apple, Samsung and HTC. Moreover, these were also the only brands that were able to increase their share of the overall mobile phone distribution in the utilized sample.

The second supportive research question examined the general level negative and positive associations towards examined the previously owned and the currently used mobile phones. The results portray a scattered landscape of associations without a universally sound positive or negative perception towards mobile phones. Nevertheless, in the context of previous mobile phone generation the positive references were quite evenly scattered among the advanced functionality, perceptual factors, basic level functionality and physical design while the negative associations were even more scattered among the advanced functionality, reliability and durability, basic functionality and perceptual factors. In the context of current mobile phone generation, the advanced functionality was by far the most positively referred association while perceptual factors and basic level functionality stood out as a second and third most positively associated categories. The most negatively referred examination categories in the current mobile phone generation were the advanced and basic level functionality as well as to a lesser extent the reliability and durability category. Additionally, the detailed examination hinted that the influence of brands and price value increases in conjunction with the smartphone adoption while the influence of physical design appears to be decreasing.

The third supportive research question determined the most widely referred explicitly expressed reasons to switch mobile phones. As in the examination of the second supportive research question, the results were scattered without a single reason to switch phones rising prominently

above others. Nonetheless, the leading reasons to switch mobile phones of the scattered responses were identified as the migrational categories of desires and external influences. Of the other explicitly expressed switch reasons, the issues with the general reliability and advanced functionality were identified as main negative reasons pushing towards switching mobile phones. From the positive perspective on the other hand, the advanced functionalities and perceptual factors were identified as the principal reasons pulling towards switching mobile phones. Furthermore, the brands and price value were singled out as an additional reasons pulling towards adopting smartphones according to the detailed examination.

6.1.2. Findings to Main Research Question

The main research question of this thesis evaluated the mobile phone switching behavior to the respect of the three forces derived from the PPM framework (Lee, 1966; Moon, 1995): the push, pull and mooring effects. Of the three forces influencing switching decision, the pull effect seemed to be the strongest. The mooring effect on the other hand appeared to be the least referred force of the three. However, this was expected though since all of the respondents in the sample have switched their phones and thus overcome these possible mooring effects.

The most important push forces can be determined as the reliability and durability issues along with perceptual factors. Additionally, the external influences have a role in the pushing factors mainly due to forced switches such as broken or lost mobile phones. Therefore, these pushing factors can be considered primarily as rational reasons to switch mobile phones. The mooring effects in contrast are primarily concentrated on attachment towards the familiar advanced functionalities and perceptual factors. These attachments can be perceived to originate from epistemic values. However, the functional value behind these attachments cannot be denied either.

The most prominent pull effect stems from the desire and advanced functionality categories. Additionally, external social influences and perceptual factors create considerable pull effect while brands as well as price and cost value can be considered as an emerging pull forces mainly associated with the emergence of smartphones. Of these pull effects the functionally related reasons can be pointed out as the most prominent reasons for switching. However aside of

functional values, also the emotional and epistemic values seem to have a considerable influence on the mobile phone switching reasons in terms of pull effect.

6.1.3. General Level Academic Contributions

At the general level, the key contribution of this thesis to the academic field is that this is one of the few studies to examine the mobile phone switching behavior with an inductive approach. Hence, it provides original information about consumer self-expressed reasons to explain their mobile phone switching decisions. Additionally, this thesis fills the research gap in the academic literature related to mobile phone switching behavior as well as technology switching in general.

This thesis is also one of the first studies to apply migration theory in form of PPM framework to examine mobile phone switching behavior context. Therefore, this master's thesis broadens the perspectives of earlier principally technology adoption based academic literature related to the mobile phone switching behavior. Furthermore, this thesis is one of the few studies to examine the mobile phone switching more comprehensively rather than just through the narrower perspective of the adoption literature. Therefore, the results also suggest that the current adoption literature may not comprehensively describe all the factors affecting to mobile phone switching.

6.2. Limitations

This thesis contains also variable limitations for the interpretation of the results. First, the data set coverage is very limited. The data is collected from young college students from three very different geographical areas. Although college students can be considered as an interesting testing sample for various technology-related phenomena (Tuunanen et al., 2011), one must remain very cautious about the generalizability of these results. Furthermore, even though the sample sizes were roughly equal in each geographical subset, the variation in response rates among these subsets has potential to skew the results. When the response rates are examined in terms of total codes accumulated per geographical area, the Finnish subset was over twice more active in their responses than the Indian subset. Moreover, the scope of this thesis does not extend to examine the differences between these geographical subsets, but rather they are treated as a heterogeneous mass for the purposes of the analysis.

The scope of this thesis also limits the examination of the switching processes comprehensively. First, the examination is limited to the most recent switch of each respondent. Second, possible references to considered alternatives during the switching process have been omitted from the examination due to inadequate data. Third, the consideration of influences of different mobile service platform layers was primarily left on a nominal acknowledgement basis. Fourth, the underlying survey did not have a specific question targeting the possible mooring effects as the focus was on switching. Hence, the quality and breadth of the mooring effects presented here may have been hampered by the fact that none of the respondents was specifically discussing why they would not switch their phone. Fifth, mobile phones examined only at the manufacturer brand and mobile phone type level leaving out considerations for variable models and hence possibly affecting the comprehensive understanding of the switching process. However, even more itemized examination also pose a risk for statistical analysis due to smaller sample sizes, which was already an issue that calls for caution in some of the cross tabulation examinations' interpretations.

The inductive codification and code categorization in itself also is arbitrary since they require subjective interpretation. As the respondents expresses themselves in their own words, they often bound to refer to same issues from different perspectives. This is also visible in the detailed examination of categorization of this thesis since broad concepts can be perceived in a multiple code categories and in relation to multiple different codes. Hence, one should bear in mind that the categorization may not be completely sound in absolute terms as it is often the case with qualitative analysis.

The results may have been also affected by the limits of human cognitive capabilities as respondents may not be able to express or even acknowledge all the possible influence to their mobile phone switching decisions. For example, it could be speculated that the origin of Nokia as a Finnish company has some influence on Finnish respondents' switching behavior. This is implied by the relatively high concentration of Nokia phones in the Finnish sample subset. However, none of the Finnish respondents associated the Finnish origin of Nokia phones positively or negatively in the general mobile phone perceptions or explicitly expressed switch reasons contexts. Furthermore, the thematic construction of the surveys could have also affected

the answers of some respondents because the linearly constructed questions may have primed some of the respondents to continue referring to a same issue as in a previous question just from a different perspective. In the data there are a few examples in which a respondent may have possibly fallen into priming by referring negatively only to an absence of a specific functionality in the previous mobile phone context while in the current mobile phone context the only positive association is created by the presence of that same particular functionality.

6.3. Suggestions for Future Research

The mobile phone switching research is a rather novel concept as it broadens the perspectives of the more established mobile phone adoption literature. Hence, this subject provides a host of possibilities for further research. Thus, for example, a replication of this study could be suggested as the findings of this thesis would require further validation with more comprehensive sample so that they would become more sufficiently generalizable. This would require a larger geographical coverage as well as also more inclusive cross section of a general population in terms of demographical factors.

As mentioned earlier the coding framework and the categorization are still debatable. Therefore, I would like to make a personal appeal to interested parties to develop further the categorization so that it would portray a more comprehensive picture of the possible influences on mobile phone switching behavior. This also presents an opportunity for creating a theoretical model to explain influences in the mobile phone switching behavior or even in the general level consumer switching behavior of products.

Interesting topic for future research would be also cross tabulation examination of switching reasons and demographical variables. This would further determine the possible differences among variable consumer groups as has been suggested earlier (van Biljon & Kotze, 2007; Venkatesh et al., 2003). Additionally, the examination could take into account the possible network effects of different mobile service platform layers as well as the effect of multi-homing on mobile service platform switching behavior.

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APPENDIX A: EXCERPT FROM QUESTIONNAIRE

Questionnaire on SWITCHING mobile phones and mobile service platforms

This survey is part of an ongoing study on consumers' switching behavior related mobile phones and mobile service platforms; conducted jointly by Aalto University (Finland), University of Oulu (Finland) and University of Nebraska-Lincoln (USA). *No commercial party is involved in this study.*

Please read each question **carefully**, and be as **complete** and **thorough** with your answers as you can.

1. About yourself:

What is your **gender** (check with X)? female ☐ male ☐
When were you **born**? Year: _____
When did you start your **University** studies? Year: _____
What is your **degree program**: _____
In addition to studying, do you also **work?** Yes ☐ No ☐
What is the average **number of hours** you work per week? _____
Do you use a mobile device in your **work**? Yes ☐ No ☐

2. Your current mobile phone:

What is/are your current mobile/smart phone(s)? Please list in the table below details of your current main phone, and a secondary phone, if you have one:

	Main phone	**Secondary phone**
Phone Brand (e.g. Nokia, HTC, ...)		
Phone Model (e.g. iPhone, Galaxy,...)		
Who owns it? (e.g. me/ parents/ employee/...)		
Who pays the bill? (e.g. me/ parents/ employee/...)		
Main usage of the phone: (Personal or business Use)		
What do you like about it?		
What do you dislike about it?		

