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Combining Marketing Theory and Path Dependence

Measuring and Breaking the Consumption Path

Vorgelegt von

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For my parents

who taught me how to read

Many thanks to the people that went with me on this journey and for their never ending support - especially to Selin S., Jennifer T., Katharina B., Meike v. B., Funda A., Leonie D., Charlotte S., Waldemar K., Benjamin S., Sabrina G., Alexander M. and Ammar K. - I cannot even begin to explain how important you are.

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Abbreviations

Ad	Advertisement
Etc.	et cetera, and so forth
E.g.	Exempli gratia, for example
PB	Path break
PD	Path dependence
PDS	Path dependence score (on a scale)
Version A	Group with cognitive path formation manipulation
Version B	Group with emotional path formation manipulation
Vs.	versus

1 Introduction

1.1 Motivation, Research Question, and Approach

As consumers, we usually feel free in our consumption choices regarding everyday commodities or less frequent purchases. Of course, we have to deal with more or less tight budget constraints depending on our financial resources. However, we consider ourselves *free and rational in our assessment* of the offers the market presents. Yet, are we free?

Consumers develop competencies to efficiently deal with vast everyday product information, numerous market offers, and the accomplishment of their consumption needs (Ehrenberg 1988, 1991; Khare and Inman 2006; Ji and Wood 2007). Thereby, they generally use the same 'paths', meaning the routines or patterns of action that proved useful in the past. That might encounter continuous visits to the same stores, the consumption of the same products, or use of the same brands over time. Although these paths offer orientation and thereby save time and effort to deal with consumption decisions, subliminally, certain mechanisms are set in motion through repeat consumption. Through learning effects, investments, routines, and the development of emotions towards the product or brand, *self-reinforcing mechanisms* set in that stabilize the mentioned paths more and more through time (see David 1985; Frank 2007; Murray and Häubl 2007). Subsequently, there is no more searching for a better, let alone the best possible consumption alternative. Oftentimes, consumers do not even recognize offers of competitors anymore (Oliver 1999). In doing so, they may miss out on superior products or services offered at a later point in time. Then, the individuals are stuck in a rigid, possibly suboptimal pattern – they are *locked-in*. Thereby, costs might outweigh benefits, particularly in the long run. And further, externalities might occur, such as inefficient product choices, heavy production of waste due to over-purchasing, and environmental damage (Frank 2007). So, no matter whether we might *consider* ourselves free and rational regarding our consumption choices, repeatedly, reality defies that judgment.

In fact, when looking closer into research on irrational consumer behavior, its applicability and importance become apparent. Since the long believed notion of rational choice and striving for optimization of individuals has been rightfully questioned, it is nowadays an accepted reality that consumers do behave very irrationally on a *routine* basis – oftentimes without noticing themselves their lack of information (Kahneman and Tversky 1979, 1984; Tversky and Kahneman 1981). The assumptions underlying rationality are mostly unrealistic and over simplified (Schwartz et al. 2002), urging scientists to adjust their research projects based on more complex concepts such as *incomplete information, emotions, routines, subconscious mechanisms*, and so forth. Furthermore, the underlying mechanisms connected to the antecedents and consequences of *repetitive consumption* are not yet fully understood and need closer examination (Ji and Wood 2007).

One important avenue for doing this reality of consumption justice is to look at *path dependence* in the context of consumer behavior. The concept of path dependence incorporates the reinforcing mechanisms eventually leading to lock-in with a degree of thoroughness, which previous studies on repeated consumption lack thus far. Mostly, former research, despite its various insights on consumer behavior, merely mentions lock-in as a form of mental or behavioral end-state without explaining what *consumer lock-in* actually constitutes. Definitions of that concept are scarce and further inconsistent (see for example Zauberman 2003; Barnes et al. 2004; Hopkins 2007; Murray and Häubl 2007) which reduces the concept to a mere linguistic use. This dissertation therefore provides a *clear conceptualization* and *definition* of the path dependent consumption concept. This is done to firstly close that research gap and offer a unified and thorough understanding of the *concept* itself, the various *mechanisms* leading to its formation, and the state of *lock-in*. Secondly, path dependent consumption is *positioned against related marketing concepts* in order to address further gaps in the marketing literature. In fact, previous research lacks an explicit theoretical differentiation of concepts related to the phenomenon of repeated consumption, like for instance consumer loyalty, or inertia, and their shared and distinctive features. Those concepts are repeatedly used interchangeably which leads to confusion as of how particular consumption patterns develop. The conceptualization presented here attends to that matter and provides a clear delineation of the respective marketing concepts from path dependent consumption.

Regarding the empiricism of path dependence research, this work further contributes to marketing and management theory. Firstly, the exploration of how to *measure* consumer lock-in is addressed. This is particularly useful in order to segment consumers and better understand their consumption choices. Before, there was no measure of the *kind and degree* of lock-in on consumption paths. Even in loyalty research, no holistic measure of consumer loyalty exists, that encompasses all facets of that phenomenon. Rather, various studies use differing approaches to explore loyalty and thereby make it difficult to compare research results (Knox and Walker 2001; Watson et al. 2015). Additionally, that scientific neglect inhibits *approaching* stuck consumers in an *efficient*, informed way. After all, once the nature of a bond between a supplier and consumer is measured, the next interesting question is how to possibly 'unlock' path dependent consumers depending on their state of lock-in. These circumstances call for further research on the matter, which this work provides by addressing the question of *how to trigger path breaks* related to different lock-in states. This will be especially insightful for researchers interested in the stability of repetitive consumption patterns and can thus deliver valuable theoretical contributions around that phenomenon. Further, this dissertation thereby provides managerial implications. Practitioners aiming for higher market share – by de-locking consumers from incumbent offers of competitors' – can employ insights from the path break research presented here to entice consumers to switch to their own offers. Promotional efforts and advertising campaigns for example could be designed more successfully with knowledge about effective path break approaches.

In short, using path dependence to inform current marketing theory, this dissertation addresses the above mentioned concerns and research gaps by thoroughly *defining and positioning path dependent consumption* amongst related marketing concepts, further by *developing a measure* of the former and finally by exploring ways of *breaking consumption paths*. It thus aims at answering the following research question:

How can path dependent consumption, which was formed and stabilized under the influence of self-reinforcing mechanisms, be measured and the consumption path be broken effectively?

The empirical methods applied in this dissertational project are twofold. Firstly, a *multi-item scale* is developed to measure consumer path dependence – a tool missing so far to fathom the different dimensions of lock-in. Secondly, different *path breaking* activities (informative versus affective advertising) are tested in an experimental setting. These two empirical investigations are well connected in the endeavour to get a better understanding of path dependent consumption. The scale is a valuable contribution on its own by empirically validating four distinct dimensions of path dependent consumption derived from theory. It is further created for and used in the experimental setting to measure the degree and kind of path dependence induced before and after engaging in breaking the formed consumption paths.

1.2 Research Schedule

After the introduction, chapter two represents the conceptual work of this dissertation. First, the theoretical background of this work, including the concepts of path dependence and consumer loyalty, as well as their application in previous research will be illustrated. Second, the definition and dimensionality of path dependent consumption, self-reinforcing mechanisms, and the notion of lock-in are deduced from theory. Third, the concept of path dependent consumption will be delineated from other, closely related and prominent marketing concepts in order to clarify the limits and applicability of the former. The end of the second chapter will present the hypotheses surrounding a possible path break in repetitive consumption patterns.

Chapter three and four embody the empiricism of this research, starting with the development of the path dependent consumption scale (study 1). This concerns the first part of the research question about how to measure path dependent consumption on *different dimensions* of lock-in. Chapter four then responds to the second part of

the research question about how to break path dependent consumption. It does so by the means of an experiment, which tests *different advertising approaches* (informative versus affective) to open consumers up to new consumption choices (study 2). Further, the scale is employed in the experiment to measure the development of path dependent consumption on the two dimensions manipulated.

The final chapter constitutes the discussion by summarizing this dissertational work, presenting its contributions and implications, as well as by critically reflecting its approach and limitations, and finally by pointing out promising avenues for future research.

Figure 1 illustrates the research overview of this dissertation.

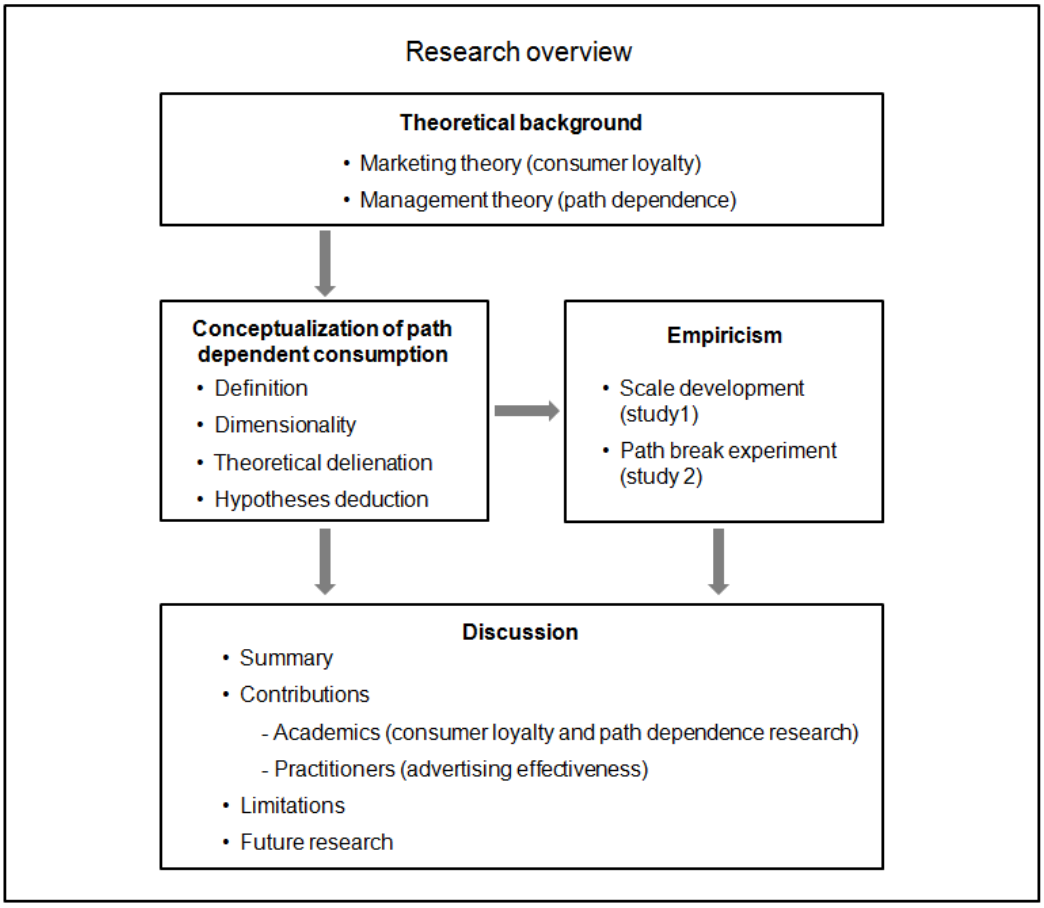

Figure 1: Research overview

2 Conceptualization

> *"Regardless of how sophisticated the operationalization, before a phenomenon can be measured one must clearly define what it is and what it is not."* (Jacoby and Kyner 1973, p. 1)

The following chapter embodies the theoretical disquisition of the concept of path dependence. Furthermore, related marketing concepts, with a special focus on consumer loyalty, and the resulting definition of and elaboration on path dependent consumption is explicated.

