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Three Stages of Consumers' Multi-Stage Dichotomic Switching Process Pre-Switch, Switch, and Post-Switch

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Three Stages of Consumers' Multi-Stage Dichotomic Switching Process. Pre-Switch, switch, and post-switch

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Three Stages of Consumers' Multi-Stage Dichotomic Switching Process

Pre-Switch, switch, and post-switch

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Abstract. This research examines why and how consumers switch their mobile phones. We propose a framework that is grounded on decision-making and motivational theories and draws on the findings from a multinational qualitative survey on consumers' mobile phone switching process. We show that consumers' pre-switching decisions are affected by push and pull factors, their mobile phone selections are based on utilitarian or hedonic values, and their justifications for switching are based on cognition or affect. Furthermore, we identify two archetypical routes (i.e., cognitive and affective routes) and three conjoint routes that explain the dichotomic switching processes in pre-switch, switch, and post-switch stages in which consumers rationalize their choices differently. Our study contributes to IS research by demonstrating how consumers' reasons for initiating a switching process and selecting a replacement may differ based on an interplay of cognitive and affective elements within the process.

Key words: consumer, multi-stage, dichotomic, switching process, mobile phones.

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1 Introduction

During the last two decades, we have witnessed a paradigmatic shift from simple and basic mobile phones to Internet-enabled feature phones, and finally, to complex, multipurpose smartphones that are utilized for work and leisure (Tarasewich et al. 2008). The multipurpose nature of mobile devices has redefined how consumers view and use personal mobile technologies (Jung 2014). Empowered by the variety of features, customizability, and ubiquity, mobile phones have become so deeply entangled with their users that in addition to the utilitarian value derived from their usage, we are creating increasingly affective connections with these devices.

Affect- or emotion-based behaviors, as well as transitional behaviors, such as acquisition decisions and loyalty (Hibbeln et al. 2017), have been established as influencing information systems (IS) usage (Stein et al. 2015). In other words, consumers draw from multiple value sources to make consumption decisions based on information technology. A mobile phone's global average lifespan is estimated to be 21 months¹. Thus, the average consumer rarely keeps his or her mobile phone longer than two years and tends to switch to a new phone within an average of 1.5 to 2.0 years. Switching to a new phone refers to the process of replacing or changing one's mobile device, which involves transferring data and information (e.g., contacts and calendar) from the old device to the new one.

We recognize that although switching behavior has been examined in IS literature, most of the previous research was conducted primarily in the context of consumers switching Internet services (Bhattacharjee et al. 2012; Chiu et al. 2014; Kim and Son 2009). More specifically, consumers' switching behavior has been examined predominantly in the context of online services (e.g., see Bhattacharjee et al. 2012; Bhattacharjee and Park 2014; Chiu et al. 2014; Hsieh et al. 2012; Kim and Son 2009) and rarely in the mobile phone context (Fan and Suh 2014; Hsu 2014; Ranganathan et al. 2006; Sääksjärvi et al. 2014) that combines a physical product and a host of different services. A common characteristic of the earlier studies is their focus on antecedents of switching rather than the decision-making process involved in switching. For example, Fan and Suh (2014) examined three exogenous antecedents: disconfirmation (of incumbent information technology), expectation (of disruptive information technology), and switching costs. Hsu (2014), in turn, examined switching smartphone software platforms rather than mobile phone hardware. Ranganathan et al.'s (2006) study was about switching mobile service providers, and Sääksjärvi et al. (2014) focused on factors influencing upgrade frequencies. Marketing scholars have also been interested in consumers' mobile phone switching behavior, but mostly from the perspective of brands and users'

brand personalities (e.g., see Nikhashemi et al. 2017), where brand personality refers to “the set of human characteristics associated with a brand” (Aaker, 1997, p. 347).

However, the extant literature on mobile phone switching remains scarce. We additionally argue that for mobile phone companies operating in the consumer market to remain competitive in this multi-billion-dollar industry, they must understand consumers' switching behaviors and determine how consumers go about choosing their new phones (Christensen et al. 2016). Accordingly, the objective of this study is to understand this switching process from the consumer perspective. Thus, we formulate the following research question: Why do consumers switch mobile phones, and how do they make decisions at different stages of the mobile phone switching process?

To answer the research question, we conducted a qualitative survey with 218 young adult mobile phone users in Finland, India, and the United States of America (US) to identify the reasons users switched mobile phones. From the interpretive content analysis emerged a framework depicting consumers' mobile phone switching behaviors and their corresponding decision-making process. The theoretical foundation for the framework is grounded on decision-making and motivation theories (Bansal et al. 2005; Kahneman 2011; Kotler 2002; Petty and Cacioppo 1986; Ryan and Deci 2000). This study contributes to the literature by proposing a framework that depicts the multi-stage dichotomies in consumers' mobile phone switching process. The framework identifies different decision-making routes that consumers take when switching mobile phones.

This paper is structured as follows. First, we introduce the theoretical background for the study and review previous switching behavior research. Then, we describe the research methodology and data analysis, and present the findings. We discuss the implications of this research and conclude by providing the limitations of the study and suggestions for future research.

2 Background on switching and related literature

Switching has been conceptualized as the change from one product to another similar product (Bansal et al. 2005). Switching differs from adopting (or accepting) a new technology that has been the traditional focus in IS research. Instead of involving only one product or service, switching is a process that involves two products, that is, one that is switched from and a replacement that is switched to, including the consumer's perceptions of the two products during this process (cf. Fan and Suh 2014). Despite the difference between adoption and switching, studies that examined consumer transitions between personal mobile phones often utilized technology adoption frameworks

(Venkatesh et al. 2012) and post-adoption continuance frameworks (Bhattacharjee 2001) as theoretical foundations (Hew et al. 2017; Joo and Sang 2013; Lin et al. 2017).