3. Switching your mobile/smart phone

Switching in the Past:
How many mobile phones and smart phones you have had altogether? *(If you don't remember exactly, give an estimate)*
Mobile phones (not smart phones):_____Smart phones:_____

When did you last switch a mobile/smart phone? Month:____ Year:_____

Figure 10 Excerpt from Indian Version of the Survey Questionnaire (Part 1/2)

What did you last switch from, i.e. what was your **previous phone**?

Phone Brand (e.g. Nokia, HTC, ...)	
Phone Model (e.g. iPhone, Galaxy,...)	
Who owned it? (e.g. me/ parents/ employee/...)	
Who payed the bill? (e.g. me/ parents/ employee/...)	
Main usage of the phone: (Personal or business Use)	
What did you <u>like</u> about it?	
What did you <u>dislike</u> about it?	

Explain in your own words, what were the **reasons** for the switch?
(*Be as complete and thorough as possible*)

Figure 11 Excerpt from Indian Version of the Survey Questionnaire (Part 2/2)

APPENDIX B: CODE DESCRIPTION TABLE

Table 4 Itemization of Codes and Code Descriptions

Generalized Grouping	Code Type	Code Identifier	Code Description
Brand	**Functional**	**Android**	Code group for subjective perception of Android brand's mobile operating systems (software).
Brand	**Functional**	**Apple**	Code group for subjective perception of Apple brand. Note that Apple comprises of both the general brand and the iPhone brand, which integrates both physical hardware mobile phone brand with operating system and general software content brands.
Brand	**Functional**	**Established Brand**	Code group for mobile phone manufacturer brands that are not subjectively labeled as established brands.
Brand	**Functional**	**HTC**	Code group for subjective perception of mobile phone manufacturer HTC's brand.
Brand	**Functional**	**Maemo**	Code group for subjective perception of Maemo brand mobile operating systems (software). Note that Maemo brand was primarily developed and managed by Nokia or its associates at the time of the questionnaires.
Brand	**Functional**	**MeeGo**	Code group for subjective perception of Meego brand mobile operating systems (software). Note that Meego brand was primarily developed and managed by Nokia or its associates at the time of the questionnaires.
Brand	**Functional**	**Nokia**	Code group for subjective perception of mobile phone manufacturer Nokia's brand.
Brand	**Functional**	**Symbian**	Code group for subjective perception of Symbian brand mobile operating systems (software). Note that Symbian brand was primarily developed and managed by Nokia or its associates at the time of the questionnaires.
Functionality: Advanced	**Functional**	**Anti-Theft/Mobile Security Function**	Specified applications code group for anti-theft or mobile security applications.
Functionality: Advanced	**Functional**	**Appliances, Hardware**	Refers to external additional hardware such as e.g. sufficient cables or additional protective cases
Functionality: Advanced	**Functional**	**Application Manageability**	References to basic application management forms such as installing, uninstalling or changing the place of applications. Furthermore, these codes extends to also capability for users to create their own applications.
Functionality: Advanced	**Functional**	**Applications: Dictionary**	Dictionary function integrated within the mobile phone.
Functionality: Advanced	**Functional**	**Applications: Games**	Specified applications code group of mobile games.
Functionality: Advanced	**Functional**	**Applications: Siri**	Specified applications code group for Siri - iPhone Intelligent Personal Assistant.
Functionality: Advanced	**Functional**	**Applications: Social Networking**	Specified applications code group of social networking applications such as Facebook or Twitter.
Functionality: Advanced	**Functional**	**Applications: Unspecified or in General**	Generalized code group for all non-specified applications.

Functionality: Advanced	**Functional**	**Applications: Weather Forecasts**	Specified applications code group for weather forecasting applications.
Functionality: Advanced	**Functional**	**Audio Playback Function**	Primarily consists of mobile phone features that are able to play music through phone speakers. Generally these are referred as a music player or MP3 player.
Functionality: Advanced	**Functional**	**Audio Recording Function**	Capability to record and save audio.
Functionality: Advanced	**Functional**	**Autocorrect Function**	Specified feature of messaging functions that predicts writings and attempts to correct typos.
Functionality: Advanced	**Functional**	**Calendar Function**	Perception to the calendar function integrated to a mobile phone.
Functionality: Advanced	**Functional**	**Calling Function: Group Calls**	Special calling function, group calls, enabling the respondent to have a phone discussion with multiple people simultaneously.
Functionality: Advanced	**Functional**	**Calling Function: Video Calls**	Special calling function, video calls, enabling respondent to have also a visual connection to their counterparts during a phone conversation.
Functionality: Advanced	**Functional**	**Camera Function**	Subjective quality of a camera function or just the presence of camera function.
Functionality: Advanced	**Functional**	**Camera Function: Supplementary Features**	Reference to broad range of additional or supplementary camera features such zoom options, camera flash or physical lens cover.
Functionality: Advanced	**Quality**	**Combinatory Effect: Display Size and Internet Function**	The effect display size can have to the Internet surfing experience on mobile platforms.
Functionality: Advanced	**Quality**	**Combinatory Effect: Display Size and Touchscreen Functionality**	The effect display size can have to operating the mobile platform with touchscreen as the primary control for user interface manipulation.
Functionality: Advanced	**Quality**	**Combinatory Effect: Display Size and Video Playback Function**	The effect display size can have to a video watching experience on mobile platforms.
Functionality: Advanced	**Functional**	**Combinatory Effect: E-mail and Calendar Functions**	Perception how the phone e-mail and calendar functions are integrated together.
Functionality: Advanced	**Quality**	**Combinatory Effect: Multiple Phones**	Situation in which respondents creates desirable service catering by using capabilities of multiple different mobile phones. This code is categorized as advanced features and functions since generally the desired service catering includes more advanced features than just required in a feature phone.
Functionality: Advanced	**Functional**	**Combinatory Effect: Phone and Music Player**	Perception how well basic mobile phone functionality is integrated with music player functionality.
Functionality: Advanced	**Functional**	**Combinatory Effect: QWERTY and Numeric keypad**	Perception of additional value created through integration of both physical QWERTY keypad and traditional, physical numeric keypad together in a mobile phone.
Functionality: Advanced	**Functional**	**Combinatory Effect: Touchscreen and QWERTY Keypad**	Perception of additional value created through integration of both physical QWERTY keypad and touchscreen functionality together in a mobile phone.
Functionality: Advanced	**Functional**	**Compatibility: Inter-device Sharing**	Capability to share documents with other devices via variable wireless methods such as Bluetooth or infrared transmission.

Functionality: Advanced	**Functional**	**Compatibility: Plug-ins**	Perception to variable options for physical plug-ins of the mobile phone.
Functionality: Advanced	**Functional**	**Customizability**	Capability for user to customize the graphical user interface (GUI) or other features to comply better to a respondent's own liking.
Functionality: Advanced	**Functional**	**Dual SIM Capability**	Mobile phone's capability utilize more than one SIM-cards simultaneously.
Functionality: Advanced	**Functional**	**E-mail Function**	Integrated function for receiving and sending E-mails
Functionality: Advanced	**Functional**	**Internet and Browser Function**	Capability to connect to the mobile internet and use sufficiently a browser to surf the Internet.
Functionality: Advanced	**Functional**	**Keypad: QWERTY**	Mobile phone keypad composed in a physical QWERTY format.
Functionality: Advanced	**Functional**	**Location/Map Services**	Perception to variable solutions for location, navigation and map services integrated into the mobile phone.
Functionality: Advanced	**Functional**	**Memory Capabilities**	Reference to mobile phone's capability save information. All mobile phones have internal memory capability at the rudimentary level, but in this context the reference is more advanced memory capabilities such as an option to use external memory card standards such as Micro SD memory cards.
Functionality: Advanced	**Functional**	**Multimedia Messaging Service (MMS)**	Specified messaging function of multimedia messages. Extends the normal SMS text messages to include other forms of media such as pictures, audio or video.
Functionality: Advanced	**Functional**	**Multitasking Capability.**	Capability to run multiple applications simultaneously in the mobile phone.
Functionality: Advanced	**Functional**	**Network Capabilities**	Mobile phone's capability to operate in variable mobile phone networks such as GSM, UMTS or LTE networks.
Functionality: Advanced	**Functional**	**Operating System/GUI: Android**	Subjective perception to the any of the versions of Android operating system. It should be noted that operating system codes are not to be confused with brand codes as operating systems codes are included in a situations where words such as "operating system" or "OS" is mentioned independent of whether the brand name is mentioned or not.
Functionality: Advanced	**Functional**	**Operating System/GUI: Apple iOS**	Perception to capabilities and GUI of Apple iPhone iOS operating system.
Functionality: Advanced	**Functional**	**Operating System/GUI: Blackberry OS**	Perception to capabilities and GUI of BlackBerry operating system.
Functionality: Advanced	**Functional**	**Operating System/GUI: Maemo**	Perception to capabilities and GUI of Maemo operating system. Note that Maemo OS was primarily developed and managed by Nokia or its associates at the time of the questionnaires.
Functionality: Advanced	**Functional**	**Operating System/GUI: Meego**	Perception to capabilities and GUI of Meego operating system. Note that Meego OS was primarily developed and managed by Nokia or its associates at the time of the questionnaires.
Functionality: Advanced	**Functional**	**Operating System/GUI: Symbian**	Perception to capabilities and GUI of Symbian operating system. Note that Symbian OS was primarily developed and managed by Nokia or its associates at the time of the questionnaires.
Functionality: Advanced	**Functional**	**Software Updates**	Perception to variable software updates required by either the applications or the mobile phone's operating system.
Functionality: Advanced	**Functional**	**Touchscreen Functionality**	Mobile phone's touchscreen functionality including variable features such as multi-touch capability.