It should be noted, that the conceptualization presented below and the conceptual positioning of path dependent consumption (under 2.3) are in themselves valuable contributions of this dissertation. While path dependence has successfully been employed to various studies in different research areas, the concept has no clear application in the *marketing* realm, yet. Vastly different perceptions of what exactly constitutes the concept – from mere linguistic use to a (rare) in-depth look at underlying processes – lead to disunity. This firstly generates the need to consider various research from *both* management and marketing studies. Secondly, it is very important to provide a conceptualization that best combines these fields and to *clearly* define and position path dependent consumption against related phenomena. Thereby, the possible contributions of the path dependence concept to marketing research will become apparent and further, future studies, that investigate repetitive consumption, may find orientation regarding the limits and overlap of respective concepts. In the following, those needs are served starting by presenting the theoretical background of this research. After deducting path dependent consumption from existing theory and delineating it from related concepts, the conceptualization will end with the presentation of hypotheses around a possible path break.

2.1 Theoretical Background

2.1.1 Concept of Organizational Path Dependence

Rooted in economics and economic history, the concept of path dependence was first introduced by economic historian Paul Allan David in 1985. He tried to explain the 'puzzling persistence' of inferior technologies in the market by drawing on self-reinforcing mechanisms that manifest a possibly inefficient technological path on the macroeconomic level. Unsurprisingly, this challenged the widely accepted neoclassical view on markets as efficient systems with adjustable decisions made by knowledgeable actors. If neoclassics were right, how come that markets happen to get stuck with suboptimal decisions?

David ascribed this to interrelatedness, scale economics, and quasi-irreversibility of investments (David 1985). In his study he presents the QWERTY-ordering of today's keyboards as an inferior technology to the more ergonomic key arrangement of another keyboard design named Dvorak, which supposedly enhances typing ease and speed. Due to the technical interrelatedness of QWERTY typewriters[1], the economies of scale (e.g. the more typists used the QWERTY-ordering, the easier it was to employ them and later for them to switch workplaces), and the irreversibility of that process due to learning effects and financial investments cannot be dismissed easily. The notion that 'history matters' and that contingency can lead to multiple economic equilibria, that do not automatically imply efficiency or optimality, became the core implications of David's work (David 1986; 2011). Although the QWERTY-case was challenged later by many researchers, it quickly became a popular corner stone for subsequent research on lock-in and path manifestation.

Following David's article of 1985, Arthur (1989) adapted the thought of path dependence and identified increasing returns as the driver of lock-in on a random path triggered by historical events. In an earlier work, he already pointed out that increasing returns, as in the case of an urn experiment with two sets of differently colored balls and replacement of each drawn ball with two balls of the same color,

[1] This refers to the keyboards themselves on the one hand and the typists using them on the other – the specific technical skills developed by individuals using the QWERTY design.

would lead to a convergence of unity – in the urn experiment's case the unity of color (Arthur 1983).

Arthur (1989) defines in his article, what constitutes a path dependent process: In the beginning, the specific outcome of the process is unclear or *contingent* (as for example the dominance of the QWERTY- versus the Dvorak-design) and then self-reinforcing mechanisms foster and stabilize early decisions (*non-ergodicity*) to a point where the process of the path development becomes irreversible or *locked-in*. As the early decisions in a state of contingency do not necessarily lead to optimality, the self-reinforcing mechanisms may lead to a possible *inefficiency* of the system.

In an attempt to further sharpen the path dependence concept and to show a clear trajectory of events and mechanisms leading to a stable path, Sydow et al. (2009) developed what is later referred to as the 'Berliner Model' (see figure 2).

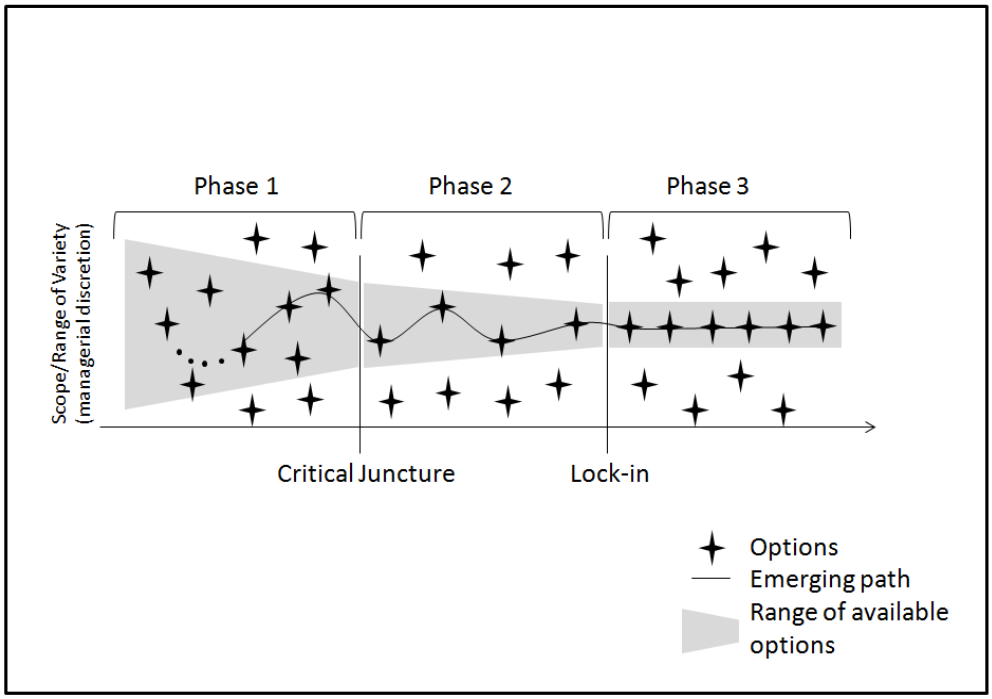

Figure 2: The constitution of an organizational path (based on Sydow et al. 2009)

The model shows three phases of an emerging path in an organizational context. In phase one there is a contingent range of available options – e.g. technologies a firm might pursue – which narrows down after a critical juncture in phase two – possibly

the decision to implement a certain production system – and eventually leads to a lock-in in phase three, where the path is manifest, as the firm might now be reluctant to change the system due to high switching barriers (e.g. cognitive, financial, or social barriers).

In the path dependence research community, lately it was debated as to whether path dependence constitutes to a proper *theory* or rather a *concept*. The former refers to a nomological framework (of concepts) with empirically testable hypotheses and propositions whereas the latter represents the simple categorization and abstraction of a real life occurrence (Kuß 2007). As far as the nomological framework is concerned, the above outlined self-reinforcing mechanisms that lead to lock-in by narrowing the scope of possible action, certainly assume the character of a theory. But where it comes to contingency and critical junctures, not all researchers seem to be convinced that path dependence is able to provide *testable* propositions (see for example Vergne and Durand 2010).

Dobusch and Kapeller (2013) refer to the nomothetic-idiographic divide of path dependence, in that its framework consists of testable mechanisms (self-reinforcing processes for example) as well as of unique contexts and processes which can only be described ex-post by good narratives (contingency and critical junctures for example). They state that with science often using both elements of research to a varying degree across different fields of study, the combination of nomothetic and idiographic methods serves not at all as a conflicting approach but produces valuable scientific results. It is therefore neither appropriate nor serviceable to separate said methods, when investigating phenomena such as path dependence. They go on to illustrate that path dependence is a theoretical concept, that provides theoretical propositions, which along with specifications as to a certain context can be tested empirically and thus practically enhance the theory claim (Dobusch and Kapeller 2013).

However, it is not the intention of this dissertation to solve the question as to whether path dependence should be seen as a theory or rather a concept (which is already done thoroughly by researchers such as Dobusch and Kapeller 2013). Rather than judging path dependence on its ability to be an overarching theory *testable in all aspects* with one common method, this work treats path dependence as a *concept*,

such as the prominent concepts in the marketing literature explained below (e.g. loyalty, commitment, habit) seeking to shed light on consumer related phenomena of repeated consumption. Undoubtedly, it poses a most elaborate concept and can inspire meaningful empirical research as demonstrated in the studies 1 and 2 of this work.

Apart from this theoretical debate, path dependence has been adopted in various research areas, as for example in the social sciences (e.g. Meyer 2005), in political science (Pierson 2000a), in consumer behavior studies (Frank 2007), and in sociology (Mahoney 2000), and actually has become one of the most popular concepts in economics and social science in the recent years (Beyer 2005). During this wide application, questions arose as to its constraints. Arthur (2013) postulated lately that lock-in and optimality are two separate issues and that the perception of inferiority depends on the criteria applied for interpretation. Apparently, not all path dependence researchers assume the notion of inefficiency to be a necessary condition for path dependence to occur. Furthermore, especially in the context of consumer behavior, where subjective preferences and evaluations play a major part, it can be challenging to clearly give evidence of 'inefficient' consumption choices. The next section takes a closer look at the notion of inefficiency and some of the main criticisms that path dependence research has been confronted with since its beginnings in the 1980's.

2.1.2 Criticism on the Concept of Path Dependence

Despite most researchers embracing the concept of increasing returns that might actually lead to deficient outcomes, a part of the scientific community raised concerns towards individual path dependence claims and especially towards the very prominent QWERTY-case. One aspect of David's (1985) paper that fueled criticism, is the matter of whether or not cases of path dependence need some sort of *inefficiency* connected to pursuing a certain path. Especially, when thinking of the consumer context, where individual taste and preferences have an impact, can one easily pin down 'inefficient' consumption? For the conceptualization of path dependent consumption and lock-in that question certainly needs to be addressed.

Kay (2013) has recently reopened the discussion about the viability of the QWERTY-example by very thoroughly investigating the assertion of the QWERTY- versus Dvorak-design. He has argued that QWERTY and not Dvorak has been in fact always the most efficient alternative the market could offer.[2] Hence, the asserted contingency in the beginning of the typewriter business has not been given – QWERTY has always *had* to win the battle of becoming the industry standard. Hossain and Morgan (2009) have found the empirical cases supporting the concept of path dependence similarly troubling and therefore conducted a lab experiment, replicating the QWERTY-case. They have been able to show that QWERTY always succeeded over Dvorak, thus also questioning contingency and inefficiency. Seemingly, the QWERTY-case is simply not one of path dependence and inefficiency the way that David argued in 1985. This is especially true since contingent initial conditions are crucial to his conceptualization of path dependence. Kay's article therefore has led to a major discussion of leading path dependence researchers and critics.

Nevertheless, later in his demonstration, Kay put his work into perspective, in pointing out that history still matters indeed. The very specific version of QWERTY or QWERTY-*like* keyboards (referring to the general design of the keyboard) has been in fact path dependent and contingent (Kay 2013). Had another kind of typewriter been developed at that time, both, QWERTY and Dvorak might have failed to gain market share. Only *within* this technical standard, the Dvorak versus QWERTY battle had to be won by QWERTY being the superior technological standard and not a random choice. This certainly changes the implications of the debate. Not the *concept* of path dependence itself has to be questioned as Liebowitz and Margolis like to claim (see for example Liebowitz and Margolis 1990, 2013; Margolis 2013), but simply the empirical *evidence* has to be challenged and reinvestigated. Vergne (2013) for example takes that stand by viewing path dependence as a *viable* concept that can explain real life phenomena. While the choice of the QWERTY-case has been unfortunate it nevertheless has inspired an approach to investigate other phenomena that show path dependence. And as Arthur

[2] Dvorak supposedly was the inferior technology all along, as it had far more incidents of jamming keys when typing an English text than was the case for the QWERTY design.

himself points out: The really interesting questions are neglected – questions about increasing returns eventually leading to lock-in (Arthur 2013).

So, can it be argued now that path dependence research has simply been off to a bad start due to the choice of the case study applied? It certainly seems like the early works of this research have left room for questions of applicability and usefulness of the path dependence concept. After all, does history not *always* matter in one way or the other?

David himself admits from the very beginning in 1985 that the theory of path dependence needs further refinement and empirical support. It seems to hold that the case of path dependence is a rather *rare* one – possibly an *extreme state on a continuum* of freedom of choice. He has invited other researchers to 'explore' other QWERTY-worlds to gain more insights into path dependence (David 1985). Today, he further explicitly states that inefficiency is not a necessary part of path dependence, but only *may* occur in specific cases (David 2011). Even if undoubtedly, it is these cases of inefficiency that are most interesting for the research community. This goes along with Vergne, who defends the path dependence concept by pointing out the fact that from path dependence itself, no claims about sub-optimality or inefficiency can be made (Vergne 2013). The theory simply implies the possibility of reaching *one of multiple* equilibria and being locked-in due to self-reinforcement. Inefficiency is hence a possible outcome but not imperative at all. And in any case, other researchers agree that efficiency is further heavily dependent on the specific parameters applied (Lewin 2007).