Because the decision-making process involved in mobile phone switching is not well understood, we take a different perspective in this study by specifically examining mobile phone switching and the often-overlooked decision-making process involved. Kotler's (2002) seminal model of purchasing decision-making process consisting of problem recognition, information searching, evaluation of alternatives, purchase decision, and post-purchase behavior serves as the basis for understanding the process of switching. However, this model has not been widely applied in the IS literature and more specifically, in understanding consumers' mobile phone switching process. The literature on the purchasing decision-making process is rich and offers more elaborate models to consider, such as Engel et al.'s (1978, 1986) models of consumer behavior and decision making. Similarly, we build on Kotler's (2002) purchasing decision-making process and focus on the three process stages during which key decisions are made: Problem recognition marks the initiation of a switching process, the purchase decision marks the selection of a replacement, and post-purchase behavior marks the user's continuance decision to lock in the selected replacement.

Motivation theories have been applied to understand the basis of a consumer's decision to select a certain substitute over both an incumbent product and other alternatives. More specifically, self-determination theory (Ryan and Deci 2000) recognizes a dichotomy of intrinsic and extrinsic motivations; intrinsic motivation stems from actions being inherently enjoyable and interesting (i.e., *hedonic*), whereas extrinsic motivation is connected to external outcomes (i.e., *utilitarian*). This distinction has also been widely utilized in IS research (e.g., van der Heijden 2004; Wu and Lu 2013; Lowry et al. 2015; Klesel et al. 2018).

Earlier literature also recognizes a dichotomous stimulus (i.e., push and pull) that initiates the switching or migration process at the problem recognition stage (e.g., Bogue 1969, 1977; Bruner 2010; Clemes et al. 2010). In the context of mobile phone switching, *push* factors refer to negative factors of the current product that encourage switching, and *pull* factors refer to positive influences in a prospective replacement that attracts switching. The push-pull framework was later extended to include person-specific or "mooring" factors, such as switching costs and subjective norms, that facilitate or inhibit the switching process (Moon 1995), resulting in the "push-pull-mooring" (PPM) framework (Bansal et al. 2005; Bhattecherjee and Park 2014; Hsieh et al. 2012).

Finally, dual-process theory and the elaboration likelihood model of persuasion (Petty and Cacioppo 1986) describe consumers' heuristic decision-making and the distinct differences associated with handling different types of decisions. Kahneman

(2011), for example, identifies two distinct modes of decision-making: System 1 (i.e., the automatic reactive system) and System 2 (i.e., the conscious cognitive system). System 1 uses fast, unconscious, and associative reasoning that may be neither logical nor explainable but involves recognition, perception, and orientation (i.e., *affect-based*). System 2 is slow, conscious, and rule-based, thus requiring high-effort reasoning (i.e., *cognition-based*). Recent IS literature recognizes this role of affect in consumer decision-making (Hibbeln et al. 2017; Sääksjärvi et al. 2014; Stein et al. 2015) and in explaining consumer behavior.

In this qualitative survey study and analysis of the collected data, we draw on and utilize the PPM framework as well as the motivation and dual-process theories to depict consumers' mobile phone switching behaviors and to understand consumers' underlying decision-making processes associated with switching.

3 Research Methodology

In this study, we adopted an interpretive qualitative research approach recommended by Klein and Myers (1999) and Walsham (1995). The research design utilized an approach to collecting qualitative data similar to many critical incident technique studies in service research (Bitner et al. 1990; Meuter et al. 2000). Consequently, study participants were asked about positive or negative experiences with the use of a given service or product. One advantage of this type of qualitative data collection is that respondents self-report only events that are particularly relevant and important for them. These events are easy to remember and describe in detail (Salo and Frank 2015). We applied a similar approach to understand mobile phone switching and its associated decision-making process from the perspective of consumers. We developed a qualitative survey questionnaire that included mostly open-ended questions that asked respondents to retrospectively explain their decisions and the decision-making process. We also asked the respondents to elaborate on the reasons for their most recent switch, as well as their perceptions and opinions (both positive and negative) about their previous device and the replacement. An excerpt of the survey is included in the Appendix.

The survey instrument was first pilot-tested with a group of IS scholars and Ph.D. students in a business school in Finland. After some minor adjustments to wordings, the survey was administered to participating business school students in Finland, the US, and India. The Finnish and US samples were collected electronically as a course assignment for which the students received extra credit. The Indian sample was collected manually at a college campus through random selection. Of the total sample of 249 surveys returned, 218 responses (81 from Finland, 78 from the US, and 59 from

India) were considered valid. Incomplete questionnaires and respondents who had not experienced switching, and thus, could not contribute meaningful and relevant data (information) to the survey, were deemed invalid. The sample comprised young adults (median age of 25 years), slightly more of whom were men (59%). The majority (91%) of respondents had switched mobile phones within the last 18 months of completing the survey.

4 Data Analysis

We analyzed the qualitative survey data using an interpretive content analysis technique (Krippendorff 1980). In this study, we focused on one open-ended survey question: “explain in your own words, what were the reasons for the switch?” This question was explained to the respondents as referring to the most recent mobile phone switch that they had conducted. Two dichotomies emerged inductively from axial coding. The first dichotomy concerns the respondents’ reasons for engaging in the switching process, and whether these reasons were based on factors leading to a *push* (actual needs) or *pull* (personal desires or wants). The second dichotomy is related to how the logic for the overall switching process was justified; whether the respondents justified their switching using *cognitive* reasoning or *affective* (emotional) arguments.

A further examination of the data revealed that the respondents articulated two aspects for reasons for their switch. In other words, they not only reported on whether the switch was triggered by *push* or *pull* factors but also justified their choice of a particular mobile phone brand and/or model as a replacement. Hence, we identified a third dichotomy addressing the reasoning for selecting a particular phone as the replacement: *utilitarian* or *hedonic value*.