Functionality: Advanced	**Functional**	**Vibration Function**	Perception the vibration function and its management integrated within a mobile phone.
Functionality: Advanced	**Functional**	**Video Playback Function**	Mobile phone's capability to portray documents in video format on the primary display.
Functionality: Advanced	**Functional**	**Wi-Fi Function**	Mobile phone's capability to access the Internet by using Wi-Fi networks thus opening users an opportunity to circumvent possibly expensive data transfer costs.
Functionality: Basic	**Quality**	**Battery: Durability**	Durability of the mobile phone battery in general terms
Functionality: Basic	**Quality**	**Battery: Charging Speed**	Subjective perception to the mobile phone's processing speed.
Functionality: Basic	**Quality**	**Calling Function**	General ability of phone to place and receive calls in terms of both ease to place or receive calls as well as the perceived call quality during the phone calls.
Functionality: Basic	**Quality**	**Chat/Text Messaging Function**	Reference to basic text messaging functionality and its variable features such as showing messages in chat type of instant messaging format.
Functionality: Basic	**Quality**	**Display Quality**	Respondent's perception to the quality of the mobile phone's primary display in terms of for example display resolution.
Functionality: Basic	**Quality**	**Display Size and Shape**	Perception to the size or shape of the mobile phone's primary display.
Functionality: Basic	**Quality**	**General Appearance: Software**	Refers to the visible appearance of software within the phone, primarily the operating system. In this study it is assumed that on even the most rudimentary level ever mobile phone has a display that portrays graphical or textual user interface.
Functionality: Basic	**Quality**	**GUI Navigation Control**	Perception to physical GUI navigation control such as navigation buttons or touchpad censor, but excluding actual touchscreens.
Functionality: Basic	**Quality**	**Keypad: Size**	Perception to the overall size of the mobile phone's keypad.
Functionality: Basic	**Quality**	**Keypad: Buttons**	Perception to the quality of the physical buttons in terms of for example the size, look, or feel of the buttons.
Functionality: Basic	**Functional**	**Keypad: Numeric**	Perception to the overall quality and feel of the mobile phone's physical numeric keypad.
Functionality: Basic	**Quality**	**Network Quality/Reception**	Perception to the quality of the reception regarding phone calls, text messages or the mobile internet.
Functionality: Basic	**Functional**	**Operating System/GUI: LG Proprietary**	Perception to variable proprietary, non-branded operating systems for feature phones provided by LG.
Functionality: Basic	**Functional**	**Operating System/GUI: Nokia Proprietary**	Perception to variable proprietary, non-branded operating systems for feature phones provided by Nokia.
Functionality: Basic	**Functional**	**Operating System/GUI: Samsung Proprietary**	Perception to variable proprietary, non-branded operating systems for feature phones provided by Samsung.
Functionality: Basic	**Quality**	**Processing Speed**	The speed at which mobile phone battery fills during the charging process.
Functionality: Basic	**Quality**	**Ringtones**	Mobile phone's selection of ringtones and message tones.
Functionality: Basic	**Quality**	**Sound/Speaker Quality**	Refers to general level of sound quality which is primarily transmitted through mobile phone speakers. The sound quality may refer to either sound quality relating to the integrated music player or relating to the sound quality during the phone calls.

Functionality: Unspecific	**Functional**	**Combinatory Effect: Unspecified Functions**	Perception to the combining effect of two or more functions of which at least one functionality remained unspecified by the respondent. Typical response in this code category can be for example: "I can check everything on my iPhone including Facebook, email, mobile banking and so on."
Functionality: Unspecific	**Functional**	**Unspecific Functionality**	Features or functions that were left unspecified by the respondent. Typical wordings in this code category were: "function", "functionality" and "facility".
Perceptual Factors	**Presence**	**Distractiveness**	Perception of mobile phone hedonic features distracting concentration from other things such as educational work.
Perceptual Factors	**Presence**	**Ease of Use**	Subjectively perceived ease of use of the mobile phone. In the context of this study a few answers referring to usability are also interpreted under ease of use coding since often in informal, non-scientific responses it is very difficult to distinguish whether the respondent is actually referring to usability per se or in fact the ease of use.
Perceptual Factors	**Presence**	**Enjoyment**	Perception of phone features that should be able to cause enjoyment or excitement.
Perceptual Factors	**Presence**	**Familiarity**	Subjective perspective whether the mobile phone and its usage feels familiar. Negative association should be interpreted as that the unfamiliarity with the phone is expressed causing some sort of usage issues.
Perceptual Factors	**Presence**	**Health Effects**	Perception on how mobile phone usage can affect the user's overall health status.
Perceptual Factors	**Quality**	**Outdatedness**	Perception of the phone compared to other phones in the marked and if the phone seems old-fashioned compared to them, how the respondent perceives it.
Perceptual Factors	**Functional**	**Origin Association: China**	Perception to the knowledge or assumption regarding the origin of the mobile phone manufacturer coming from China.
Perceptual Factors	**Functional**	**Origin Association: USA**	Perception to the knowledge or assumption regarding the origin of the mobile phone manufacturer coming from USA.
Perceptual Factors	**Quality**	**Perceived Overall Quality**	Subjective perception of the overall quality of the phone. Overall Quality is placed in perceptual factors due to varying perspectives on what defines quality for individuals.
Perceptual Factors	**Functional**	**Perceived Smartphone Image**	If the respondent mentioned a word "smartphone" rather than mentioning some specified smartphone related features or functions, this is interpreted that the respondent is primed on the subjectively experienced image created by smartphones. Hence, smartphones are categorized to perceptual factors
Perceptual Factors	**Functional**	**Personal Phone**	Perception of ownership associated with the freedom conceived through personal property.
Perceptual Factors	**Quality**	**Unspecified Association**	In the context of this study this codes refer to unidentifiable associations expressed for example as "my phone is the best" and thus those expressions are interpreted as more emotional connections rather than intelligible or logical associations.
Physical design	**Functional**	**Form Factor: Blackberry**	Perception to a form factor described as BlackBerry referring to phones with full QWERTY keypad accompanied with medium-sized display.
Physical design	**Functional**	**Form Factor: Clamshell**	Perception to clamshell form factor referring to phones with joint in the middle of phone enabling two halves to be folded face to face.