When drawing on the debate above, several points need to be made concerning this research project. Surely, the applicability of the concept of path dependence must be clarified with further theoretical and empirical research, both addressed with this dissertation in the context of individual consumption. Thereby, it is by no means the intention to label every repeated behavior as path dependence. In fact, it is assumed here that a true form of path *dependence* (meaning self-reinforcement leading to *lock-in*) is a rather rare case for consumers as well. To clarify what constitutes that concept (and what does not), the definition and applicability of consumer path dependence will be explicated under 2.2.

Also, it is important to point out that the insistence on the inefficiency condition (previously the main argument *against* cases of path dependent consumption) is apparently unnecessary and outdated. Especially in the context of consumer behavior, inefficiency can hardly be proved except for when dealing with a distinct financial difference with otherwise completely identical products or services – conditions rarely met outside of experimental settings. Inferiority of consumption choices really always depends on what the *individual* deems (in-) efficient, so it is hard to ever make the claim that any consumption path is inefficient in general. Given that even the founders of the path dependence concept distance themselves from (in-) efficiency-claims, that argument no longer hinders the application of path dependence in consumer research. Therefore, the definition of path dependent consumption presented here (see 2.2.1) does *not* incorporate any inefficiency connected to pursuing a consumption path as a necessary element of lock-in. Concluding the criticism of the concept of path dependence, one quote seems to put it quite nicely:

> "QWERTY is dead; long live path dependence" (Vergne 2013, p. 1191).

2.1.3 Studies on Path Dependence in the Consumption Context

Although a fairly recent occurrence, the use of path dependence in consumer behavior studies seems to be a natural choice. After all, many researchers argue that no path, be it for example a technological or an institutional one, is developed randomly or accidentally, as all actions are defined by agency (see for example Garud and Karnoe 2001; Garud et al. 2010; Vergne and Durand 2010). Consumers on the other hand are nothing more than economic 'agents', making choices according to their consumption needs. Additionally, probably every consumer finds it hard at some point to alter established consumption patterns – as for example is the case when a consumer is used to Microsoft Windows and has to navigate Apple's OS X software for the first time – and thus faces inflexibility.

For defining path dependent consumption, it is crucial to take look at how previous literature dealt with path dependence in the consumption context. A conducive example is the article by Frank (2007), explaining the increasing consumption of meat in western countries by path dependence on the society level. Since centuries

ago, meat was a very valuable good with a considerably high price, which made regular meat consumption a luxury limited to wealthy people. Ordinary families mostly enjoyed meat but once a week – in the form of their traditional Sunday roast. As meat production facilities increased and the battening of livestock became more efficient, meat became cheaper and available to all consumers on a daily basis. Yet, the perception of meat as a special commodity, the center of important meals, and the reward for hard work prevailed, leading to more and more meat consumption. So, despite the widespread knowledge of negative externalities connected to high meat consumption (e.g. pollution, cardiovascular diseases, increased usage of and immunity to antibiotics, nuisances in livestock farming), consumers hardly deviated from their locked-in behavior of meat-overeating – a result of centuries of self-reinforcement of meat as a desirable good (Frank 2007). This study though, well conducted as it is, does *not* look at the specific, *individual* processes leading to a consumption path but discovers path promoting mechanisms on the macro level.

Another example of path dependence in the consumer context is given by Choi and Stack (2005). They connect path dependence to the supposedly 'inferior' taste for beer of US-Americans caused by the inhibited beer consumption during the prohibition in the 1920's and early 1930's. However agreeable their efforts are in making an argument for path dependence preventing more sophisticated brewing, their *use of the concepts* of path dependence, lock-in, and reinforcing mechanisms remains rather *weak*.

Further, Hoeffler et al. (2006) have seen initial consumption as a means to narrow a consumer's choice down to a manifest path, but have applied the concept rather superficially, not in the classical sense that Arthur (1989) had in mind, as they have not included the crucial notion of reinforcement. Their use of path dependence is closer to the concept of inertia in that way, merely acknowledging that 'history matters' indeed.

The above mentioned studies have applied path dependence as a means to explain recurring consumption patterns in various industries but have failed in either explaining, how *individual* consumers develop path dependence, in choosing *appropriate cases* (e.g. the beer 'inefficiency') or in accurately outlining and *defining path dependence* in the consumer context.

Further revisiting previous studies, an earlier dissertational project about consumer path dependence by Langer (2012) has investigated the formation of repeated consumption paths by means of three mechanisms: complementary effects, network effects, and learning effects. The latter, functioning not on a network, but the individual level, constitute the *cognitive* ties between consumer and product that evolve over the course of actual product usage. Consumers who have firstly decided on a certain product have later found themselves unable to choose a more 'efficient' product opportunity available to them in terms of an individually better suited offer.

Also, an interesting research on consumer path dependence has been conducted by Gärling et al. in 2008. They studied the Swedish electricity market and its customers. Specifically, they were interested in the economically inefficient staying of customers with their incumbent suppliers, even if cheaper alternatives were available. As electricity is almost an entirely homogenous good, this behavior is far from an optimal consumption choice, and the authors hence discuss it as a case of path dependence. Most interestingly, they found out that in order to increase the switching rate of customers (and thus induce a path break), the latter needed to be *well informed* (hinting towards cognitive elements of lock-in) and removed of *feelings of loyalty*, which smoothly relates to the research conducted in this dissertation. Under 2.1.4 it will be argued further how the concepts of loyalty and path dependent consumption are connected. Gärling et al. (2008) however only looked at influencing variables (price, quality, social influence) to trigger switching and they did not look at the different dimensions (e.g. cognitive, emotional) that the consumers were locked-into in the first place. This research will pick up on these limitations, taking a closer look at the different *kinds* of lock-in.

Furthermore, there have been research projects on *habitual* consumer behavior, connecting these practices to path dependence or lock-in (see for example Barnes et al. 2004; Hopkins 2007; Murray and Häubl 2007; Maréchal 2010). Maréchal (2009) for instance looks at consumer path dependence due to habits on a social level, with social, structural, and institutional forces at play to keep the consumer repeating the same consumption patterns over and over. He hints towards habits as also being *emotionally*-based, as the consumer tries to avoid *cognitive* efforts and makes some sort of gut-feeling decisions. This inclusion of emotion and cognition already points

towards the *multi-dimensional* nature of the path dependence concept (especially concerning individual path dependence) as will be adopted here. Additionally, the concept of cognitive lock-in has been of some prominence in marketing science as well (see Jones et al. 2000; Johnson et al. 2003; Shih 2012). It refers to the individual's inability to switch market offers due to past learning and information gathering (Shih 2012).

All of these studies have the combination of path dependence or lock-in with consumption in common. However, none of them goes beyond explaining the mere existence or upcoming of these phenomena and also, questions of 'de-locking' stuck consumers (path breaks) are neglected. Furthermore, the perception of path dependence and its application differ greatly in the above mentioned studies. Table 1 lists the limitations of previous studies on path dependence in the consumption context and the matching contributions of this dissertation addressing these issues.

Table 1: Path dependence research gaps and matching contributions of this dissertation

Gaps in path dependence research	**Contributions of this dissertation**
• Disunity of use of path dependent consumption concept and of lock-in • Missing focus of individual path dependence • Missing delineation of path dependent consumption from related concepts • Missing studies on de-locking consumers	• Conceptualization of individual path dependent consumption (definition, dimensionality, lock-in) • Positioning of path dependent consumption in its nomological framework of related concepts • Experimental investigation on path breaks

Limitations, as the ones outlined above (e.g. the inconsistent use of path dependence), are certainly common to the process of establishing a concept within a new area of research. Despite the differing applications of the concept, the various studies on path dependence in the consumer context have revealed three main points: 1) lock-in seems to occur on various dimensions (e.g. cognitive, emotional, habitual), 2) self-reinforcing mechanisms take different forms (e.g. learning effects), and 3) one particularly important concept concerning the repeat consumption of goods and services seems to be consumer loyalty. In the following, the latter as well as its

connection to consumer path dependence and why it is employed in this research will be explained.

2.1.4 Concept of Consumer Loyalty and the Coherence with Path Dependent Consumption

The subsequent chapter introduces path dependence to marketing research as a subset and rare case of consumer loyalty. Due to the repetitive nature of the consumption patterns relating to both these concepts that might seem like an obvious decision, but in fact, it is built on strong theoretical grounds. As loyalty will be used to inform the conceptualization of path dependent consumption, it is important to thoroughly review the existing literature in that field. This chapter does so by illustrating the concept of consumer loyalty and previous research on the latter. Especially the definition of loyalty and its dimensionality will be presented. Thereafter, the theoretical proximity of loyalty and path dependent consumption will be explicated, and the theoretical and practical contributions of combining path dependence with loyalty research will be pointed out.

Drawing on marketing theory, a repeated consumption pattern can be seen as loyalty – a rather complex consumer phenomenon very prominent in marketing research for the last about 60 years. Under another label, it has firstly been mentioned by Copeland (1923), who termed it ‘consumer insistence’. He has defined it as a form of repeat purchasing without the use of substitute products or brands. In fact early on, loyalty has been seen as a strictly behavioral concept (Newman and Werbel 1973). Since then, a much deeper understanding of what constitutes consumer loyalty has been gained and its consequences for marketers and consumers have been explored. Jacoby and Chestnut (1978) have observed a general move from a behavioral view on loyalty towards an attitudinal or even composite (both behavioral and attitudinal) one between the early 1920’s and late 1970’s. Seemingly, the idea to explain loyalty merely by considering the actual act of repeat purchasing has not been viable any longer. Empirical studies have been misleading as they left out any sort of emotional attachment towards brands or products (Newman and Werbel 1973). So more attention has been paid to the attitudinal aspects of consumers engaging in long-term relationships with products and brands – nowadays a crucial approach in most consumer behavior studies around brand love and commitment, switching behavior,

or word-of-mouth (see Fournier 1998; Albert et al. 2008; Baca-Motes et al. 2013; Romani et al. 2012; White 2010).

Consequently, it has been believed that satisfaction causes customers to display loyalty. Satisfaction refers to the "consumer's response to the evaluation of the perceived discrepancy between prior expectations (or some other norm of performance) and the actual performance of the product as perceived after its consumption" (Tse and Wilton 1988, p. 204). A satisfied customer would find her expectations met (or even exceeded) and hence become loyal to a specific supplier/brand, not switching to an alternative market offer.

During the 1990'ies, that view on how to make customers stay has started to be challenged. Oliver (1999) has studied the relationship between satisfaction and loyalty, claiming that there have already been "cracks in the satisfaction dynasty" (Oliver, 1999, p. 33). Citing Reichheld who came up with the term "satisfaction trap" (Reichheld, 1996, qtd. in Oliver, 1999 p. 33), he has stressed that satisfaction is not sufficient for a consumer to stay loyal to a brand as other influences, as for example deficient affordability or attainability of alternative market offers, might also prohibit switching. Furthermore, even satisfied consumers that *have* the ability to repurchase oftentimes decide on alternative offers (Stewart 1997). Consequently, it is seen that satisfaction itself does not fully explain the occurrence of consumer loyalty.