Accordingly, the final coding consisted of the following: Push, Pull, Utilitarian Value, Hedonic Value, Cognition, Affect, Pre-switch, Switch, and Post-switch. Next, we developed a codebook to facilitate validation for the coding. The validation was conducted in two iterations. In the first iteration, we recoded all 218 responses using the three-stage dichotomy structure. We then further clarified the codebook. Two external researchers were invited to reinterpret the data according to the data analysis instructions. The reliability and validity of the coding of the data were assessed with the Krippendorff’s alpha coefficient—that is, the agreement level between different researchers interpreting the data—and yielded a value of 0.79, which is acceptable for qualitative research (Krippendorff 1980).

5 Findings

In this section, we elaborate upon the content of each stage of the switching process, report the dichotomous categories in each stage, and depict how the respondents explained their mobile phone switching processes. To expand upon the findings and the data analysis, we also provide quotes from the survey and indicate the gender, age, and country of residence of the participants.

During the analysis, it became evident that the switching process involved three consecutive stages: pre-switch, switch, and post-switch. The **pre-switch stage** depicts push and pull factors that *initiate* a consumer's switching process. The **switch stage** describes a consumer's justifications for selecting a *replacement* for his or her current mobile phone. The **post-switch stage** provides the *retrospective* justifications for the switching process. These stages are reviewed in detail in the following sections.

5.1 Pre-switch stage

During the **pre-switch stage**, an *ex-ante* recognition of reason(s) for seeking alternatives for one's current mobile phone initiates the switching process. This recognition may originate from identifying alternatives for a possible replacement (i.e., a pull factor), such as new model phones that are introduced in the market, or from realizing that one's current phone no longer meets one's requirements or expectations (i.e., a push factor).

The respondents framed their initial switching decisions and device choices based on either what they believed they required (factors pushing toward the switch) or what they simply desired or wanted (factors pulling toward the switch). For argumentation based on **push factors**, the switching process was often initiated by a consumer's recognition that his or her previous (current) mobile phone was not functioning adequately; for example,

After 3 years: software problem, unlock problem (female, 25, India).

In other examples, consumers' previous mobile phones had been lost (e.g., misplaced)—I lost my phone, and we have a data plan (female, 35, US)—or stolen. In some cases, changes in one's life situation, such as moving to another country, prompted the switch:

I had to change my mobile phone because the previous one could not be used in Finland (male, 28, Finland).

A switch was also justified by specific functionalities that were not supported by the previous mobile phone, which was most commonly associated with Internet-enabled capability:

I needed a phone where I could get my emails sent to me because, being in a sorority, you get emails constantly (female, 21, US).

Alternatively, the switching process was justified by **pull factors** or the recognition that a replacement could provide something new and more enticing than the previous mobile phone. These pull factors were expressed in terms of qualities, such as new designs and technological developments:

The reason for the switch is that new technological advances and fresh design become available, which makes me want to upgrade my previous phone (female, 26, Finland).

In addition, trends and brands were relevant to the respondents—“iPhone is more user-friendly compared to other smartphones” (female, 20, USA)—as were sales offers, gifts, and eligibility for mobile phone bundle upgrades. At times, the reason for a user’s switch was expressed simply as “[be]cause I want a new phone” (female, 23, India).

5.2 Switch stage

After reviewing alternatives, a consumer gives up the old mobile phone and adopts a new phone during the switch stage. In this stage, the consumer selects a replacement mobile phone. The participants provided their reasons for selecting particular mobile phones to replace their current phones in terms of either utilitarian or hedonic value.

The **utilitarian value** the respondents mentioned was, at the most basic level, centered on a functioning mobile phone; for example:

I needed a phone that could be a portable computer for school (male, 20, US).

Some respondents also referred to functionalities needed for fulfilling particular tasks:

I needed a phone that can provide me faster browsing and better synchronization of email and calendar as well as would be easier to use and cause less frustration (male, 25, Finland).

Mobile phone selections were also justified based on reasons that could be judged as more hedonic than utilitarian, such as those that referred to specific brands or design features: “Because I want a new brand” (female, 23, India), “most people use iPhone today” (female, 22, US), and “I wanted to try a phone which has a touch screen” (male, 25, Finland). Some respondents also referred to specific functionalities needed for **hedonic value**: “Due to modernization, I had to change my phone to meet my music requirements” (male, 20, India), where music is an important part of the respondent’s lifestyle.

5.3 Post-switch stage

The post-switch stage is about *ex-post* reasoning and justifications for the entire switching process in retrospect. These justifications are developed throughout the process but are finally formulated *ex-post* after a sufficient amount of experience with the replacement was accumulated. We examine this stage in terms of cognition-based versus affect-based reasoning.

In **cognition-based reasoning**, the switching process and selection of the chosen mobile devices were justified afterward through rational arguments related to the extrinsic aspects of the devices and their associated services. These selections were usually expressed by the respondents with reference to various features of their new phones:

I bought the new phone so I could access the internet and email with ease while not at home (male, 29, US)

I wanted a phone with a QWERTY keyboard (female, 21, US).

Some cognitive arguments were also related to different circumstances that created a consumer’s need to switch; for example:

[my] previous phone broke down, and I took a leftover phone of an ex-colleague as a short-time substitute. The short time has lasted for almost two years (male, 45, Finland).

Market-based opportunities and contract rules (e.g., regular upgrades bundled with a service subscription) can additionally create situations in which it is rational that a consumer switched to another mobile phone:

I had an upgrade, and it was time for a new phone, and this was the best one that they had at the time (female, 21, US).

In **affect-based reasoning**, the ex-post justifications were more closely related to the phone's intrinsic value or its 'look-and-feel'. Affect-based reasoning was often related to a mobile phone's image rather than its concrete features or functionalities, which is exemplified through respondents' references to a phone's design, color, or outlook:

I wanted to upgrade to a phone that had a touch screen and updated look (aesthetically) (female, 20, US).

In addition, mentions of brand names were typical signals of affect-based reasoning:

I waited for Apple to release a new iPhone model (female, 25, Finland).