Physical design	**Functional**	**Form Factor: Slider**	Perception to slider form factor referring to phones with e.g. a possibility to hide the keypad under the display.
Physical design	**Quality**	**General Appearance: Hardware**	Perception to the general physical outlook of the mobile phone.
Physical design	**Quality**	**Phone Size or Shape**	The overall physical size and/or shape of the mobile phone.
Physical design	**Quality**	**Phone Weight**	The overall weight of the mobile phone.
Price and Cost Value	**Presence**	**Additional or Unexpected Costs**	Perception to additional costs such as mobile internet that accumulate when using some of the phones integrated services.
Price and Cost Value	**Quality**	**Continuous Costs**	Perception to continuous costs generated by phone usage such as charge for phone calls, text messages and data transfers.
Price and Cost Value	**Presence**	**Free of Charge**	Situation in which the mobile phone was received free of charge as in for example gifts or work phones received.
Price and Cost Value	**Quality**	**Initial Acquisition Costs**	Perception to the initial purchase price against to the perceived quality of the mobile phone.
Price and Cost Value	**Presence**	**Price Offering or Promotion**	Situation in which mobile phone was acquired on a reduced price due to some sort of price offering or promotion.
Reliability & Durability	**Functional**	**Durability: Overall**	Refers to physical durability of the phone the phone exterior rather than the internal performance consistency. This code is closely related to hardware malfunctions.
Reliability & Durability	**Quality**	**Durability: Special**	Especially marketed durability qualities of the mobile phone such as waterproof or shatter resistant capabilities.
Reliability & Durability	**Presence**	**Malfunctions: Battery**	Malfunctions caused by phone battery, e.g. overheating, incapability to hold charge or battery charging intervals becoming increasingly more frequent.
Reliability & Durability	**Presence**	**Malfunctions: Fatal**	Malfunctions that cause the phone to cease from functioning permanently. The code is double coded with at least one of the other malfunctions codes.
Reliability & Durability	**Presence**	**Malfunctions: Hardware**	Malfunctions caused by hardware, e.g. cracks or break in the case of the mobile phone.
Reliability & Durability	**Presence**	**Malfunctions: Software**	Malfunctions caused by software, e.g. software bugs, crashing of the operating system or unexpected shutdowns.
Reliability & Durability	**Presence**	**Malfunctions: Touchscreen**	Malfunctions caused by touchscreen, e.g. insensitivity or unresponsiveness of the touchscreen.
Reliability & Durability	**Presence**	**Malfunctions: Unspecified**	Malfunctions caused by unknown or unspecified reason(s).
Reliability & Durability	**Quality**	**Performance Consistency or Reliability**	Refers primarily to software based performance consistency and general reliability associated with the performance. The distinction between Performance Consistency/Reliability and variable malfunctions is that performance consistency deals with more harmless problems without gravely deteriorating the user experience, while the malfunctions refer to grave problems.
Desire	**Migrational**	**Try Something New**	Explicitly expressed desire to switch brands or try something new and different in terms of mobile phones
Desire	**Migrational**	**New Phone**	Explicitly expressed desire to acquire a new mobile phone without further distinction of the possible underlying reasoning.
Desire	**Migrational**	**Phone Upgrade or Quality Phone**	Explicitly expressed desire to upgrade current mobile phone or desire to acquire phone with high perceived quality value.

Desire	**Migrational**	**Smartphone**	Explicitly expressed desire to acquire a mobile phone that the respondent considers as a smartphone.
Desire	**Migrational**	**Touchscreen**	Explicitly expressed desire to acquire a mobile phone with touchscreen function.
External Influence	**Migrational**	**Change in Life Situation**	Situation in which the respondent is forced to switch phones due to changes in the life situation such as starting a new job or moving to another country.
External Influence	**Migrational**	**Gift or Prize Received**	Situation in which respondent's decision to switch phones is affected by a gift received by for example that the respondent is not in total control of the exact switching time or the exact mobile phone model.
External Influence	**Migrational**	**Insurance**	Situation in which the respondent's choice of possible new phones is influenced by the selection of an insurance company that offers a new phone to substitute the previous insured phone that was either lost or broken.
External Influence	**Migrational**	**Mobile Network Operator: Influence**	Influence of Mobile Network Operators on the switching decision by for example bundle offerings or restrictions to the services
External Influence	**Migrational**	**Mobile Network Operator or Area Lock-in**	Special circumstance of influence of Mobile Network Operator (MNO). In practice this is double coded with MNO code as the lock-in is usually at least indirectly caused by MNOs.
External Influence	**Migrational**	**Phone Comparison/Research**	Explicitly expressed comparison of multiple different phone options prior to switching phones. Hence, the respondent should be subjected to at least certain extent to marketing and promotion.
External Influence	**Migrational**	**Phone Lost**	Situation in which respondent has lost the previous phone or the phone has been stolen.
External Influence	**Migrational**	**Social Influence: Family, Friends and/or Peers**	Social influence of the respondent's close associates by for example family members expressing their opinion of what kind of phone is good or the respondent wanting to integrate him- or herself into certain social circle by adopting sufficient mobile phone for the circle.
External Influence	**Migrational**	**Social Influence: Trends and/or Popularity**	Influence of general trends of the surrounding society and environment.
External Influence	**Migrational**	**Unable to Obtain Desired Device**	Situation in which the respondent have felt after the switch that another phone would have been more preferable. This code may have links to future switching behavior.
External Influence	**Migrational**	**Work and/or Other Related Organization**	Influence of work organizations or educational institutions in form of them providing a work phone or requiring certain type of phone to be used.
Timing	**Migrational**	**Had Had the Previous Phone Long Enough**	Temporally anchored response referring having had the mobile phone too long without references the phone having become old-fashioned or outdated.
Timing	**Migrational**	**Technological Advancements**	Temporally anchored response referring to pressure created by technological advancements without references the phone having become old-fashioned or outdated.
Timing	**Migrational**	**Unspecified Reason**	Temporally anchored response without references to any particular reason to switch mobile phones.

APPENDIX C: CODE ACCUMULATION TABLE

Note that dark grey cells represent codes that cannot logically have the given dimensions. For example, battery durability cannot exist in non-presence dimension since respondents cannot complain about battery durability not existing in a mobile phone. However, the negative remarks regarding battery durability refer to the bad quality rather than the lack of its existence in the mobile phone.

Table 5 Code Accumulation per Contexts, Dimensions and Associations

Generalized Grouping	Code Type	Code Identifier	Previous Mobile Phone Generation Context				Current Mobile Phone Generation Context				Explicitly Expressed Switch Reasons Context			
			Presence Dimension		Non-Presence Dimension		Presence Dimension		Non-Presence Dimension		Presence Dimension		Non-Presence Dimension	
			Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.
Brand	Functional	Android	2	1	0	0	1	11	0	0	1	7	0	0
Brand	Functional	Apple	0	2	0	0	3	22	0	0	0	22	0	0
Brand	Functional	Established Brand	0	0	1	0	0	0	0	0	0	0	0	0
Brand	Functional	HTC	0	0	0	0	0	2	0	0	0	2	0	0
Brand	Functional	Maemo	0	0	0	0	0	1	0	0	0	1	0	0
Brand	Functional	MeeGo	0	0	0	0	1	1	0	0	0	0	0	0
Brand	Functional	Nokia	3	3	0	0	5	7	0	0	2	4	0	0
Brand	Functional	Symbian	0	0	0	0	3	2	0	0	0	3	0	0
Brand Total Mentions			**5**	**6**	**1**	**0**	**13**	**46**	**0**	**0**	**3**	**39**	**0**	**0**
Brand Total Respondents			**5**	**6**	**1**	**0**	**12**	**45**	**0**	**0**	**3**	**36**	**0**	**0**
Functionality: Advanced	Functional	Anti-Theft/Mobile Security Function	0	0	1	0	0	0	0	0	0	0	1	0
Functionality: Advanced	Functional	Appliances	0	0	2	0	0	0	0	0	0	0	1	0
Functionality: Advanced	Functional	Application Manageability	4	0	0	0	4	4	0	0	2	2	0	0
Functionality: Advanced	Functional	Applications: Dictionary	0	0	0	0	0	0	2	0	0	0	0	0

Functionality: Advanced	**Functional**	**Applications: Games**	1	4	0	0	0	8	0	0	1	2	0	0
Functionality: Advanced	**Functional**	**Applications: Siri**	0	0	0	0	1	1	0	0	0	1	0	0
Functionality: Advanced	**Functional**	**Applications: Social Networking**	1	0	0	0	1	8	0	0	1	1	0	0
Functionality: Advanced	**Functional**	**Applications: Unspecified or in General**	4	6	10	0	5	45	1	0	0	20	5	0
Functionality: Advanced	**Functional**	**Applications: Weather Forecasts**	0	0	0	0	0	3	0	0	0	0	0	0
Functionality: Advanced	**Functional**	**Audio Playback Function**	1	11	5	0	1	21	0	0	0	5	2	0
Functionality: Advanced	**Functional**	**Audio Recording Function**	0	0	0	0	2	1	0	0	0	1	0	0
Functionality: Advanced	**Functional**	**Autocorrect Function**	1	0	0	0	1	0	0	0	0	0	0	0
Functionality: Advanced	**Functional**	**Calendar Function**	1	2	0	0	1	2	0	0	1	1	0	0
Functionality: Advanced	**Functional**	**Calling Function: Group Calls**	0	0	1	0	0	0	0	0	0	0	1	0
Functionality: Advanced	**Functional**	**Calling Function: Video Calls**	0	1	0	0	0	0	0	0	0	0	0	0
Functionality: Advanced	**Functional**	**Camera Function**	8	15	7	0	10	27	4	0	3	6	4	0
Functionality: Advanced	**Functional**	**Camera Function: Supplementary Features**	1	0	0	0	6	0	0	0	0	0	0	0
Functionality: Advanced	**Quality**	**Combinatory Effect: Display Size and Internet Function**	1	0	-	-	1	1	-	-	0	1	-	-
Functionality: Advanced	**Quality**	**Combinatory Effect: Display Size and Touchscreen Functionality**	0	0	-	-	1	0	-	-	0	0	-	-
Functionality: Advanced	**Quality**	**Combinatory Effect: Display Size and Video Playback Function**	0	0	-	-	0	1	-	-	0	1	-	-
Functionality: Advanced	**Functional**	**Combinatory Effect: E-mail and Calendar Functions**	1	0	0	0	0	1	0	0	1	1	0	0
Functionality: Advanced	**Quality**	**Combinatory Effect: Multiple Phones**	0	0	-	-	0	1	-	-	0	2	-	-
Functionality: Advanced	**Functional**	**Combinatory Effect: Phone and Music Player**	0	0	0	0	0	2	0	0	0	1	0	0
Functionality: Advanced	**Functional**	**Combinatory Effect: QWERTY and Numeric keypad**	0	0	0	0	0	1	0	0	0	0	0	0