Since the emergence of the loyalty concept, there has been an enormous mass of definitions occurring in the literature and Jacoby and Chestnut counted already over 200 in 1978. This vast number also stems from the fact that many different approaches have been used to tackle this particular phenomenon. A lot of researchers have tried to define loyalty based on empirical investigations and not by firstly operationalizing it from a theoretical perspective (Woodside and Clokey 1975; Jacoby and Chestnut 1978). This shows not only how popular that area of research is and has been, but also, how many different perceptions exist of what essentially encounters consumer loyalty. It is one of the most complex and multi-layered concepts in consumer behavior (Jeuland 1979). Actually, many researchers have struggled with how to determine what loyalty constitutes, how to measure it, and what the antecedents and consequences of loyal consumption are, thereby producing

mutually exclusive studies (Knox and Walker 2001; Watson et al. 2015)[3]. After all, practitioners desire their customers to develop an emotional bond with their brand, as this relationship is less prone to disruption and produces higher and more reliable revenue (Grisaffe and Nguyen 2011).

Jacoby and Chestnut (1978, p. 80 f.) come up with a definition of loyalty as follows:

> Loyalty "[…] is (1) the biased (i.e. non random), (2) behavioural response (i.e. purchase), (3) expressed over time, (4) by some decision-making unit, (5) with respect to one or more alternative brands out of a set of such brands, and (6) is a function of psychological (decision making, evaluative) processes".

Though elaborate, this definition is still open for interpretation, as "a function of psychological processes" is not very clear – certainly owed to gaps in loyalty research at that time.

Another definition by Oliver (1999, p. 34) describes loyalty as

> "[…] a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior."

While before the evaluative and decision making aspects of loyalty have pointed towards rational decisions, the mentioned 'deeply held commitment' accounts for the emotional bond that is most often part of a consumer's loyalty towards a brand. Sometimes this commitment is not even necessarily followed by the behavioral act of actually buying a specific product. On the other hand, a consumer might display

[3] This refers to the difference in studying loyalty as an emotional versus a behavioral concept for example. The specific antecedents leading to an emotional bond are distinct from rountine formation processes. Only focussing on one aspect of loyalty in different studies will lead to varying reseach results.

loyal behavior, without feeling particularly connected to the brand. Therefore, more recent research has largely focused on different *segments* loyal consumers might be sorted into. For example, a distinction between those consumers who stick with a brand and recommend it to others ('active loyalists') and those staying with a brand without commitment ('passive loyalists') has been made (Court et al. 2009). Also, loyalty has been conceptualized as 'pure' or 'true' loyalty which is a form of attitude-based behavior and 'spurious loyalty' which is seen as some form of inertia leading to repeat purchases with little or no brand attitude (Kim et al. 2008; Pan et al. 2012).

Aiming at a more holistic view on customer loyalty, Dick and Basu (1994) have introduced a framework that has showed cognitive, affective, as well as conative antecedents leading to relative attitude and eventually to repeat patronage. Their work has included the concept of sunk and switching costs which should be considered when investigating repeat consumption. Similarly, Gilliland and Bello (2002) have included a calculative dimension of financial switching costs into their conceptualization of repeat choices. Clearly, the multi-dimensional nature of consumer loyalty has called for a new conceptualization and more refined research. Recently, in accordance to Jacoby and Chestnuts (1978) definition of brand loyalty with the attitudinal dimension being composite of an emotional and a cognitive element, Worthington et al. (2010) break consumer loyalty down into three dimensions – an emotional, a cognitive, and a behavioral dimension. And in line with that, Tam and Liu-Thomkins (2011, 2013) focus their research on the attitudinal and habitual aspects of loyalty.

Arguably when looking at the history of the loyalty concept displayed above, there is no straightforward conceptualization of the latter to adopt. Table 2 gives an overview of the existing loyalty dimensions in consumer research. For the purpose of this research however, the previous work on consumer loyalty is employed to inform the dimensions of path dependent consumption. The aim is, to gain a comprehensive understanding of all facets of the consumption path. Thereby, this research aligns closest with Oliver (1999), who broke loyalty down into four dimensions: A cognitive, affective, conative, and behavioral dimension (see 2.2.2 for the detailed presentation of all path dimensions).

Table 2: Loyalty dimensions as depicted in previous consumer studies

Author(s), Year	Journal	Loyalty Dimensions
Jacoby and Chestnut, 1978	(Monography)	Behavioral, attitudinal
Dick and Basu, 1994	Journal of the Academy of Marketing Science	Cognitive, affective, conative
Oliver, 1999	Journal of Marketing	Cognitive, affective, conative, behavioral
Gilliland and Bello, 2002	Journal of the Academy of Marketing Science	Emotional, calculative
Worthington et al., 2010	Brand Management	Cognitive, emotional, behavioral
Tam and Liu-Thompkins, 2011, 2013	Advances in Consumer Research, Journal of Marketing	Attitudinal, habitual

However, *why* exactly is the loyalty concept chosen as orientation for this work on consumer path dependence? Are those concepts merely a different diction for the same phenomenon? First of all, the conceptual proximity of loyalty and path dependence, even if not studied closely yet, goes along the wording used in previous studies. For example Murray and Häubl (2007) describe lock-in explicitly as a specific type of loyalty.[4] Additionally, Zauberman (2003) draws the connection between consumer lock-in and consumer loyalty, although in his article, he focuses on the rather narrow aspect of repeat behavior due to information costs. Still, this connection points to the effortless combination of path dependence and consumer loyalty as both concepts seem to share antecedents (for example initial consumption followed by positive feedback) and surely consequences (repeat consumption or even lock-in).

[4] Through time, the terms repeat purchase, brand commitment, and brand loyalty have oftentimes been used interchangeably (Knox and Walker 2001). This is evidence of the need to clarify these terms and other, related concepts and distinguish them from path dependent consumption as well as set them in relation to the latter. This will be accounted for in chapter 2.2 and 2.3.

Also, Jacoby and Chestnut (1978) have already claimed within their extensive monograph on previous loyalty research, that some determinism has to be in place for consumption to be loyal. This goes hand in hand with the concept of path dependence, which although insisting on initial contingency, in later stages claims the reproduction of certain behaviors in a deterministic way (e.g. Arthur 1989).

On the other hand, not all cases of loyalty represent path dependence – that is, not all loyal consumers are truly locked-in. Many rather actively *choose* to stay with their preferred supplier, than actually being prohibited from switching to a better alternative.

Consequently, while not being completely superimposed, loyalty and path dependence are more than merely related concepts. As illustrated further under 2.2.1, path dependent consumption is seen here as *a specific form of loyalty, a rare case of lock-in* on a consumption path, the latter fed by self-reinforcing mechanisms on various path dependence dimensions. Just as is the case in managerial studies on organizations, networks, markets, and so forth, path dependence is not applicable to *all* cases of loyal (repeated) consumption. As explained above, loyal consumers might share a connection to a certain product or brand, but the connection itself might be of different making (e.g. spurious versus true loyalty). Also, loyalty and its behavioral consequences strongly depend on the respective context the consumer finds herself in (Pan et al. 2012). Further, the bond between a consumer and a brand can be more or less strong of character, leaning more or less to lock-in as an extreme state of relationship. Seen this way, path dependent loyalty would be *one possible form* of loyalty that includes a kind of lock-in (e.g. cognitive), preventing the consumer to switch. Path dependence in the consumer context then is an extreme form, a subset of consumer loyalty.

Along this line of thought it can be reasoned, that *both* concepts are of a multi-dimensional nature. As path dependence is a subset of loyalty, it is proposed to have a cognitive, an emotional, a habitual (mostly labeled 'behavioral' in the loyalty context), and a calculative (mostly labeled 'conative' in the loyalty context)[5] aspect

[5] A change in wording for this work concerns the dimension of loyalty mostly labeled *behavioral*– referring to the actual act of repurchasing a certain good or service. It will here be renamed *habitual* dimension, as this dimension rather than only focusing on isolated actions, concerns the *repeated*

of the bond between consumer and the product or service as well. Although not in the marketing, but organizational context, Dobusch and Schüssler (2012) explicitly state that mostly path dependence is driven by more than one kind of mechanism – in the context of individual path dependent consumption this might translate to more than one path dimension. Figure 3 illustrates this reasoning showing the four dimensions of loyalty and path dependence employed in this research. It should be noted though, that while theoretically all four dimensions of loyalty or path dependence exist, in specific consumption contexts (e.g. loyalty towards a brand of technological appliances versus loyalty towards a brand of breakfast cereal), the prominence of each dimension likely differs in intensity.

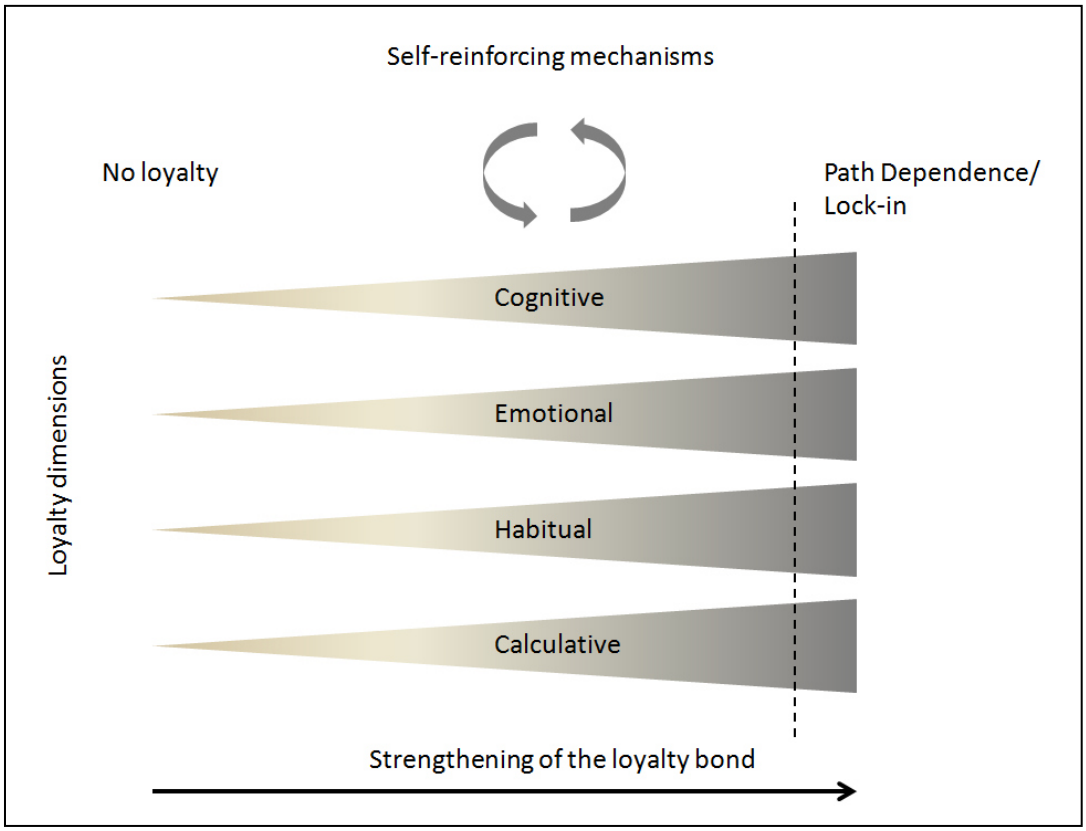

Figure 3: Path dependent consumption as a subset of consumer loyalty

routines and habits that lead to repetitiveness in consumption. Additionally, the *conative* dimension of Dick and Basu's (1994) research will be referred to as *calculative* henceforth, as it involves the concepts of sunk and switching costs representing basically calculative aspects of path dependence.

Introducing path dependence to loyalty research, the question arises, whether there are connected benefits to the marketing community. Interestingly, when revising previous research on consumer loyalty, as widely applied a concept it is, there are still considerable gaps when taking into account the (psychological) processes behind and the nature of the loyalty-bond. An example of a study that looks at the antecedents of consumer loyalty is the work of Pan et al. (2012). They point out that research to this day is very discordant about the findings related to the concept of loyalty and hence conduct a meta-analysis to assess more general findings. Loyalty itself seems to be rather ambiguous concerning its deeper structures and the operationalization of the latter, leaving the generalization of findings at issue. Involving the concept of path dependent consumption can lend a different angle to loyalty research and help fill a lot of those gaps, some of which are accounted for in this dissertation.