Affects, one way or another, were often evident in the respondents' use of words that conveyed emotions, such as love, hate, ex[c]iting, or fun. For example, a respondent stated,

I switched because I hated my LG Xenon (female, 21, US).

5.4 Switching process routes

Although we identified a dichotomy for each switching stage, the data indicated that consumers do not necessarily operate consistently or exclusively through these stages on one side of the dichotomy. In addition to a consistent form of reasoning in the two archetypical patterns among the three stages (i.e., push factors–utilitarian value–cognition and pull factors–hedonic value–affect), we observed three different patterns of *routes* for the three-stage switching process. They were based on the various decision-making logic articulated by the participants. With these three routes that we deem the *conjoint routes*, justifications are altered between the two forms of logic during different stages of the switching process. Thus, the two archetypical and three conjoint routes are discussed next.

A **cognitive route** is an archetypical justification that draws argumentation from that push factors are considered rational and thus follows utilitarian value-based reasoning throughout the switching process. This route begins with a sound, logical ar-

gument in the pre-switch stage that initiates a switching process. One argument may be that an individual simply requires a properly functioning mobile phone. During the switch stage, the justification follows the same or similar logic with or without a set of additional arguments that are based on the replacement's utilitarian value. In the post-switch stage, the evaluation focuses on cognition-based argumentation regarding rational reasons and justifications—possibly with some specific features—as the most common reasoning. A respondent stated,

I needed a new phone with multiple features, Internet on a phone was a must and some apps I truly needed (like maps). I wasn't that interested in games and funny apps... One of the main reasons was also that my former phone was a bit broken, so in any case I needed to buy a new one (female, 26, Finland).

The **affective route**, the second archetype, builds on justifications based on pull factors related to non-utilitarian or hedonic functionalities. It includes abstract concepts, such as aesthetics, trends, brands, and social influences. This route typically begins with the argumentation related to pull factors (such as a desire) than more purely rational needs. A replacement consideration is then identified. During the post-switch stage, the main justification is often expressed through emotional concepts, such as brands, trends, or aesthetics. For example, a respondent said,

[I] wanted to get a new phone, and at the time, the HTC Droid Incredible was very popular (female, 20, US).

We also identified other switching process routes that we termed the **conjoint routes** because they are based on argumentations from different sides of the dichotomies in various switching stages. Given that we identified three sets of dichotomies in those stages (i.e., one dichotomy per stage), a total of six permutations are possible in a **conjoint route**. However, we observed only three of the six possible permutations in the data. Two were based on push factors during the pre-switch stage and hedonic (instead of utilitarian) justifications for the phone selection during the switch stage (*push factors–hedonic value–cognition and push factors–hedonic value–affect*). The third was a route in which pull factors influenced the switch for a hedonic selection that were rationalized with cognitive reasoning during the post-switch stage (*pull factors–hedonic value–cognition*). Although the remaining three permutations (*push factors–utilitarian value–affect, pull factors–utilitarian value–cognition, and pull factors–utilitarian value–affect*) are certainly possible, we did not observe them in the data.

Hence, we observe that hedonic value is the reason for the phone selection in the conjoint routes. When pre-switch is triggered by push factors and the phone selection for the switch is based on hedonic value, the ex-post reasoning for the switch could be based on cognition (e.g., drawing on push factors for the switch) or affect (e.g., due mainly to hedonic value for the phone selection). When pre-switch is triggered by pull factors and the phone selection for the switch is based on hedonic value, cognitive justifications could be provided for the switching process.

The **push factors–hedonic value–cognition** conjoint route is characterized by identifying a reason that pushes the respondent toward switching, such as experiencing malfunctions with the previous phone or losing a phone. However, the justification for selecting the replacement phone was based on the phone's hedonic features or the user's perceptions of certain brands:

I read [a] few reviews, and I got a feeling that [the] Nokia N78 would be a good purchase, so I bought it while being in N.Y....[My] main reason for switching was that I had been without a phone over a year because the previous one got broken. Good camera (at that time) had also high impact for [my] purchase decision (male, 25, Finland).

The main justification for this respondent's switch was cognition-based rather than affect-based. His previous phone was broken, and the replacement phone's camera was high quality.

The **push factors–hedonic value–affect** conjoint route starts with a rational need. The justifications for selection and post-switch are based on emotion and affect rather than rational and cognition-based reasoning. A respondent stated,

I needed to have Google Talk on my phone, and my previous phone had become very slow. Therefore, I selected an Android phone. From those, this one had the nicest design, the price was right, and it wasn't too big to hold, either (female, 23, Finland).

The **pull factors–hedonic value–cognition** route first follows the affective route, but the post-switch stage is cognition-based alongside rational justifications. Examples include being persuaded (or pulled) by a friend to switch to another brand but making logical and cognitive-based justifications about the switch:

My friend suggested [the] HTC Wildfire S, which was small, smart enough, had the GPS (required by me), and Android [is] known as quite [a] good operating system, and affordable price, as well (female, 31, Finland).

6 Consumers' multi-stage dichotomic switching process of mobile phones

From the empirical study, we identified three stages of consumer decision-making in switching mobile phones (including the respective dichotomies), as well as several different routes for the decision-making stages and their identified dichotomies in mobile phone switching. Figure 1 summarizes the findings in a framework of consumers' multi-stage dichotomic switching process. The stages and the routes proposed in the framework are well grounded in theoretical perspectives from the literature. The three switching stages correspond to the multiple stages of consumers' decision-making process (cf. Kotler 2002). The pre-switch stage triggers the switching process by pull and push factors. The switch stage combines a comparison of alternatives and the actual switch decision. The post-switch stage includes retrospective assessments of how the switch met the consumer's initial expectations. We applied this three-stage framework to analyze the data in the study.

The dichotomies in all stages are aligned with theory. During the **pre-switch stage**, the push factors are dissatisfaction with previous mobile phone(s). The pull factors are typically the replacements' preferred features. The PPM framework (Bansal et al. 2005) implements similar definitions to explain factors that lead to product and service switching: *Push* refers to a current product's negative influences that encourage switching; *pull* refers to a prospective replacement's positive influences that attract switching.