Functionality: Advanced	**Functional**	**Combinatory Effect: Touchscreen and QWERTY Keypad**	0	3	0	0	0	2	0	0	0	0	0	0
Functionality: Advanced	**Functional**	**Compatibility: Inter-device Sharing**	3	2	0	0	2	3	0	0	1	0	0	0
Functionality: Advanced	**Functional**	**Compatibility: Plug-ins**	3	0	0	0	1	0	0	0	1	2	0	0
Functionality: Advanced	**Functional**	**Customizability**	4	1	0	0	4	3	0	0	1	2	0	0
Functionality: Advanced	**Functional**	**Dual SIM Capability**	1	1	0	0	0	4	0	0	0	0	0	0
Functionality: Advanced	**Functional**	**E-mail Function**	4	4	4	0	1	23	0	0	3	12	2	0
Functionality: Advanced	**Functional**	**Internet and Browser Function**	19	15	22	0	10	51	5	0	6	26	8	0
Functionality: Advanced	**Functional**	**Keypad: QWERTY**	1	19	3	0	0	10	1	0	0	2	2	0
Functionality: Advanced	**Functional**	**Location/Map Services**	2	7	1	0	0	15	1	0	0	9	1	0
Functionality: Advanced	**Functional**	**Memory Capabilities**	8	1	4	0	4	8	0	0	4	3	2	0
Functionality: Advanced	**Functional**	**Multimedia Messaging Service (MMS)**	0	0	1	0	1	0	0	0	1	0	0	0
Functionality: Advanced	**Functional**	**Multitasking Capability.**	1	0	0	0	0	1	0	0	0	0	0	0
Functionality: Advanced	**Functional**	**Network Capabilities**	0	1	1	0	0	6	3	0	0	1	0	0
Functionality: Advanced	**Functional**	**Operating System/GUI: Android**	3	1	0	0	2	7	0	0	1	3	0	0
Functionality: Advanced	**Functional**	**Operating System/GUI: Apple iOS**	0	1	0	0	1	7	0	0	0	2	0	0
Functionality: Advanced	**Functional**	**Operating System/GUI: Blackberry OS**	0	1	0	0	0	0	0	0	0	0	0	0
Functionality: Advanced	**Functional**	**Operating System/GUI: Maemo**	0	0	0	0	0	1	0	0	0	1	0	0
Functionality: Advanced	**Functional**	**Operating System/GUI: Meego**	0	0	0	0	0	1	0	0	0	0	0	0
Functionality: Advanced	**Functional**	**Operating System/GUI: Symbian**	2	1	0	0	5	3	0	0	0	2	0	0
Functionality: Advanced	**Functional**	**Software Updates**	0	0	0	0	3	0	0	0	0	0	0	0
Functionality: Advanced	**Functional**	**Touchscreen Functionality**	4	9	3	2	11	23	0	1	1	14	2	0
Functionality: Advanced	**Functional**	**Vibration Function**	0	1	0	0	1	0	0	0	0	0	0	0

Functionality: Advanced	**Functional**	**Video Playback Function**	0	0	1	0	1	6	0	0	0	1	1	0
Functionality: Advanced	**Functional**	**Wi-Fi Function**	0	0	2	0	0	7	2	0	0	2	1	0
Advanced Functionality: Total Mentions			**79**	**107**	**68**	**2**	**81**	**308**	**19**	**1**	**28**	**127**	**33**	**0**
Advanced Functionality: Total Respondents			**54**	**74**	**49**	**2**	**60**	**146**	**16**	**1**	**19**	**69**	**22**	**0**
Functionality: Basic	**Quality**	**Battery: Durability**	15	20	-	-	35	21	-	-	5	2	-	-
Functionality: Basic	**Quality**	**Battery: Charging Speed**	0	0	-	-	0	1	-	-	0	0	-	-
Functionality: Basic	**Quality**	**Calling Function**	0	14	-	-	7	14	-	-	0	3	-	-
Functionality: Basic	**Quality**	**Chat/Text Messaging Function**	7	15	-	-	4	25	-	-	0	6	-	-
Functionality: Basic	**Quality**	**Display Quality**	4	3	-	-	2	7	-	-	2	0	-	-
Functionality: Basic	**Quality**	**Display Size and Shape**	10	4	-	-	9	9	-	-	1	4	-	-
Functionality: Basic	**Quality**	**General Appearance: Software**	1	1	-	-	0	0	-	-	1	0	-	-
Functionality: Basic	**Quality**	**GUI Navigation Control**	2	1	-	-	5	0	-	-	0	0	-	-
Functionality: Basic	**Quality**	**Keypad: Size**	0	0	-	-	2	0	-	-	0	0	-	-
Functionality: Basic	**Quality**	**Keypad: Buttons**	1	2	-	-	4	2	-	-	1	0	-	-
Functionality: Basic	**Functional**	**Keypad: Numeric**	3	3	0	0	0	1	0	0	0	0	0	0
Functionality: Basic	**Quality**	**Network Quality/Reception**	3	4	-	-	2	3	-	-	1	1	-	-
Functionality: Basic	**Functional**	**Operating System/GUI: LG Proprietary**	1	0	0	0	0	0	0	0	0	0	0	0
Functionality: Basic	**Functional**	**Operating System/GUI: Nokia Proprietary**	0	4	0	0	0	0	0	0	0	1	0	0
Functionality: Basic	**Functional**	**Operating System/GUI: Samsung Proprietary**	1	0	0	0	0	0	0	0	0	0	0	0
Functionality: Basic	**Quality**	**Processing Speed**	23	0	-	-	16	17	-	-	6	4	-	-
Functionality: Basic	**Quality**	**Ringtones**	1	0	-	-	0	1	-	-	0	0	-	-
Functionality: Basic	**Quality**	**Sound/Speaker Quality**	3	1	-	-	1	5	-	-	2	0	-	-
Basic Functionality: Total Mentions			**75**	**72**	**0**	**0**	**87**	**106**	**0**	**0**	**19**	**21**	**0**	**0**
Basic Functionality: Total Respondents			**66**	**57**	**0**	**0**	**73**	**88**	**0**	**0**	**19**	**18**	**0**	**0**

Functionality: Unspecific	Functional	Combinatory Effect: Unspecified Functions	0	0	0	0	0	20	0	0	0	11	0	0
Functionality: Unspecific	Functional	Unspecific Functionality	5	19	31	0	5	60	7	0	3	27	14	0
Unspecific Functionality: Total Mentions			**5**	**19**	**31**	**0**	**12**	**80**	**7**	**0**	**3**	**38**	**14**	**0**
Unspecific Functionality: TotalRespondents			**5**	**19**	**31**	**0**	**11**	**63**	**7**	**0**	**3**	**30**	**14**	**0**
Functionality References: Total Mentions			**159**	**198**	**99**	**2**	**180**	**494**	**26**	**1**	**50**	**186**	**47**	**0**
Functionality References: Total Respondents			**102**	**133**	**70**	**2**	**114**	**195**	**20**	**1**	**37**	**88**	**30**	**0**
Perceptual Factors	Presence	Distractiveness	0	-	-	0	2	-	-	0	0	-	-	0
Perceptual Factors	Presence	Ease of Use	-	46	14	-	-	41	16	-	-	7	6	-
Perceptual Factors	Presence	Enjoyment	-	0	3	-	-	1	0	-	-	1	2	-
Perceptual Factors	Presence	Familiarity	-	2	0	-	-	5	2	-	-	4	0	-
Perceptual Factors	Presence	Health Effects	0	-	-	0	1	-	-	0	0	-	-	0
Perceptual Factors	Quality	Outdatedness	20	0	-	-	6	1	-	-	13	0	-	-
Perceptual Factors	Functional	Origin Association: China	1	0	0	0	0	0	0	0	0	0	0	0
Perceptual Factors	Functional	Origin Association: USA	0	0	0	0	1	0	0	0	0	0	0	0
Perceptual Factors	Quality	Perceived Overall Quality	1	3	-	-	3	9	-	-	0	6	-	-
Perceptual Factors	Functional	Perceived Smartphone Image	0	3	9	0	1	30	3	0	0	27	4	0
Perceptual Factors	Functional	Personal Phone	0	0	0	0	0	1	0	0	0	0	0	0
Perceptual Factors	Quality	Unspecified Association	7	14	-	-	1	25	-	-	3	1	-	-
Perceptual Factors: Total Mentions			**29**	**68**	**26**	**0**	**15**	**113**	**21**	**0**	**16**	**46**	**12**	**0**
Perceptual Factors: TotalRespondents			**27**	**63**	**26**	**0**	**15**	**96**	**19**	**0**	**15**	**39**	**12**	**0**
Physical design	Functional	Form Factor: Blackberry	0	1	0	0	0	0	0	0	0	0	0	0
Physical design	Functional	Form Factor: Clamshell	0	1	0	0	0	0	0	0	0	0	0	0
Physical design	Functional	Form Factor: Slider	2	5	0	0	0	1	0	0	0	0	0	0
Physical design	Quality	General Appearance: Hardware	8	17	-	-	4	22	-	-	3	6	-	-
Physical design	Quality	Phone Size or Shape	8	35	-	-	11	23	-	-	4	3	-	-