For instance, in line with the lack of consumer path dependence studies, there is surprisingly little research on how to entice consumers from (explicitly) loyal consumption. Bogomolova and Grudinina (2011) have conducted 39 in-depth interviews to find 38 triggers of brand defection. They claim that the loyalty literature up until today has focused in large on what brands did wrong to drive away previously loyal consumers, leaving out the cases of consumers parting for other reasons. The conceptualization of *path breaks* (see 2.4) concerns itself exactly with that phenomenon – how to trigger a switch to a different consumption pattern from a formerly rigid consumption path.

Insights on those path breaks are not only interesting from a researcher's point of view. It is well known that practitioners try to stimulate loyalty in their customers for there are a lot of connected advantages for brands that can preserve their customer base, like higher profitability, lower costs in retaining old customers than in gaining new ones, cross-selling and more (see Reichheld and Sasser 1990; Oliver 1999; Knox and Walker 2001; Bogomolova 2011). However just as well, firms try to stimulate defection for increasing their own market share through advertising, promotional activities, and so forth. Nonetheless, convincing a non-loyal consumer to switch surely involves a different, possibly less intense approach than to entice a loyal or even path dependent consumer. Although the loyalty literature is full of hints towards

this research gap, no study has been conducted to intentionally break consumer loyalty or path dependent consumption patterns for that matter.[6]

Coming from a path dependence perspective, this research aims at closing that gap by explaining the mechanisms that lead to loyal or path dependent consumption theoretically, by empirically investigating the dimensions of repeated consumption separately, and further by finding out how to intentionally break consumption paths. Moreover, a segmentation of consumers by their path dependence would be of major importance to marketing practitioners. Consumers who are loyal on a purely behavioral basis and those who are emotionally or cognitively attached or those who experience high switching costs might for example engage in different kinds of word-of-mouth activities or have very different perceptions of brand value (see Wangenheim and Bayón 2004).

Table 3 gives an overview of the gaps in consumer loyalty research and the matching contributions of this dissertation to address those gaps with path dependence research.

Table 3: Consumer loyalty research gaps and matching contributions of this dissertation

Gaps in loyalty research	Contributions of this dissertation
• Formation of loyalty on different loyalty dimensions • Lack of consumer segmentation by loyalty dimensions • Lack of studies on enticing loyal consumers to switch	• Self-reinforcing mechanisms on different dimensions • Development of path dependent consumption scale • Investigation of path breaking mechanisms

[6] It should be noted though that a body of work surrounding loyalty and customer enticing and advertising effectiveness (e.g. Tellis 1988; Agrawal 1996; Shum 2004) exists. But these studies (when looking at all at differences between loyal vs. *non*-loyal relationships), have treated loyalty merely as repeat purchasing or a percentage of product class spendings. There are no insights regarding the driving forces of loyalty or different advertising approaches concerning the *kind* of bond between consumer and supplier.

In the following, the above described research will be drawn upon in order to define and elaborate on path dependent consumption and the according dimensions of the concept mentioned.

2.2 Theoretical Deduction

2.2.1 Path Dependent Consumption

So far, previous research offered useful insights for the conceptualization of path dependent consumption. However, at the same time considerable gaps and shortcomings have been detected. As explained above, path dependence has been defined and used very inconsistently across and within management as well as marketing studies. Therefore, in order to approach the concept of path dependent consumption, existing research from both fields was considered and possible connections sought out.

Consequently, by looking at previous studies on repeat consumption, especially consumer loyalty, it appeared thus far that path dependent consumption must be 1) a *multi-dimensional concept* and 2) a subset and *rare case of consumer loyalty*. Including research on path dependence added that 3) *self-reinforcing mechanisms* lead to a narrowing down of consumption choices and the scaling down of the consumers' consideration set to 4) an eventual *lock-in* on an incumbent market offer. Therefore, previous findings on the dimensions of loyalty (cognitive, affective, behavioral/habitual, and conative/calculative), perceptions of lock-in as well as feedback mechanisms leading to repeat purchasing are considered in the concept development of path dependent consumption and the further research design.[7] As mentioned above (see 2.1.2), efficiency or even the optimality of consumption decisions ceased to be a necessary element of the theoretical understanding of path dependence and are hence not included in the conceptualization.[8]

[7] Other related and prominent marketing concepts are either integrated in the conceptualization or are included in the empirical design of study 1 and 2 by additional survey questions (e.g. covering personality traits), or are distinguished from this research (see 2.2 through 2.3 and 4.2).

[8] However, in the empirical investigation on path breaks the inefficiency of the incumbent choice will be manipulated to show path dependent consumption. This is done in order to strengthen the argument of lock-in, not because inefficiency is considered a required condition of path dependent consumption.

This leads to the definition of path dependent consumption applied in this research as follows:

> *Path dependent consumption is a form of repeat consumption that a consumer may be locked-into through the effects of self-reinforcing mechanisms on either a cognitive, emotional, habitual, or calculative level, or on a combination of those four.*

Consequently, during the development of path dependent consumption, the four dimensions will be each fuelled by separate feedback mechanisms that together form a manifest consumption path. Each dimension might be more or less prominent in a specific consumption pattern. Nevertheless, the four dimensions are all linked to the path of repeated consumption and are further theoretically separate (see 2.2.2). That leads to the understanding of repeat consumption or lock-in as a second-order concept formed by the four dimensions of path dependence.

Figure 4 shows the framework of *path dependent consumption* with the *lock-in* being a second-order *formative* concept shaped by the *four* above mentioned *reflective* first-order concepts cognitive, emotional, habitual, and calculative path dependence. Following a small event – possibly the first consumption situation of a product – self-reinforcing mechanisms set in, locking the consumer to the consumption path by narrowing the choice of possible alternatives down to eventually one. The individual then repeatedly consumes the same product or service. The possibly resulting lock-in, as the extreme form or final stage of path dependence, is defined as the inability of the consumer to switch to another consumption alternative thereafter.

The self-reinforcing mechanisms are driven by diverse effects regarding the different loyalty dimensions. Learning effects should lead to a lock-in on the cognitive dimension, whereas the building of attachment or trust is located on the emotional dimension. A habitual lock-in would be established by the emergence of routines connected to path dependent consumption without the need to engage in cognitive efforts to make a consumption decision. The sunk and switching costs, encountered in repurchasing a certain product or service, constitute the calculative dimension. In

the end, the individual will stick with a repeat consumption which can be considered as a rare case of loyalty.

This framework, deducted from theory on repeat consumption on the one hand and path dependence on the other, later serves as the starting point in the scale development (path dependent consumption scale). So far, there has been no loyalty measure developed, which is able to distinguish between all of the above mentioned dimensions. Study 1 will close that gap.

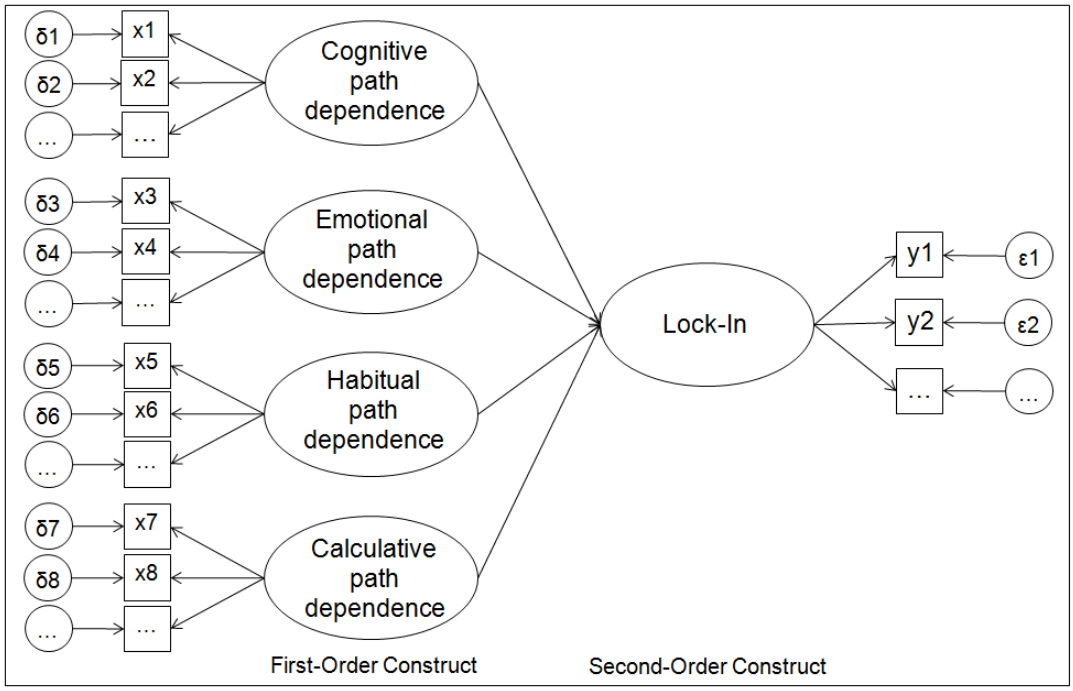

Figure 4: Framework of path dependent consumption

As for the theoretically separate dimensions of path dependence, the question remains, whether the formation of a path follows a certain order or goes through fixed phases, engaging a different dimension in each phase. For example, is the cognitive dimension always preceding the emotional one? Or can habit form without emotion?

Coming back to previous loyalty research, Oliver (1999) proposes a four-phase model of loyalty, in which the consumer first goes through a cognitive, then an affective and conative, and at last through an action (behavioral) phase. The more

dimensions add to the consumer's loyalty, the more persistent he or she will be and it will be harder to trigger a brand switch. Although Oliver's approach seems logical, he has never tested this framework empirically and there are some aspects which reveal theoretical problems at a closer look. It is questionable for example whether the consumer always needs to go through a cognitive phase first. It is plausible that a consumer first forms an emotional bond with a product and later gathers more information about it that qualifies as sufficient cognitive effort to be considered a strong enough aspect of loyalty formation. Also, researchers from fields such as psychology and neuroscience have shown that cognition does not generally need to precede emotion (Zajonc 1984; McKay-Nesbitt et al. 2011). Further, the conative phase, which Oliver connects to the *commitment to buying* or the *loyalty to an intention* seems unclear. Commitment is an affective concept describing the psychological bond of an individual to other individuals or objects (Beatty and Kahle 1988). Further, the loyalty to an *intention* seems unseizable, and must not result in action.

Finally, it is more likely that feedback mechanisms set in on *multiple* dimensions at the *same* time and, depending of the consumption context and kind of product or service, some dimensions are more likely to have a stronger self-reinforcement effect than others. For example the path development connected to getting a hair cut repeatedly by the same hair stylist will likely trigger a stronger emotional and weaker calculative feedback than a path formed by repeatedly purchasing the same brand of system-compatible technical devices. The first path will thus lead to a stronger emotional bond, although the feedback on both dimensions has started at the same time – by starting the consumption itself. So, although theoretically distinctive, the four dimensions of path dependent consumption are likely not entirely independent in real live. Every consumption experience will be accompanied by some level of investment, some emotional reaction, and a more or less subtle learning-effect and habit formation. Therefore the dimensions of path dependence will have a certain amount of overlap, depending on the specific consumption context involved.

However, as unlikely as it seems to find a *general* order of loyalty formation phases, there might actually be an order *within* certain product groups, whose consumption processes are very similar (e.g. for technical products, cognition might always

precede habit). In this research project, the dimensions will be treated without an implied order, as there is not enough previous research upon which to build assumptions. Furthermore, the exact relationships between path dimensions are not of interest to this research. The examination of consumers by *path dependence dimensions* and implications for *path breaks on different dimensions* of will be the focus of this work. Study 2 might however shed a first light on the interplay of different dimensions of path dependent consumption trough the path formation process and the path break. Questions related to the interaction of path dimensions in various consumption contexts are left to future research.

After developing a definition of path dependent consumption and discussing the role the four dimensions play in order to form a consumption path, it is necessary to elaborate on the notion of self-reinforcement and on each dimension separately to understand path dependence in the consumer context.