During the **switch stage**, selecting a replacement focuses on the value of mobile phones. Utilitarian value is associated with extrinsic motives that achieve a desired or specific outcome. Hedonic value is associated with intrinsic motives that derive satisfaction. This dichotomy is well in line with the dichotomy of extrinsic and intrinsic motivations in self-determination theory (Ryan and Deci 2000; Stock et al. 2014), which is widely utilized in the IS literature to explain motivations (van der Heijden 2004). The theory defines intrinsic motivation as stemming from action being inherently enjoyable and interesting, whereas extrinsic motivation is connected to external outcomes. Therefore, these motivation types can be viewed as dichotomous reasons for selecting a replacement product over an existing product when presented with possible alternatives.

During the **post-switch stage**, the dichotomy of cognition and affect distinguishes whether a consumer creates a rationalized justification for the switch or an affect-based justification by drawing on social relationships and/or feelings. Similarly, the dual-process theory (Kahneman 2011) states that decision-making can be either instinctive and quick, or slow, conscious, and rule-based. In other words, humans engage in conscious logical reasoning (cognition) but also form perceptions and orientations based on associative processing (affect). Furthermore, the elaboration likelihood model of persuasion (Petty and Cacioppo 1986) argues that two archetypical modes (central and peripheral routes) are described for decision-making. The central route—or cognition-based reasoning—is typically prioritized over the peripheral route, which relies on affect-based reasoning (Petty and Cacioppo 1986; Shiv and Fedorikhin 1999).

Archetypical *cognitive* and *affective* routes are, mainly, analogous to cognitive reasoning and associative processing theorized in the elaboration likelihood model of persuasion. However, three permutations for alternating *conjoint routes*, which were also common routes across sub-samples, were observed. These routes were inclined toward dichotomies associated with hedonic value in the switch stage and cognition in the post-switch stage. Conversely, the pre-switch stage did not reveal any clear inclinations.

Finally, Figure 1 highlights the observed routes and the inclination of each stage in bold type. Across the sample, using individual participants as the unit of analysis, the archetypical cognitive route (push factors-utilitarian value-cognition) accounted for 29% and the archetypical affective route (pull factors-hedonic value-affect) for 20% of all routes taken by respondents in switching mobile phones. The conjoint routes (three different permutations) accounted for 51%. Among the conjoint routes, the pull factors-hedonic value-cognition was clearly the most prevalent permutation, accounting for approximately 70% of all conjoint routes. The push factors-hedonic value-cognition and push factors-hedonic value-affect accounted for approximately 20% and 10% of all conjoint routes respectively. The results suggest that those employing the conjoint routes selected their replacement phone based on hedonic value, even though the majority (90%) of them used cognition-based reasoning to justify their switch.

7 Discussion

This study's contribution involves a deeper understanding of consumers' switching decision-making process for mobile phones. The key contribution is the proposed framework (Figure 1) that is grounded on decision-making and motivational theories and draws on the findings from a multinational qualitative survey. The framework helps us

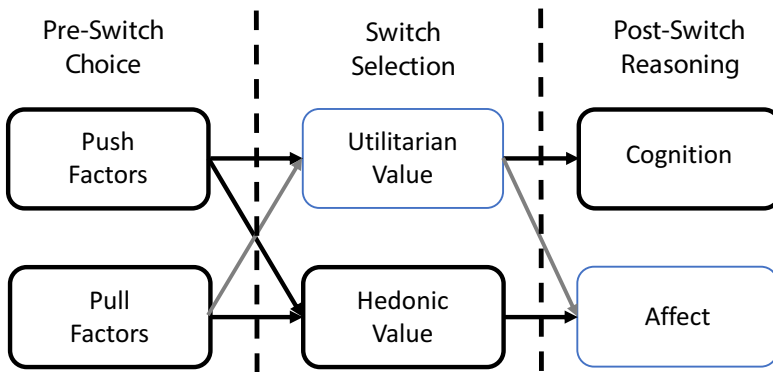


Figure 1. The framework of consumers' multi-stage dichotomic switching process

develop a more thorough understanding of consumers' mobile phone switching process by identifying dichotomies present in the decision-making stages (pre-switch, switch, and post-switch), as well as three switching process routes (cognitive, affective, and conjoint).

Somewhat surprisingly and contrary to the extant literature (cf. Fan and Suh 2014; Hsu 2014), we found that different switching costs, including financial transaction costs, impact consumers' mobile phone switching behaviors to a much lesser extent than has been expected. Consequently, we argue that it is important to more fully understand the alternating switching justification modes (i.e., conjoint routes) present in the mobile phone switching process. The literature suggests that a mobile phone's aesthetic design, which is associated with its hedonic value, induces consumers' mobile phone switching frequency (Sääksjärvi et al. 2014). The hedonic value and affect associated with brands also drive switching behavior (Hew et al. 2017; Nikhashemi et al. 2017). The present findings are consistent with those of Sääksjärvi et al. (2014), Hew et al. (2017) and Nikhashemi et al. (2017), especially when the selection of a replacement mobile phone is considered in which hedonic value seems to take precedence over switching costs—a form of utilitarian value. This finding was especially evident in the context of the US sample, which exhibited the highest switching frequency of all three sub-samples. These differences, however, may also be emphasized by market structures. At the time of the study, the Finnish and Indian markets represented manufacturer-driven (e.g., Apple, Nokia, and Samsung) original equipment product markets. The US market represented an operator-driven mobile network market. Therefore, the findings for the US sample may portray a market that has worked to mitigate the effects

of financial transaction costs and thus, induced more frequent consumer switching decisions.