Physical design	Quality	Phone Weight	4	8	-	-	5	8	-	-	1	1	-	-
Physical Design: Total Mentions			22	67	0	0	20	54	0	0	8	10	0	0
Physical Design: Total Respondents			20	49	0	0	16	39	0	0	7	9	0	0
Price and Cost Value	Presence	Additional or Unexpected Costs	2	-	-	0	0	-	-	0	1	-	-	7
Price and Cost Value	Quality	Continuous Costs	1	2	-	-	4	8	-	-	1	0	-	-
Price and Cost Value	Presence	Free of Charge	-	3	0	-	-	7	0	-	-	15	0	-
Price and Cost Value	Quality	Initial Acquisition Costs	1	9	-	-	4	23	-	-	0	22	-	-
Price and Cost Value	Presence	Price Offering or Promotion	-	0	0	-	-	0	0	-	-	7	0	-
Price and Cost Value: Total Mentions			4	14	0	0	8	38	0	0	2	51	0	7
Price and Cost Value: Total Respondents			4	11	0	0	7	28	0	0	2	34	0	7
Reliability & Durability	Functional	Durability: Overall	5	10	0	0	9	5	0	0	0	0	0	0
Reliability & Durability	Quality	Durability: Special	0	2	-	-	0	2	-	-	0	2	-	-
Reliability & Durability	Presence	Malfunctions: Battery	10	-	-	0	0	-	-	0	9	-	-	0
Reliability & Durability	Presence	Malfunctions: Fatal	28	-	-	0	0	-	-	0	28	-	-	0
Reliability & Durability	Presence	Malfunctions: Hardware	11	-	-	0	3	-	-	0	8	-	-	0
Reliability & Durability	Presence	Malfunctions: Software	24	-	-	0	17	-	-	0	13	-	-	0
Reliability & Durability	Presence	Malfunctions: Touchscreen	3	-	-	0	3	-	-	0	1	-	-	0
Reliability & Durability	Presence	Malfunctions: Unspecified	35	-	-	0	3	-	-	0	33	-	-	0
Reliability & Durability	Quality	Performance Consistency or Reliability	26	5	-	-	13	0	-	-	16	4	-	-
Reliability and Durability: Total Mentions			142	17	0	0	48	7	0	0	108	6	0	0
Reliability and Durability: Total Respondents			77	16	0	0	46	7	0	0	61	6	0	0
Desire	Migrational	Try Something New	*Migrational Code*								5	-	-	
Desire	Migrational	New Phone	*Migrational Code*								21	-	-	
Desire	Migrational	Phone Upgrade or Quality Phone	*Migrational Code*								48	-	-	
Desire	Migrational	Smartphone	*Migrational Code*								38	-	-	
Desire	Migrational	Touchscreen	*Migrational Code*								12	-	-	

Desire: Total Mentions			*Migrational Codes*	124	-	-
Desire: Total Respondents			*Migrational Codes*	99	-	-
External Influence	**Migrational**	**Change in Life Situation**	*Migrational Code*	10	-	-
External Influence	**Migrational**	**Gift or Prize Received**	*Migrational Code*	6	-	-
External Influence	**Migrational**	**Insurance**	*Migrational Code*	1	-	-
External Influence	**Migrational**	**Mobile Network Operator: Influence**	*Migrational Code*	24	-	-
External Influence	**Migrational**	**Mobile Network Operator or Area Lock-in**	*Migrational Code*	5	-	-
External Influence	**Migrational**	**Phone Comparison / Research**	*Migrational Code*	8	-	-
External Influence	**Migrational**	**Phone Lost**	*Migrational Code*	15	-	-
External Influence	**Migrational**	**Social Influence: Family, Friends and/or Peers**	*Migrational Code*	18	-	-
External Influence	**Migrational**	**Social Influence: Trends and/or Popularity**	*Migrational Code*	14	-	-
External Influence	**Migrational**	**Unable to Obtain Desired Device**	*Migrational Code*	6	-	-
External Influence	**Migrational**	**Work and/or Other Related Organization**	*Migrational Code*	12	-	-
External Influence: Total Mentions			*Migrational Codes*	119	-	-
External Influence: Total Respondents			*Migrational Codes*	88	-	-
Timing	**Migrational**	**Had Had the Previous Phone Long Enough**	*Migrational Code*	7	-	-
Timing	**Migrational**	**Technological Advancements**	*Migrational Code*	17	-	-
Timing	**Migrational**	**Unspecified Reason**	*Migrational Code*	2	-	-
Timing: Total Mentions			*Migrational Codes*	26	-	-
Timing: Total Respondents			*Migrational Codes*	26	-	-
Migrational References: Total Mentions			*Migrational Codes*	**269**	**-**	**-**
Migrational References: Total Respondents			*Migrational Codes*	**144**	**-**	**-**

APPENDIX D: CROSS TABULATION ANALYSIS TABLES

The cross tabulation analysis is break down to 11 different tables of which each examines the detailed level of mobile phone switching related mobile phone perceptions and explicitly expressed switch reasons from different perspectives. The following tables examine the joint co-occurrences of code category variables –henceforth referred as row variables – with mobile phone manufacturer brands, mobile phone types and switch scenarios created by switching among brands and types – henceforth referred as column variables. The measure utilized for the cross tabulation analysis is a percentage point comparison between the column variable overall distribution and the distribution references within each row variable.

The tables are organized so that the left hand side column after brand and type names portrays total column variable figures in absolute amounts (∑) and in relative shares (%). For each row variable, the columns illustrate also the amount of respondents referring to that particular code category while discussing about their own mobile phone brand, type or switching scenario in absolute amounts (∑). Additionally, the second column (ppΔ) portrays a percentage point difference of a particular mobile phone manufacturer brand, mobile phone type or switching scenario's share of the total mobile phone population and share of respondents referring to that particular mobile phone manufacturer's phones in a particular code category of the total references made within that particular code category. In the negative association context (Table 6, 8, 10 and 12), the code category share is subtracted from the total share. In the positive association context (Table 7, 9, 11, 13 and 14), an inverse function is utilized so that negative figures always express negative context whether it is a relatively abundant presence of negative associations or an absence of positive associations.

Table 6 Cross Tabulation of Negative Associations and Mobile Phone Brands

Negative Associations: Push Factors																		
Mobile Phone Brand	Total phones		Brand Influence		Functionality: Advanced		Functionality: Basic		Functionality: Unspesific		Perceptual Factors		Physical Design		Price and Cost Value		Reliability & Durability	
	∑	%	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ
Apple	64	0,134	3	-0,032	15	0,043	14	0,033	2	0,091	5	0,073	1	0,106	3	-0,139	10	0,054
Blackberry	14	0,029	0	0,029	1	0,023	4	0,001	0	0,029	1	0,017	3	-0,054	1	-0,062	4	-0,003
HTC	23	0,048	1	-0,007	8	-0,001	11	-0,031	0	0,048	3	0,012	3	-0,035	0	0,048	5	0,008
LG	33	0,069	0	0,069	9	0,014	9	0,004	5	-0,040	8	-0,028	2	0,014	0	0,069	14	-0,044
Motorola	28	0,059	1	0,003	12	-0,014	13	-0,035	4	-0,028	7	-0,027	3	-0,025	1	-0,032	13	-0,046
Nokia	210	0,440	11	-0,171	81	-0,054	57	0,030	28	-0,168	45	-0,109	16	-0,004	3	0,168	48	0,053
Samsung	66	0,138	1	0,083	24	-0,008	19	0,002	5	0,030	6	0,065	3	0,055	3	-0,134	18	-0,007
Sony Ericsson[1]	14	0,029	0	0,029	4	0,005	6	-0,014	1	0,008	1	0,017	2	-0,026	0	0,029	5	-0,011
Other[2]	25	0,052	1	-0,003	10	-0,009	6	0,009	1	0,031	6	-0,021	3	-0,031	0	0,052	7	-0,004
Total[3]	477		18		164		139		46		82		36		11		124	

[1] Sample includes pre-merger Ericsson models

[2] Unidentified mobile phones omitted from the sample

[3] Unidentified mobile phones (6) and respondents adopting their first mobile phone (21) omitted from the sample