2.2.2 Self-Reinforcing Mechanisms and Dimensions of Path Dependent Consumption

With small events and critical junctures being somewhat unclear concepts when it comes to applying them to real life phenomena (as they can only be post-rationalized), assumedly the most impactful aspect of path dependence is the self-reinforcement leading to a manifest path. Even though it might be extremely difficult to identify the exact instance that set the path forming mechanisms into motion, the mechanisms themselves can be found out and described in order to explain the path manifestation.

Defining self-reinforcing mechanisms, it becomes quite clear what they encounter by distinguishing them from so called reactive sequences. Unfortunately, both mechanisms are often confused with one another or simply referred to as ‘feedback’ in previous path research. However, self-reinforcing mechanisms are processes of *reproduction* that *strengthen previous events.* On the other hand, reactive sequences are processes in which earlier events trigger subsequent ones, which are not necessarily of the same kind, but which might even be counteractions (Mahoney 2000). The events in both cases have to be causally linked, so that one action triggers the other (Meyer 2005). However, for the phenomenon of path dependence, the same

kinds of patterns have to be *reproduced* in order to have increasing returns and further to develop a path that is strengthened by repeated consumption through time. So, knowing what self-reinforcement represents theoretically, which related mechanisms have been identified in previous studies to inform this research?

Turning firstly to one of the founders of the path dependence concept, Arthur (1994) lists economies of scale, learning effects, coordination effects, and adaptive expectations as drivers of increasing returns and hence as self-reinforcing mechanisms. Those concepts, known to management as well as marketing research, mostly concern path formation on an organizational or society level. In this dissertation however, the individual level is of interest, with the four dimensions known to loyalty studies being the theoretical backbone of the conceptualization of path dependent consumption. Therefore, only the (individual) learning effects described by path dependence research will be of use here as part of the cognitive loyalty dimension.

Looking further into previous marketing studies, self-reinforcement has been of interest as well. Assael (1995) has developed a model of habitual buying and has found that *positive experiences* with a product lead to repurchase behavior with little cognitive engagement. The same reasoning is described by the concept of creeping commitment. When starting a business relationship, positive experiences lead to the building of trust between the customer and the supplier and transaction costs are reduced. That, as well as the consumers' need to minimize risk, leads to his or her staying with the known supplier over time without switching to another one (Robinson et al. 1967; Kleinaltenkamp et al. 2011). Other studies have been rather subtle in describing phenomena that might be connected to positive reinforcement. For example it has been found in loyalty research that age has a positive influence on consumers staying with a brand (Newman and Werbel 1973). Amongst other possible explanations, this might be the case, because older consumers have had usually more time to establish positive feedback mechanisms like learning and trust to bond with certain brands.

Coming back to the connection between satisfaction and loyalty (although satisfaction has been proved not to be the only driver of loyalty) Oliver (1999) has pointed out the idea, that frequency and accumulation play an important role in the

development of consumer loyalty. On many occasions, there would be no development of loyalty if the consumer would not be satisfied at least in the very early stages of consumption in order to form preferences leading to repurchase (Oliver 1999). Although not labeled explicitly as feedback, this describes simply early positive feedback (satisfaction), followed by continuous consumption resulting in frequent feedback and leading to an accumulation – an increase in loyalty. That directly translated to the notion of positive reinforcement that strengthens the consumption path further and further.

Concluding on self-reinforcement in general, a noteworthy remark should be made on the opposite effects reinforcement might have on path formation. As the research on path dependence got more elaborate, *increasing* returns have been complemented with *diminishing* returns (Beyer 2005; Vergne 2013). With social systems being considerably complex, *both, positive and negative feedback* is likely to influence the individual (Page 2006). The complexity of the concept goes along the complexity of the *system* of feedback mechanisms. One might therefore assume that a higher complexity of individual consumption is connected to a higher number of feedback mechanisms at work. This on the one hand further supports the conceptualization of path dependent consumption as a multi-dimensional phenomenon. It also implies both – influencing mechanisms working towards a path manifestation as well as opposing ones – that enable a variety of consumption choices the consumer switches to and from. For reasons of simplicity, this research will look at mechanisms that *foster* the consumption path. Furthermore, mechanisms that break a path *after* its formation will be investigated as well. Diminishing returns as such, although an interesting field of study in the consumer context, lend possibilities for future research avenues.

In the following, the four dimensions of path dependent consumption mentioned above are presented in more detail.

Cognitive Dimension

When asked about the way they approach consumption decisions, most individuals will respond that they first gather information about the available market offers and then try to make an informed decision about what product or service to choose.

Thereby, they rely on knowledge build by past consumption situations (Rabin and Schrag 1999). *Cognition* processes therefore play a major part in consumers' choices.

Looking closer at the cognitive dimension of path dependence, the repeated choice to consume a specific product or service will lead to the individual *learning* a whole variety of information. This encounters the way a product is handled (e.g. how exactly to navigate a software menu), the understanding about certain features of usage (e.g. how easy a blender can be assembled) or simply the knowledge about how the individual 'thinks about' the consumption experience – meaning how the consumer evaluates the product or service (e.g. 'this is a healthy cereal'). Vergne (2013) speaks to that regard of *self-reinforcing learning loops* that are created when individuals 'get used' to a phenomenon which remains stable through time.

Furthermore, cognitive lock-in has gained some prominence in recent marketing studies, reflecting the cognitive dimension of the tie between a consumer and a product or service. The concept has been studied under the notion that cognitive frames prevent individuals from 'thinking outside the box' and limiting their information processing down to supporting previously learned specifics (Dosi 1982; Kaplan and Tripsas 2008). This phenomenon has also been referred to as the confirmatory bias (e.g. Rabin and Schrag 1999; see 2.2.3). Moreover, Murray and Häubl (2007) state that the cognitive costs connected to switching from one product to another (where the learned skills from the incumbent product *cannot* be used) prevent the consumer from switching altogether, leading to lock-in. Those costs can consist of cognitive search, transaction, and switching costs (Shih 2012).[9] Chebat et al. (2011) describe that effect further, claiming that under high cognitive switching costs, the individual is not truly loyal by staying with the incumbent product or service but is merely "trapped in a bad situation where no alternatives seem to exist" (Chebat et al. 2011, p. 826). Although they do not use the concept of path dependence in their study, the phenomenon they refer to quite accurately describes cognitive path dependence.

[9] These costs do not refer to financial switching costs as the latter do not entail cognitive effort but the mere financial investment made on the incumbent product or service and the financial costs related to switching to an alternative offer.

However, there have been very few actual investigations on cognitive *path dependence*, although the learning effects described above have been mentioned early on in path dependence research, even if only in an organizational context (see Arthur 1994; Thrane et al. 2010). And moreover, cognitive lock-in has been found to have an even higher impact on (re-)purchase intentions, than perceived value does (Shih 2012), which shows the importance of investigating that particular aspect of lock-in (and hence path dependence) further.

Figure 5 shows the feedback mechanism on a cognitive level that over time leads to a reinforcement of the cognitive bond. The *consumption* of a product or service leads to *learning*, which leads to a *strengthening of the cognitive bond*, *repurchase*, and ultimately to *re-consumption*. An example of such a development would be the case of a consumer, who learned how to use the mentioned software of Microsoft Windows and for a lack of knowledge on other information systems, will stay with Microsoft products instead of switching to a competitors offer.

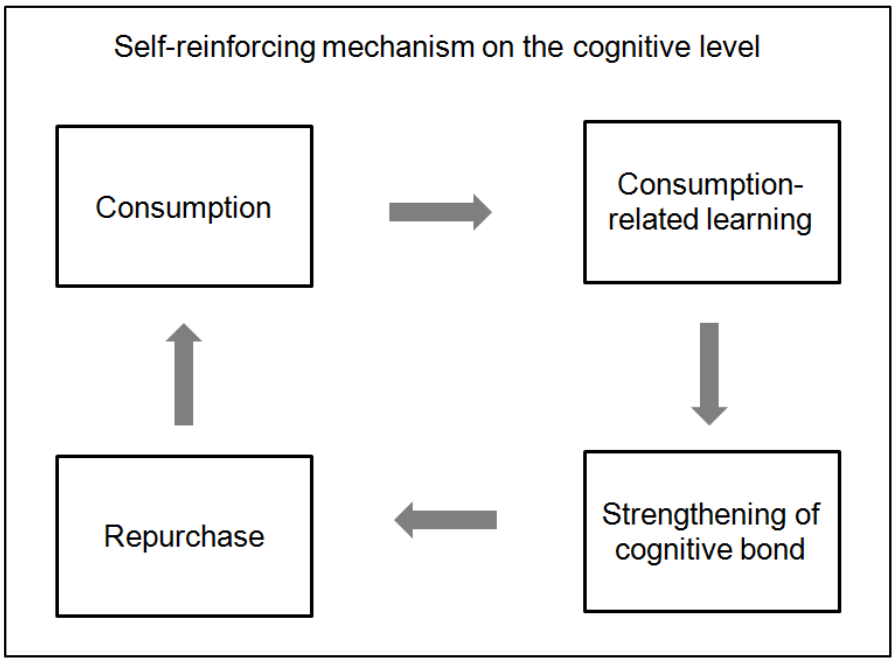

Figure 5: Self-reinforcing mechanism on the cognitive level

Summing up previous research on cognitive rigidity – whether situated in the organizational or the consumer realm – it can be said that previous studies

surrounding path dependence contribute by including self-reinforcing mechanisms that manifest a consumption path whereas research on consumer cognitive lock-in adds a deeper comprehension of the inner (psychological) processes of the individual to this research.

Emotional Dimension

For the longest time, researchers have believed that in order for an advertisement to be persuasive, the marketing appeal should come in the form of an informational approach (Heath and Stipp 2011). That is true in certain cases (e.g. when the consumer's involvement is high; see Petty and Cacioppo 1984). However, just like the research on loyalty has moved from an entirely behavioral approach to including the cognitive and emotional dimensions, more recent research on marketing effectiveness has focused on *emotional bonds* to explain the workings of advertising messages and as an important factor for explaining product choices (see Agrawal and Maheswaran 2005). In the same regard and based upon insights from brand loyalty theorists, psychological attachment and commitment theory, it is common knowledge in contemporary marketing studies that emotional bonds between the consumer and a brand are an effective basis for loyalty (Grisaffe and Nguyen 2011). Further, Oliver (1999) has found loyalty based on emotional bonds to be resistant to switching incentives and Thomson et al. (2005) compare the state of a consumer, who has an emotional connection to a brand but cannot engage with the brand, to separation distress. Also, emotional bonds between consumer and brand are less disruptive considering revenue streams than other causes of repurchase (Grisaffe and Nguyen 2011). One can easily imagine that path dependent consumption, as a related phenomenon to loyalty, is likely fueled by emotional bonds.

Naturally, with the rise of the emotional side of consumer-brand relationships, a lot of research has followed in investigating what these emotions entail. Therefore, lots of different terms exist in the literature today, describing an emotional relation between the consumer and the brand, as for instance affective commitment, emotional bond, emotional attachment, devotion, adoration, brand love and more (see Dholakia 1997; Oliver 1999; Knox and Walker 2001; Thomson et al. 2005; Grisaffe and Nguyen 2011; Batra et al. 2012; Rossiter and Bellman 2012). Rossiter

and Bellman (2012, p. 291) define emotional branding "[…] as the consumer's attachment of a strong, specific, usage-relevant emotion – such as bonding, companionship, or love – to the brand". Further, they find in a study that emotional attachment consists of four aspects, namely trust, resonance, companionship, and love, and that it is a better predictor of buying behavior for utilitarian products (laundry detergent and gasoline) and hedonic products (coffee and beer) than brand attitude (Rossiter and Bellman 2012). Amongst other results, Pan et al. (2012) also find that trust is probably the most important driver of consumer loyalty.