The findings also pose implications for IS research in a broader sense. Due to the process perspective employed in this study, we question researchers' use of traditional adoption frameworks as a theoretical foundation for understanding consumers' switching behavior. These frameworks overlook that switching from one product to another contains two distinctively different decision-making processes (i.e., initiation and selection) before a replacement product is selected. As we have demonstrated, consumers' reasoning for initiating a switching process and selecting a replacement may differ. In the adoption frameworks, these reasonings are assumed to be similar. Furthermore, although many adoption frameworks acknowledge that consumer decision-making may contain cognitive and affective elements, the interplay of these elements within the switching process is not fully understood.

Finally, our findings contradict some of the arguments of the elaboration likelihood model of persuasion (Petty and Cacioppo 1986). Petty and Cacioppo (1986) acknowledge two archetypical modes of processing (cognitive and affective routes) that are unidirectional between conscious reasoning and associative processing. Contrary to this expectation, we observed justification routes alternating between affective and cognitive. More specifically, we observed this type of alternating movement between the switch and post-switch stages. A human's tendency to seek rational explanations may further help explain how consumers approach cognitive dissonance (Festinger 1962) during the post-switch stage in which they try to rationalize their purchasing decisions (Connolly and Zeelenberg 2002).

For practice, the study contributes by depicting and explaining the reasons and driving factors for users' cyclical switching processes. We argue that it has become even more important that the stages of the switching process be understood due to the dynamic nature of contemporary smartphone markets. The majority of the study participants (91%) had switched their mobile phones within 18 months before they completed the survey. Typically, the pre-switch and switch stages are the focal points in the traditional ways of understanding switching behaviors via marketing surveys. Thus, we argue that the post-switch stage is typically overlooked. Although it might be difficult to determine when the post-switch stage once again becomes a pre-switch stage, we would be remiss if we did not acknowledge the possible influence of prevalent, post hoc rationalization behaviors for subsequent switches.

Practitioners may also reference this study's findings when considering how to position their product or service offerings. If the market segmentation of potential customers is determined by the stage of customers' switching process, the product or service

can be positioned accordingly. Thus, the marketing communication can be developed to highlight the value proposition to a particular customer segment. Given the possible influence of post hoc rationalization that follows from the previous switch, consumers who have yet to make up their minds about initiating a switching process may be persuaded by cognition-driven, rational argumentation. Consumers who are already inclined toward making their next switch are more receptive to affective attributes and emotion-laden communication.

We recommend that this study's findings be interpreted by considering the apparent effects of market structures. In mobile phone markets, where up-front mobile phone acquisition costs are subsidized by a subscription-based model, consumers tend to be more inclined to use affect-based justifications for their decisions and choices. Therefore, marketing efforts within these markets may be more finely attuned to consumer sentiments using affective and emotional communication.

8 Conclusion, limitations and future research

This research proposes a three-stage (pre-switch, switch, post-switch) framework to explain why consumers switch their mobile phones. Pre-switch decisions are triggered by push or pull factors. The mobile phone selection during the switch stage is based on utilitarian or hedonic value. Cognition- or affect-based reasoning is used in the post-switch stage to justify the switch. Two archetypical routes (i.e., cognitive and affective routes comprising push factors-utilitarian value-cognition and pull factors-hedonic value-affect respectively) and three conjoint routes (i.e., push factors-hedonic value-cognition, push factors-hedonic value-affect, and pull factors-hedonic value-cognition) explain the dichotomic switching processes of mobile phones in the pre-switch, switch, and post-switch stages. From a theoretical perspective, we have demonstrated the role of pull-push theory (pre-switch), self-determination theory (switch), and dual-process and elaboration likelihood theories (post-switch) in explaining and rationalizing the consumer decisions at each stage of the mobile phone switching process. From a practical perspective, mobile phone vendors and carriers may be interested to note the importance of hedonic factors in phone selections as all conjoint routes have hedonic factors as the reason(s) for their choice of mobile phones. Hence, the 'look-and-feel' and fashionology dimensions of mobile phones are increasing in importance, as also evident for wearable technology (Adapa et al. 2018).

The sample for the study poses some limitations for the generalizability of the results. The sample comprised young adults, specifically college students, who cannot be regarded as a comprehensive representation of a population within a country although

university students are often used as a proxy for early lead users in consumer studies (Lee 2014; Realize et al. 2019; Tanksale et al. 2014). We focused on only three markets (Finland, India, and the US). Although the mobile markets are different in these countries, an analysis of the impact of the market characteristics on consumers' decision-making is beyond the scope of the paper. Similarly, we did not consider cultural dimensions that might impact consumer switching behavior. However, we recognize that they are likely to influence such behavior. For example, Tuunanen and Kuo (2015) studied cultural differences from the perspective of prioritizing users' requirements based on people's culturally formed value structures, and how they impact IS design. This area of investigation is beyond the scope of this study as we did not collect data for this purpose.

These limitations open avenues for future research. For example, a more demographically comprehensive study could be conducted to validate this study's conclusions. It would also be interesting to study whether and how the user's age might impact the decision-making process associated with mobile phone switching. For example, citing Tanksale et al. (2014), Realize et al. (2019) noted that students living in urban areas in India are generally more brand conscious in making purchase decisions. For example, future research could examine the relationships between age, demographics, brand consciousness, fashion consciousness, shopping avoidance, perfectionism, and consumer decision-making on mobile phone switching. Moreover, a longitudinal study may be used to assess the degree to which the findings' effects last and remain relevant despite changes in mobile phone market trends. In addition, the mooring dimension in terms of switching costs, which is out of the scope of the current study, could be studied in future research. Future research can utilize the affordance theory in the context of expectation-confirmation theory to understand consumers' (dis)satisfaction with the old phone and expected (dis)satisfaction with the new phone to assess switching costs in influencing consumers' behavior (Benbunan-Fich 2020; Bhattacharjee 2001; Bhattacharjee et al. 2012; Bhattacharjee and Park, 2014). Future research can also examine switching behavior from the perspective of user experience (Djamasbi and Strong 2019; Eschenbrenner and Nah 2019; Wyatt and Piggott 2019). Consequently, the findings' generalizability may be tested in another consumer information technology context. Whether there are significant variations in the decision justification routes, the presence of post hoc rationalization behaviors, and a clearly identifiable shift toward the affective justification mode in service-oriented markets may also be assessed. Finally, further studies should be conducted to better understand how cultural dimensions may impact switching behavior, which would also answer the call by Tuunanen and Kuo (2015) for further studies on understanding how cultural aspects could be better accommodated in the design of new digital services or products.