Table 7 Cross Tabulation of Positive Associations and Mobile Phone Brands

Positive Associations: Pull Factors																		
Mobile Phone Brand	Total phones		Brand Influence		Functionality: Advanced		Functionality: Basic		Functionality: Unspesific		Perceptual Factors		Physical Design		Price and Cost Value		Reliability & Durability	
	Σ	%	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ
Apple	64	0,134	24	0,336	43	0,059	17	-0,018	23	0,140	34	0,080	4	-0,089	4	-0,032	1	-0,093
Blackberry	14	0,029	0	-0,029	8	0,007	3	-0,009	2	-0,006	2	-0,017	1	-0,018	0	-0,029	0	-0,029
HTC	23	0,048	3	0,011	12	0,006	7	-0,000	6	0,023	12	0,027	3	-0,015	3	0,029	0	-0,048
LG	33	0,069	0	-0,069	21	0,025	7	-0,021	2	-0,045	7	-0,025	7	0,009	1	-0,044	2	0,014
Motorola	28	0,059	1	-0,039	8	-0,023	9	0,003	3	-0,023	6	-0,021	5	-0,003	1	-0,033	2	0,025
Nokia	210	0,440	14	-0,166	82	-0,073	71	0,046	31	-0,071	73	0,019	46	0,077	20	0,073	15	0,185
Samsung	66	0,138	7	-0,001	33	0,010	15	-0,036	12	0,004	23	0,006	16	0,041	7	0,041	1	-0,097
Sony Ericsson[1]	14	0,029	1	-0,010	6	-0,002	6	0,012	1	-0,017	1	-0,023	3	0,004	1	-0,004	2	0,054
Other[2]	25	0,052	1	-0,033	10	-0,008	11	0,023	4	-0,005	1	-0,046	4	-0,007	2	-0,001	1	-0,011
Total[3]	477		51		223		146		84		159		89		39		24	

[1] Sample includes pre-merger Ericsson models

[2] Unidentified mobile phones omitted from the sample

[3] Unidentified mobile phones (6) and respondents adopting their first mobile phone (21) omitted from the sample

Table 8 Cross Tabulation of Negative Associations and Mobile Phone Types

Negative Associations: Push Factors																		
Mobile Phone Type	Total phones		Brand Influence		Functionality: Advanced		Functionality: Basic		Functionality: Unspesific		Perceptual Factors		Physical Design		Price and Cost Value		Reliability & Durability	
	∑	%	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ
Feature Phone	135	0,592	2	0,481	75	0,105	51	0,209	34	-0,181	38	0,105	10	0,270	2	0,392	56	0,118
Smartphone	77	0,338	16	-0,551	79	-0,175	82	-0,279	10	0,110	40	-0,175	21	-0,340	8	-0,462	62	-0,188
Undetermined[1]	16	0,070	0	0,070	9	0,012	6	0,025	2	0,025	4	0,019	5	-0,091	1	-0,030	5	0,028
Total[2]	228		18		154		133		44		78		31		10		118	

[1] Contains all the switches that include an undeterminable mobile phone type as a previous or current phone

[2] Respondents adopting their first mobile phone (21) omitted from the sample

Table 9 Cross Tabulation of Positive Associations and Mobile Phone Types

Positive Associations: Pull Factors																		
Mobile Phone Brand	Total phones		Brand Influence		Functionality: Advanced		Functionality: Basic		Functionality: Unspesific		Perceptual Factors		Physical Design		Price and Cost Value		Reliability & Durability	
	∑	%	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ
Feature Phone	135	0,592	2	-0,553	65	-0,293	72	-0,063	22	-0,317	59	-0,214	42	-0,092	11	-0,295	15	0,060
Smartphone	77	0,338	49	0,623	152	0,363	64	0,133	58	0,387	97	0,284	42	0,162	26	0,365	8	0,010
Undetermined[1]	16	0,070	0	-0,070	6	-0,043	9	-0,004	2	-0,045	3	-0,051	4	-0,023	2	-0,016	0	-0,070
Total[2]	228		51		217		136		80		156		84		37		23	

[1] Contains all the switches that include an undeterminable mobile phone type as a previous or current phone

[2] Respondents adopting their first mobile phone (21) omitted from the sample

Table 10 Cross Tabulation of Negative Switch Reasons and Mobile Phone Brand Switches

Negative Explicitly Expressed Switch Reasons: Push Factors																		Migrational Codes: Push Factors					
From	To	Total Swiches		Brand Influence		Functionality: Advanced		Functionality: Basic		Functionality: Unspesific		Perceptual Factors		Physical Design		Price and Cost Value		Reliability & Durability		Desire		External Influence		Timing	
		∑	%	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ
Apple	Loyal	4	0,018	0	0,018	1	-0,009	0	0,018	0	0,018	0	0,018	0	0,018	0	0,018	0	0,018	2	-0,002	2	-0,006	0	0,018
	Switch	1	0,005	0	0,005	0	0,005	0	0,005	0	0,005	0	0,005	0	0,005	0	0,005	0	0,005	0	0,005	0	0,005	0	0,005
Blackberry	Loyal	1	0,005	0	0,005	0	0,005	0	0,005	0	0,005	0	0,005	0	0,005	0	0,005	1	-0,012	1	-0,006	0	0,005	0	0,005
	Switch	9	0,041	0	0,041	0	0,041	0	0,041	0	0,041	1	0,001	0	0,041	0	0,041	3	-0,009	6	-0,021	5	-0,018	0	0,041
HTC	Loyal	2	0,009	0	0,009	0	0,009	1	-0,044	0	0,009	0	0,009	1	-0,134	0	0,009	1	-0,008	1	-0,001	1	-0,003	0	0,009
	Switch	6	0,027	1	-0,306	2	-0,027	2	-0,078	0	0,027	1	-0,013	0	0,027	0	0,027	2	-0,006	2	0,007	2	0,003	1	-0,011
LG	Loyal	5	0,023	0	0,023	1	-0,005	0	0,023	0	0,023	0	0,023	0	0,023	0	0,023	0	0,023	4	-0,018	2	-0,001	2	-0,054
	Switch	17	0,077	0	0,077	2	0,023	0	0,077	1	0,018	3	-0,043	0	0,077	0	0,077	5	-0,007	10	-0,025	4	0,030	1	0,038
Motorola	Loyal	2	0,009	0	0,009	0	0,009	0	0,009	0	0,009	1	-0,031	0	0,009	0	0,009	1	-0,008	1	-0,001	0	0,009	1	-0,029
	Switch	15	0,068	0	0,068	4	-0,041	2	-0,038	2	-0,050	2	-0,012	0	0,068	1	-0,432	4	0,001	6	0,006	7	-0,015	1	0,029
Nokia	Loyal	58	0,261	0	0,261	6	0,099	6	-0,055	3	0,085	5	0,061	1	0,118	0	0,261	16	-0,005	22	0,037	22	0,002	9	-0,085
	Switch	60	0,270	2	-0,396	14	-0,108	5	0,007	10	-0,318	9	-0,090	3	-0,158	0	0,270	16	0,004	26	0,005	21	0,023	5	0,078
Samsung	Loyal	5	0,023	0	0,023	1	-0,005	0	0,023	1	-0,036	0	0,023	0	0,023	1	-0,477	0	0,023	3	-0,008	2	-0,001	2	-0,054
	Switch	19	0,086	0	0,086	3	0,005	0	0,086	0	0,086	0	0,086	0	0,086	0	0,086	6	-0,014	6	0,024	9	-0,020	1	0,047
Sony Ericsson[1]	Loyal	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000
	Switch	9	0,041	0	0,041	1	0,014	2	-0,065	0	0,041	2	-0,039	1	-0,102	0	0,041	3	-0,009	5	-0,010	3	0,005	3	-0,075
Other[2]	Loyal	1	0,005	0	0,005	0	0,005	0	0,005	0	0,005	0	0,005	0	0,005	0	0,005	0	0,005	1	-0,006	0	0,005	0	0,005
	Switch	8	0,036	0	0,036	2	-0,018	1	-0,017	0	0,036	1	-0,004	1	-0,107	0	0,036	2	0,003	2	0,016	5	-0,023	0	0,036
Total[3]		222		3		37		19		17		25		7		2		60		98		85		26	

[1] Sample includes pre-merger Ericsson models

[2] Unidentified mobile phones omitted from the sample

[3] Unidentified mobile phones (6) and respondents adopting their first mobile phone (21) omitted from the sample

Table 11 Cross Tabulation of Positive Switch Reasons and Mobile Phone Brand Switches