Equally, commitment is an often referred to concept, when it comes to consumer-brand relationships. It is mostly defined using other marketing or psychological concepts, like for instance as the attachment between a consumer and a specific brand (Beatty and Kahle 1988; Pan et al. 2012). From this, it becomes apparent that commitment and emotional attachment seem to be very closely related concepts.

Further, commitment is said to be essential for long-term brand-consumer relationships (Pan et al. 2012) – a relationship loyalty represents – and was even the most studied concept in buyer-seller relationships in the 1990's (Wilson 1995). Yet, there is only a weak although still significant relation between commitment and repeat purchasing.[10] Nevertheless, commitment is considered to be an important aspect of the loyalty concept, described quite often as a necessary condition for 'true loyalty' to occur contrary to the purely behavioral 'spurious loyalty' (Bloemer and Kasper 1995).

So clearly, when investigating path dependent consumption of the individual, being reasoned here as an extreme state of consumer loyalty, the emotional dimension has to be considered as an impactful means of locking the consumer on a path. Figure 6 shows the feedback mechanisms that will through time act as self-reinforcing mechanisms resulting in an ever higher emotional bond. As described regarding self-reinforcing mechanisms in general, the *consumption* of a product or service may lead to a *positive experience* with the latter, resulting in an ever growing trust, attachment, or even love the consumer feels for the product/service, leading to the *strengthening of the emotional bond* and finally to *repurchase*, starting another consumption cycle.

[10] In their study on brand loyalty Knox and Walker (2001) found that commitment only explained 16% of repeat purchasing.

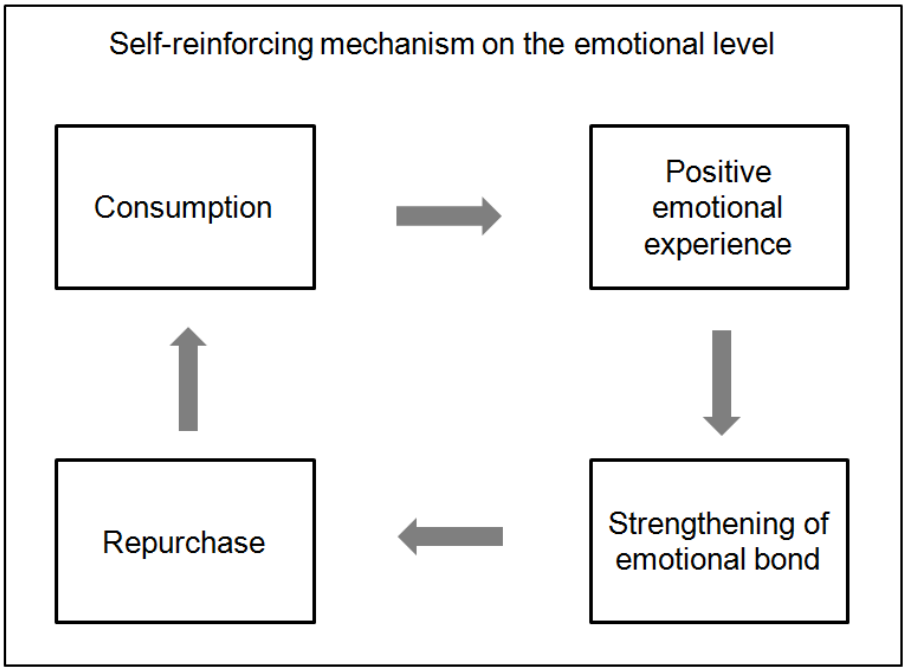

Figure 6: Self-reinforcing mechanism on the emotional level

For instance, an individual might visit a bar where the service staff is friendly and the atmosphere cozy. Given that the drinks are acceptable as well, the positive emotional experience might lead to another visit, on which the staff remembers the customer, who in turn feels welcomed and develops an emotional connection with the bar. This could lead to the individuals' repeated return to that particular place, without the consideration of other bars.

A final remark on the emotional dimension of consumption patterns concerns the impact of the emotional bond compared to the other three dimensions of path dependence. When insights from previous studies on consumer loyalty can be applied directly to the rare cases of path dependent consumption, it can be assumed that if emotions lead to an especially solid bond with a certain product/service, then likely, the emotional dimension should play a major part in locking consumers in on a specific consumption path. As before however, this argument's strength certainly depends on the respective consumption context.

Habitual Dimension

The third of the four dimensions of loyalty and hence path dependent consumption concerns the habitual aspect of repurchasing over time. David (1985) already mentions habituation as a driver of path dependence although he later focuses more on technical interrelatedness, irreversibility and economies of scale to assess technological lock-in.

Researchers agree that a considerable amount of everyday behavior is of a habitual nature (see Wood et al. 2002). The literature on this phenomenon shows that both terms, behavioral and habitual, are sometimes used as synonyms describing the consumer's choice to stay with a product or service. However, the mechanisms involved in forming the routines of repurchasing, without the need to engage in extensive cognitive efforts on part of the individual, are not merely a onetime action, but a *repeated* action which can be described as a *habit*. Therefore, this research employs the term *habitual* path dependence. This goes in line with the work of Vaughn (1986, p. 57) who defines habitual buying as essentially routine behavior with the absence of elaborate cognitive activity or learning but rather an "exploratory buying" and "learning-by-doing" approach. Further, Ji and Wood (2007, p. 262) speak of habits as "well-practiced" and "automatic" responses to specific (consumption) situations. This understanding of the term habitual consumption leads to two conclusions: Firstly, the habitual and the cognitive dimension are theoretically separate, as they involve different mechanisms of manifestation (cognition versus action). Secondly, both dimensions go hand-in-hand when it comes to the actual consumption experience (learning-by-doing or practice).

Furthermore, according to researchers, habit persists on a level of unawareness, where certain contexts, for example consumption locations or times, trigger repeated responses or preferences concerning consumption routines (Kotler et al. 1996; Murray and Häubl 2007; Tam and Liu-Thompkins 2011). It therefore reflects *a behavioral disposition*, associating cues bound to specific situations and according responses without the reflection of the root of such a (repeated) response (Tam and Liu-Thompkins 2011).

On the other hand Verplanken and Aarts (1999, p. 104) define habits as "*learned* (italics added) sequences of acts that have become automatic responses to specific

cues and are functional in obtaining certain goals or end states". To add to the question above of a fixed order of the path dimensions during path formation, this implies cognition preceding action and therefore an implicit order of self-reinforcing mechanisms set in motion. On the other hand, Ehrenberg (1974) has found instances in which behavior has *led* to intensified information processing that even resulted in changes of attitude. Thinking about product groups that likely involve little cognitive effort during the consumption process, especially low-involvement products (like yoghurt or paper towels) come to mind, where it is not the case that attitude and preference only form after an extensive cognitive process (Fletcher 1987). So in some cases, habitual processes can start or dominate even before cognitive efforts are made.

Lastly, Maréchal (2009) states that there is no clear division between automatic and controlled behavior, but always a mixture of them both. It is hence rather a question of the dominance of either side of the automation-cognition continuum. The insights from previous research on habit certainly contradict with the notion of a fixed ordering of dimensions during the consumption process and further show that the existing literature on this phenomenon has not found consent on the question of loyalty or path formation.

Figure 7 shows the feedback mechanisms that starting with consumption and continuing with routine formation, habitual bonding, and repurchase, through time act as self-reinforcing mechanisms resulting in an ever higher habitual bond. An example for a habitual path would be the case of a consumer who always goes shopping in drug stores of a specific company. It might have started as a random choice, as the store was situated near the consumers' home. Eventually though, the individual will always choose stores of that company as she got accustomed to where products are placed and what offers she can expect, and has formed purchasing routines connected to that.

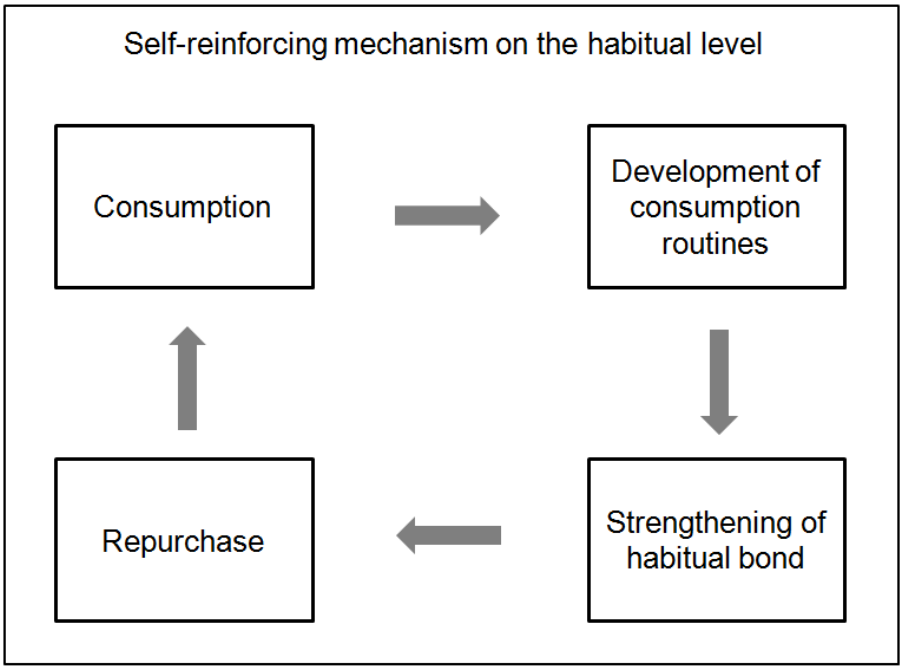

Figure 7: Self-reinforcing mechanism on the habitual level

Calculative Dimension

The calculative dimension of path dependent consumption certainly is the most straightforward one, as it simply concerns itself with the accumulation of sunk and switching costs. At the same time, it is a necessary inclusion to the conceptualization of path dependent consumption as the consideration of sunk costs for example has nothing to do with an emotional bond or a cognitive barrier to switching to a new product or service. The calculative dimension deals with the monetary and time investments made to obtain a solution to a consumption need.

Derived mostly from switching costs – as they are described to have the ability to lock-in a consumer – they cannot be omitted in their entirety from this research. Cognitive switching barriers are included in the cognitive dimension, emotional ones in the emotional dimension, but financial switching barriers are also very likely to strengthen a consumer's bond to a product or service (see Gilliland and Bello 2002) and the resulting switching barrier will get ever higher with more financial investments being made over time. In fact, a calculative bond alone can be the reason for a customer to stay with the incumbent supplier, independently from cognitive or

emotional switching barriers (Gilliland and Bello 2002). The same should hold for investments in the form of time spend on a product or service.

Sunk costs – the investment already made in the incumbent market offer – have the effect of fostering the consumer on a set consumption path. Although not behaving rationally, the individual will more likely stay with a previous choice because of the investments already made, instead of switching to another offer, even if the latter seems more attractive (Arkes and Blumer 1985). However, the investment should not influence future decisions, as in any case, the money or time cannot be retrieved. Switching costs are those costs associated with acquiring a product from a new supplier, as for example a mobile phone from a new brand. Together, sunk and switching costs serve as a barrier to switching which might lock consumers on their initial choices (see Bell et al. 2005).

Figure 8 shows the feedback mechanisms that starting with a first consumption, will through time act as self-reinforcing mechanisms resulting in an ever higher accumulation of sunk and switching costs and hence in a the strengthening of the calculative bond.