Notes

1. <https://www.counterpointresearch.com/smartphone-users-replace-their-device-every-twenty-one-months/>

References

- Aaker, J. L., (1997). Dimensions of brand personality. *Journal of Marketing Research*, (34:3): 347–356.
- Adapa, A., Nah, F. F.-H., Hall, R. H., Siau, K., and Smith, S. N., (2018). Factors influencing the adoption of smart wearable devices. *International Journal of Human–Computer Interaction*, (34:5): 399-409.
- Bansal, H. S., Taylor, S. F., and James, Y. S., (2005). “Migrating” to new service providers: Toward a unifying framework of consumers’ switching behaviors. *Journal of the Academy of Marketing Science*, (33:1): 96–115.
- Benbunan-Fich, R., (2020). User Satisfaction with Wearables. *AIS Transactions on Human-Computer Interaction*, (12:1): 1-27.
- Bhattacharjee, A., (2001). Understanding information systems continuance: An expectation-confirmation model. *MIS Quarterly*, (25:3): 351–370.
- Bhattacharjee, A., Limayem, M., and Cheung, C. M., (2012). User switching of information technology: A theoretical synthesis and empirical test. *Information & Management*, (49:7): 327–333.
- Bhattacharjee, A., and Park, S. C., (2014). Why end-users move to the cloud: A migration-theoretic analysis. *European Journal of Information Systems*, (23:3): 357–372.
- Bitner, M. J., Booms, B. H., and Tetreault, M. S., (1990). The service encounter: Diagnosing favorable and unfavorable incidents. *Journal of Marketing*, (54:1): 71–84.
- Bogue, D. J., (1969). *Principles of Demography*. John Wiley & Sons, New York.

- Bogue, D. J., (1977). A migrant's-eye view of the costs and benefits of migration to a metropolis. In: *Internal Migration: A Comparative Perspective*, A. A. Brown and E. Neuberger (eds.), Academic Press, New York, pp. 167–182.
- Bruner, D. M., (2011). Multiple switching behaviour in multiple price lists. *Applied Economics Letters*, (18:5): 417-420.
- Chiu, C. M., Wang, E. T., Fang, Y. H., and Huang, H. Y., (2014). Understanding customers' repeat purchase intentions in B2C e-commerce: The roles of utilitarian value, hedonic value and perceived risk. *Information Systems Journal*, (24:1): 85–114.
- Christensen, C. M., Dillon, K., Hall, T., and Duncan, D. S., (2016). *Competing against Luck: The Story of Innovation and Customer Choice*. HarperCollins, New York.
- Clemes, M. D., Gan, C., and Zhang, D., (2010). Customer switching behaviour in the Chinese retail banking industry. *International Journal of Bank Marketing*, (28:7): 519-546.
- Connolly, T., and Zeelenberg, M., (2002). Regret in decision making. *Current Directions in Psychological Science*, (11:6): 212–216.
- Engel, J. F., Kollat, D. T., and Blackwell, R. D., (1978). *Consumer Behavior*, 3rd edition, Dryden, Hinsdale.
- Engel, J. F., Blackwell, R. D., and Miniard, P. W., (1986). *Consumer Behavior*, 5th edition, Dryden, Hinsdale.
- Eschenbrenner, B., and Nah, F. F-H., (2019). Learning through mobile devices: Leveraging affordances as facilitators of engagement. *International Journal of Mobile Learning and Organisation*, (13:2): 152-170.
- Fan, L., and Suh, Y. H., (2014). Why do users switch to a disruptive technology? An empirical study based on expectation-disconfirmation theory. *Information and Management*, (51:2): 240–248.

- Festinger, L., (1962). *A Theory of Cognitive Dissonance*, Stanford University Press, Cambridge.
- Hew, J.-J., Badaruddin, M. N., and Moorthy, M. K., (2017). Crafting a smartphone repurchase decision making process: Do brand attachment and gender matter? *Telematics and Informatics*, (34:4): 34–56.
- Hibbeln, M., Jenkins, J. L., Schneider, C., Valacich, J. S., and Weinmann, M., (2017). How is your user feeling? Inferring emotion through human–computer interaction devices. *MIS Quarterly*, (41:1): 1–21.
- Hsieh, J. K., Hsieh, Y. C., Chiu, H. C., and Feng, Y. C., (2012). Post-adoption switching behavior for online service substitutes: A perspective of the push–pull–mooring framework. *Computers in Human Behaviour*, (28:5): 1912–1920.
- Hsu, J. S. C., (2014). Understanding the role of satisfaction in the formation of perceived switching value. *Decision Support Systems*, (59:1): 152–162.
- Joo, J., & Sang, Y., (2013). Exploring Koreans' smartphone usage: An integrated model of the technology acceptance model and uses and gratifications theory. *Computers in Human Behavior*, (29:6): 2512–2518.
- Jung, Y., (2014). What a smartphone is to me: Understanding user values in using smartphones. *Information Systems Journal*, (24:4): 299–321.
- Kahneman, D., (2011). *Thinking, Fast and Slow*, Farrar, Straus and Giroux, New York.
- Kim, S. S., and Son, J. Y., (2009). Out of dedication or constraint? A dual model of post-adoption phenomena and its empirical test in the context of online services. *MIS Quarterly*, (33:1): 49–70.
- Klein, H. K., and Myers, M. D., (1999). A set of principles for conducting and evaluating interpretive field studies in information systems. *MIS Quarterly*, (23:1): 67–93.
- Kotler, P., (2002). *Marketing Management*, 10th edition, Prentice Hall, Upper Saddle River.