Positive Explicitly Expressed Switch Reasons: Pull Factors																				Migrational Codes: Pull Factors					
From	To	Total Switches		Brand Influence		Functionality: Advanced		Functionality: Basic		Functionality: Unspesific		Perceptual Factors		Physical Design		Price and Cost Value		Reliability & Durability		Desire		External Influence		Timing	
		∑	%	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ	∑	ppΔ
Loyal	Apple	4	0,018	2	0,038	1	-0,004	1	0,038	0	-0,018	0	-0,018	0	-0,018	0	-0,018	0	-0,018	2	0,002	2	0,005	0	-0,018
Switch		55	0,248	19	0,280	17	-0,001	4	-0,026	12	0,152	12	0,060	0	-0,248	7	-0,042	3	0,181	21	-0,036	25	0,036	0	-0,248
Loyal	Blackberry	1	0,005	0	-0,005	1	0,010	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	1	0,006	0	-0,005	0	-0,005
Switch		2	0,009	0	-0,009	0	-0,009	0	-0,009	1	0,024	0	-0,009	0	-0,009	0	-0,009	0	-0,009	1	0,001	1	0,002	1	0,029
Adoption		1	0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	1	0,007	0	-0,005
Loyal	HTC	2	0,009	0	-0,009	0	-0,009	1	0,047	0	-0,009	0	-0,009	0	-0,009	1	0,020	0	-0,009	1	0,001	1	0,002	0	-0,009
Switch		13	0,059	3	0,025	6	0,028	2	0,053	2	0,008	6	0,095	1	0,053	3	0,030	2	0,227	8	0,022	7	0,021	2	0,018
Loyal	LG	5	0,023	0	-0,023	2	0,006	0	-0,023	0	-0,023	1	0,003	2	0,200	0	-0,023	0	-0,023	4	0,018	2	0,000	2	0,054
Switch		6	0,027	0	-0,027	2	0,002	2	0,084	0	-0,027	1	-0,001	0	-0,027	1	0,002	0	-0,027	4	0,013	2	-0,004	1	0,011
Loyal	Motorola	2	0,009	0	-0,009	0	-0,009	0	-0,009	0	-0,009	1	0,017	0	-0,009	0	-0,009	0	-0,009	1	0,001	0	-0,009	1	0,029
Switch		8	0,036	1	-0,008	3	0,007	1	0,020	0	-0,036	1	-0,010	0	-0,036	0	-0,036	0	-0,036	5	0,014	4	0,009	0	-0,036
Adoption		1	0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005
Loyal	Nokia	54	0,243	4	-0,132	16	-0,011	3	-0,077	6	-0,043	7	-0,064	3	0,090	9	0,021	1	-0,100	22	-0,021	22	0,007	9	0,103
Switch		24	0,108	3	-0,025	4	-0,050	1	-0,053	1	-0,075	2	-0,057	0	-0,108	5	0,039	1	0,035	5	-0,058	9	-0,006	1	-0,070
Adoption		14	0,063	0	-0,063	0	-0,063	0	-0,063	0	-0,063	0	-0,063	0	-0,063	0	-0,063	0	-0,063	0	-0,063	0	-0,063	0	-0,063
Loyal	Samsung	5	0,023	0	-0,023	3	0,021	1	0,033	1	0,011	2	0,029	0	-0,023	2	0,036	0	-0,023	0	-0,023	2	0,000	2	0,054
Switch		34	0,153	4	-0,042	11	0,006	2	-0,042	6	0,047	6	0,001	3	0,180	4	-0,036	0	-0,153	21	0,059	7	-0,074	7	0,116
Adoption		3	0,014	0	-0,014	0	-0,014	0	-0,014	0	-0,014	0	-0,014	0	-0,014	0	-0,014	0	-0,014	0	-0,014	0	-0,014	0	-0,014
Loyal	Sony Ericsson	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000	0	0,000
Switch		5	0,023	0	-0,023	1	-0,008	0	-0,023	0	-0,023	0	-0,023	0	-0,023	1	0,007	0	-0,023	0	-0,023	1	-0,011	0	-0,023
Loyal	Other	1	0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	0	-0,005	1	0,006	0	-0,005	0	-0,005
Switch		7	0,032	0	-0,032	2	-0,003	0	-0,032	1	0,002	0	-0,032	0	-0,032	1	-0,002	0	-0,032	2	-0,011	2	-0,009	0	-0,032
Adoption		2	0,009	0	-0,009	0	-0,009	0	-0,009	0	-0,009	0	-0,009	0	-0,009	0	-0,009	0	-0,009	0	-0,009	0	-0,009	0	-0,009
Total		249		36		69		18		30		39		9		34		7		99		88		26	

Table 12 Cross Tabulation of Negative Switch Reasons and Mobile Phone Type Switches

Negative Explicitly Expressed Switch Reasons: Push Factors																			
From	To	Total Switches		Brand Influence		Functionality: Advanced		Functionality: Basic		Functionality: Unspesific		Perceptual Factors		Physical Design		Price and Cost Value		Reliability & Durability	
		Σ	%	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ
Feature Phone	Feature Phone	48	0,193	0	0,193	9	-0,050	4	-0,018	4	-0,043	4	0,033	1	0,050	0	0,193	14	-0,037
Feature Phone	Smartphone	82	0,329	1	-0,004	17	-0,130	6	0,014	10	-0,259	11	-0,111	0	0,329	2	-0,671	21	-0,015
Smartphone	Feature Phone	4	0,016	0	0,016	0	0,016	1	-0,037	0	0,016	0	0,016	1	-0,127	0	0,016	0	0,016
Smartphone	Smartphone	73	0,293	2	-0,373	7	0,104	7	-0,075	2	0,176	9	-0,067	3	-0,135	0	0,293	23	-0,084
No Phone	Feature Phone	13	0,052	0	0,052	0	0,052	0	0,052	0	0,052	0	0,052	0	0,052	0	0,052	0	0,052
No Phone	Smartphone	7	0,028	0	0,028	0	0,028	0	0,028	0	0,028	0	0,028	0	0,028	0	0,028	0	0,028
Undetermined[1]		22	0,088	0	0,088	4	-0,020	1	0,036	1	0,030	1	0,048	2	-0,197	0	0,088	3	0,039
Total		249		3		37		19		17		25		7		2		61	

[1] Contains all the switches that include an undeterminable mobile phone type as a previous or current phone

Table 13 Cross Tabulation of Positive Switch Reasons and Mobile Phone Type Switches

Positive Explicitly Expressed Switch Reasons: Pull Factors																			
From	To	Total Switches		Brand Influence		Functionality: Advanced		Functionality: Basic		Functionality: Unspesific		Perceptual Factors		Physical Design		Price and Cost Value		Reliability & Durability	
		Σ	%	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ	Σ	ppΔ
Feature Phone	Feature Phone	48	0,193	0	-0,193	7	-0,091	2	-0,082	5	-0,026	5	-0,065	2	0,029	2	-0,134	1	-0,050
Feature Phone	Smartphone	82	0,329	18	0,171	40	0,250	8	0,115	15	0,171	22	0,235	3	0,004	17	0,171	2	-0,044
Smartphone	Feature Phone	4	0,016	0	-0,016	0	-0,016	0	-0,016	0	-0,016	0	-0,016	0	-0,016	0	-0,016	0	-0,016
Smartphone	Smartphone	73	0,293	17	0,179	21	0,011	8	0,151	8	-0,027	11	-0,011	2	-0,071	15	0,148	4	0,278
No Phone	Feature Phone	13	0,052	0	-0,052	0	-0,052	0	-0,052	0	-0,052	0	-0,052	0	-0,052	0	-0,052	0	-0,052
No Phone	Smartphone	7	0,028	0	-0,028	0	-0,028	0	-0,028	0	-0,028	0	-0,028	0	-0,028	0	-0,028	0	-0,028
Undetermined[1]		22	0,088	1	-0,061	1	-0,074	0	-0,088	2	-0,022	1	-0,063	2	0,134	0	-0,088	0	-0,088
Total		249		36		69		18		30		39		9		34		7	

[1] Contains all the switches that include an undeterminable mobile phone type as a previous or current phone

Table 14 Cross Tabulation of Migrational Codes and Mobile Phone Type Switches

Migrational Codes									
From	To	Total Switches		Desire		External Influence		Timing	
		∑	%	∑	ppΔ	∑	ppΔ	∑	ppΔ
Feature Phone	Feature Phone	48	0,193	15	-0,041	11	-0,068	5	-0,000
Feature Phone	Smartphone	82	0,329	45	0,125	31	0,023	12	0,132
Smartphone	Feature Phone	4	0,016	0	-0,016	2	0,007	0	-0,016
Smartphone	Smartphone	73	0,293	32	0,030	38	0,139	5	-0,101
No Phone	Feature Phone	13	0,052	0	-0,052	0	-0,052	0	-0,052
No Phone	Smartphone	7	0,028	0	-0,028	1	-0,017	0	-0,028
Undetermined[1]		22	0,088	7	-0,018	5	-0,032	4	0,065
Total		249		99		88		26	

[1] Contains all the switches that include an undeterminable mobile phone type as a previous or current phone