- Krippendorff, K., (1980). *Content Analysis*. Sage Publications, Thousand Oaks.
- Lee, S. Y., (2014). Examining the factors that influence early adopters' smartphone adoption: The case of college students. *Telematics and Informatics*, (31:2): 308–318.
- Lin, C.-Y., Chao, Y.-C., and Tang, T.-W., (2017). Why not be “smarter”? Examining the factors that influence the behavioral intentions of non-smartphone users. *Industrial Management & Data Systems*, (117:1): 32–49.
- Lowry, P. B., Gaskin, J. E., and Moody, G. D., (2015). Proposing the Multimotive Information Systems Continuance Model (MISC) to Better Explain End-User System Evaluations and Continuance Intentions, *Journal of the Association for Information Systems*, (16:7): Article 3, 515-579.
- Meuter, M. L., Ostrom, A. L., Roundtree, R. I., and Bitner, M. J., (2000). Self-service technologies: Understanding customer satisfaction with technology-based service encounters. *Journal of Marketing*, (64): 50–64.
- Moon, B., (1995). Paradigms in migration research: Exploring “moorings” as a schema. *Progress in Human Geography*, (19:4): 504–524.
- Nikhashemi, S. R., Valaei, N., and Tarofder, A. K., (2017), Does brand personality and perceived product quality play a major role in mobile phone consumers' switching behaviour? *Global Business Review*, (18:3): 108-127.
- Petty, R. E., and Cacioppo, J. T., (1986). The elaboration likelihood model of persuasion. In: *Communication and Persuasion*, Springer, New York, pp. 1-24.
- Ranganathan, C., Seo, D., and Babad, Y., (2006). Switching behavior of mobile users: Do users' relational investments and demographics matter? *European Journal of Information Systems*, (15:3): 269–276.
- Realize, Tukino, and Putra, E. E., (2019). Effect of perfectionistic and brand conscious on consumer decision-making style of young adult in Batam in mobile phone purchase. *International Journal of Engineering and Advanced Technology*, (8:6S3): 309-312.

- Ryan, R. M., and Deci, E. L., (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, (55:1): 68–78.
- Sääksjärvi, M. C., Hellén, K., and Tuunanen, T., (2014). Design features impacting mobile phone upgrading frequency. *Journal of Information Technology Theory & Application*, (15:1): 34–46.
- Salo, M., and Frank, L., (2015). User behaviours after critical mobile application incidents: The relationship with situational context. *Information Systems Journal*, (29:2): 408–435.
- Shiv, B., and Fedorikhin, A., (1999). Heart and mind in conflict: The interplay of affect and cognition in consumer decision making. *Journal of Consumer Research*, (26:3): 278–292.
- Stein, M. K., Newell, S., Wagner, E. L., and Galliers, R. D., (2015). Coping with information technology: Mixed emotions, vacillation, and nonconforming use patterns. *MIS Quarterly*, (39:2): 367–392.
- Stock, R. M., Oliveira, P., and von Hippel, E., (2014). Impacts of hedonic and utilitarian user motives on the innovativeness of user-developed solutions. *Journal of Product Innovation Management*, (32:3): 389–403.
- Tanksale, D., Neelam, N., and Venkatachalam, R., (2014). Consumer decision making styles of young adult consumers in India. *Procedia – Social and Behavioral Sciences*, (133): 211–218.
- Tarasewich, P., Gong, J., Nah, F. F.-H., and DeWester, D., (2008). Mobile interaction design: Integrating individual and organizational perspectives. *Information Knowledge Systems Management*, (7:1&2), 121–144.
- Tuunanen, T., and Kuo, I. T., (2015). The effect of culture on requirements: A value-based view of prioritization. *European Journal of Information Systems*, (24:3), 295–313.

- Van der Heijden, H., (2004). User acceptance of hedonic information systems. *MIS Quarterly*, (28:4): 695-704.
- Venkatesh, V., Thong, J. Y., and Xu, X., (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, (36:1): 157–178.
- Walsham, G., (1995). Interpretive case studies in IS research: Nature and method. *European Journal of Information Systems*, (4:2): 74–81.
- Wu, J., and Lu, X., (2013) Effects of extrinsic and intrinsic motivators on using utilitarian, hedonic, and dual-purposed information systems: A meta-analysis, *Journal of the Association for Information Systems*, (14:3): Article 1, 153-191.
- Wyatt, J., and Piggott, A., (2019). The design of not-so-everyday things: designing for emerging experiences. *AIS Transactions on Human-Computer Interaction*, (11:4): 244-252.

Appendix. Excerpt from the Survey Questionnaire

What is/are your current mobile/smartphone(s)? Please list in the table below all phones you currently have, as well as details about ownership of the devices, who pays the phone bill, and whether you use the given phone for business or personal purposes (*if both, please indicate main usage*):

<i>Phone</i>	<i>Model</i>	<i>Owned By</i>	<i>Pays the Bill</i>	<i>Business/Personal Use</i>

(Feel free to add lines, if needed)

Switching your mobile/smart phone

1. **When** did you last switch your mobile/smart phone (month/year)?
2. **What** did you last switch from and switch to?
 - (a) **Previous phone** (i.e., the phone that you switched from):
 - ← Brand:
 - ← Model:
 - ← Who owns, pays for the bill:
 - ← Business use or personal use (if both, please indicate which is the main usage):
 - ← What do you like and dislike about it?
 - (b) **New/current phone** (i.e., the phone that you switched to):
 - ← Brand:
 - ← Model:
 - ← Who owns, pays for the bill:
 - ← Business use or personal use (if both, please indicate which is the main usage):
 - ← What do you **like and dislike** about it?
3. **Explain** in your own words, what were the **reasons** for the switch? (*Be as complete and thorough as possible*)