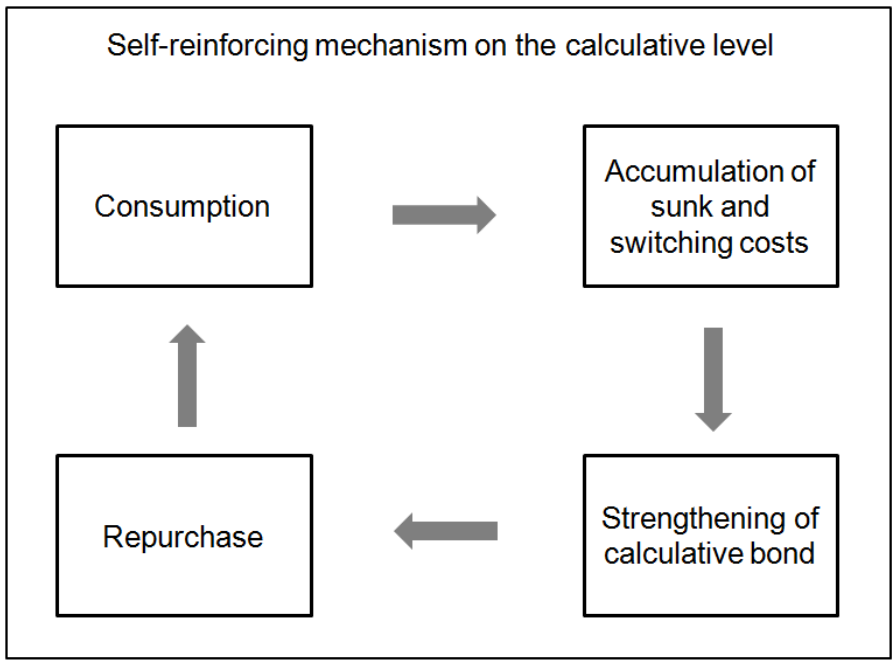

Figure 8: Self-reinforcing mechanism on the calculative level

An example for that reinforcement would be a consumer who does not switch the brand of mobile phones she uses due to initial investments. After that, every time an accompanying product (such as adapters, additional memory cards, speaker, or an extra portable battery) is needed, matching products of the brand are bought, which leads to the accumulation of costs and further increasing of the calculative switching barrier.

A noteworthy remark should be made on the connection of the cognitive and the calculative dimension of path dependence. At first, these dimensions might be considered as inseparable, as they both speak to the individual's rationality. After all, is it in both cases not the evaluation of switching barriers that prevent the consumer from leaving the consumption path?

Although this is certainly true, taking a closer look will reveal a different basis for the aforementioned switching barriers. Cognitive barriers involve cognitive effort, learning, and gathering of information. Calculative barriers as described here on the other hand consist of comparing monetary and time related sunk costs and switching costs when the consumer contrasts the incumbent with an alternative offer. The reason not to switch is in one case due to *cognitive* switching costs and in the other case due to *financial* switching costs and lost *time*. Both costs represent barriers that enforce the given consumption course but are theoretically distinct. Similarly, looking at that separation from a different angle, no one argues against the cognitive and the emotional dimension being theoretically separate, although the individual very well can think about and evaluate his or her emotional bond towards a brand.

Insights into the *impact* of the calculative dimension in forming a path remain a research avenue for future studies. However, likely it will heavily depend on the financial situation of the consumer.

2.2.3 Lock-In on the Consumption Path

After presenting the theoretical background of path dependent consumption so far, the final stage of becoming path dependent is the lock-in on a repeated consumption pattern. As shown already by the elaboration on the individual path dimensions above, the notion of a consumer as being stuck on a specific consumption route has long been applied to marketing research, leading to concepts such as cognitive,

behavioral, and habitual lock-in. Lock-in has been linked to the phenomenon of confirmatory bias, the latter describing the tendency of individuals to recognize and process new information in a way that is cohesive with their previously formed attitudes and beliefs (Rabin and Schrag 1999; Hopkins 2007). So not only is it difficult for individuals to *leave* the incumbent supplier once a path has developed, but furthermore, they are less inclined to *identify new offers* in the market, as they are conditioned otherwise.

Zauberman (2003, p. 405) defines consumer lock-in as the

> "[…] consumers' decreased propensity to search and switch after an initial investment, which is determined both by a preference to minimize immediate costs and by an inability to anticipate the impact of future switching costs."

This definition weighs heavily on the switching costs associated with changing from the incumbent to a new market offer. Still, switching costs and lock-in should not be confused with one another. Whereas the costs connected to a switch might be high or low in general, in the case of a *lock-in*, the costs must be *high enough for the respective individual not to switch*.

Nevertheless, the phenomenon of consumer lock-in has been widely studied under the umbrella of switching costs, which – just like lock-in on the four different path dimensions – entails various kinds of costs that have the effect of binding the individual to the incumbent consumption choice (Patterson and Smith 2003). Amongst the most prominent switching costs are search and learning costs (cognitive lock-in), relationship loss costs (emotional lock-in) and sunk and setup costs (calculative lock-in) (see Jones 1998; Burnham et al. 2003; Patterson and Smith 2003). The habitual element of switching costs, while not amongst the most studied concepts, has been related to the costs of acquiring new routines (Heskett 1990). However, there are many studies that approach this dimension of lock-in using the above mentioned terms as habitual or behavioral lock-in. For instance, Murray and Häubl (2007, p. 77) define skill-based habits of use as "[…] goal-activated

automated behaviors that develop through the repeated consumption or use of a particular product", explaining that the ease of use of the incumbent product affects the preference for the latter resulting in consumer lock-in. Furthermore, Barnes et al. (2004, p. 372) describe behavioral lock-in as "[…] becoming comfortable with a traditional practice" with consumers "[…] less likely to try a rival process, even if over time it proves superior". This somewhat unclear notion of 'becoming comfortable' relates to the development of consumption routines and the loss of the ability to switch between offers.

As individuals try to minimize cognitive effort and costs, they can become locked on a market choice (Johnson et al. 2003). An example for a study on the cognitive dimension is given by Hopkins (2007), who studied the lock-in of consumers due to reinforcement learning, which can create the repeated decision to buy inferior goods and thus a history-dependent steady state. That directly relates to path dependence terms, although Hopkins himself does not refer to this concept. He describes learning rules which are a mixture of a first mover advantage[11] on the side of the firm and confirmatory bias on the consumer side. Unfortunately, he does not test his hypotheses empirically, but further suggests *research on reinforcement learning* (and thereby on cognitive path dependence), and particularly the effects on *advertising* on those. This is exactly what this research does with the development of a measurement tool and the path break experiment in study 1 and 2 respectively.

So far, there is no exhaustive research on consumer lock-in in the sense that different dimensions of loyalty or path manifestation *foster* a situation in which the consumer finds it *almost impossible* to leave the incumbent market offer chosen. Many researchers use the concept of consumer lock-in not in the sense of a *process of reinforcing* an individual's consumption choice but as a *one-time choice* of a certain brand that prevents future switching and might further lock the consumer into (re-) purchasing matching side products or replacement parts of the same brand (e.g. Gilbert and Jonnalagedda 2011). An example for such a lock-in would be the case of buying a printer and consequently staying with the brand for repurchasing ink

[11] The first mover advantage describes the benefits (for example a higher market share) a firm has being the first supplier of a new good or service in a market compared to competing firms that enter the same market at a later point in time (Kerin et al. 1992).

through time. This relates to studies on for example technological incompatibilities, which refer to some form of lock-in for the customers, who keep buying complements of durable products (e.g. computer-software) in order to avoid switching costs (Mariñoso 2001).

Table 4 lists previous studies on lock-in and their corresponding levels of lock-in. In fact, none of them combines individual lock-in with the concept of path dependence. However, their insights concerning the definition of lock-in and their elaboration on the phenomenon proved useful to inform this research.

Table 4: Previous studies on individual and organizational lock-in

Author, Year	Concept	Level of lock-in
Murray and Häubl, 2007	Cognitive Lock-in	Micro (individual)
Hopkins, 2007	Reinforcement learning (cognitive lock-in)	Macro (consumers)
Pierson, 2000b	Organizational lock-in	Macro (organizational)
Maréchal, 2009	Behavioral lock-in	Micro (individual)
Barnes et al., 2004	Behavioral lock-in	Micro (individual)

To complete the elaboration on consumer lock-in, it must be noted that the literature also provides a critical perspective on whether a lock-in should be seen in a dogmatic way (de facto inability to switch with no freedom of choice) or in a more adapted way that allows change to happen even to path dependent patterns.

Beyer (2005) for instance claims that in every case of path dependence, there is an underlying element of change that will not allow the locked entity to switch to a new path but at the same time slightly alters the path dependent routine. This is due to the practice of reproduction that reinforces previous events but can never be exactly the same action as the previous one. Although set in the context of organizational path dependence research, this management study declares change in path induced lock-ins or, put differently, *change within the boundaries* of a wider perception of a path.

Further, in the context of consumer behavior, it is implausible to speak of individual lock-in on products or services in the sense of being deprived of other consumption opportunities. In reality, one almost always *has* a choice – be it the choice to switch or to stop consumption altogether. Whether or not the consumer stays with the path will depend rather on the level of awareness of being stuck, the evaluation of arguments for and against switching, and on contextual influences (e.g. socialization of the consumer). Therefore, being locked-in on a consumption path is not seen as a truly irrevocable state, but should rather be regarded as a most severe barrier to switching.

After the elaboration on path dependent consumption, its self-reinforcing mechanisms, dimensions, and lock-in and before presenting hypotheses surrounding a path break in the consumer context, the following chapter will place path dependent consumption amongst related marketing concepts.

2.3 Conceptual Distinction of Path Dependent Consumption from Related Concepts

By trying to distinguish path dependent consumption from other marketing concepts, one could get lost in the vast variety of terms that address repurchasing or switching between products. However, to achieve clarity and orderliness, only those concepts that are closely related to path dependence or loyalty, and that have not been covered in the concept development above, will be taken into consideration here. The degree of overlap between those related concepts certainly varies. Nevertheless, by combining two fields of research (management and marketing) and further by developing a new understanding of path dependent consumption, it is well advised to clearly state the nature and position of the latter in the network of related concepts. Thereby, it shall be made clear what *can* and what *cannot* be explained by path dependence in a consumer context and where that concept proves valuable in contributing to existing literature.

In a different theoretical context, namely organizational research, Dobusch and Schüßler (2012) stretched the importance of precisely placing path dependence amongst related phenomena – in the case of their field of study concepts such as coevolution and institutional persistence. The following distinction concerns the

concepts of satisficing, inertia, involvement, and further remarks on personality traits and on the already much discussed switching costs. Those concepts were chosen during an extensive review of the literature on repeated consumption and due to their closeness to path dependence in terms of related antecedents and/or consequences.

Other concepts will not be illustrated again, as their relation to path dependent consumption was already discussed in detail above. Table 5 gives an overview over the concepts used in the deduction of the path dependent consumption concept under 2.2.

Table 5: Concepts employed in the deduction of path dependent consumption

Concept	Element of path dependent consumption
Cognitive switching costs	Cognitive dimension
Emotional attachment, commitment	Emotional dimension
Habit, habitual buying	Habitual dimension
Sunk and switching costs	Calculative dimension
Cognitive and habitual lock-in	Lock-in

2.3.1 Satisficing and Path Dependent Consumption

As has been referred to in the introduction, modern behavioral economics has abandoned the assumption of rational choice theory that actors have complete information available to them, and further, the cognitive ability to take all of it into account when making economical decisions (Schwartz et al. 2002). In order to find a more realistic and therefore more applicable approach in illuminating decision behavior, Simon (1955) developed the concept today known as satisficing, considering the limitations of human cognitive abilities and the complexity of the decision context. Satisficing describes the sequential process of consumer decision making, where the consumer identifies alternatives one by one until he or she finds a product or service that meets a certain aspiration level (Simon 1955). In other words, the consumer chooses the first ‘acceptable’ offer she finds (Baker and Lutz 2000).

The consumer is then satisfied with the consumption choice and stops looking for better alternatives, not striving for optimality. She thereby omits engaging in more behavioral and cognitive efforts (Fletcher 1987). As Schwartz et al. (2002, p. 1178) describe the matter: “To satisfice is to pursue not the best option, but a good enough option”. This notion stands in direct contrast to the so called ‘maximizers’, who will at all times pursue an optimal solution to their consumption problem.

Comparing satisficing with path dependence, there seems to be an obvious similarity – both concepts deal with consumption decisions that do not necessarily lead to optimal solutions. A satisficer will only by chance settle for the optimal consumption alternative while he or she looks for a solution that will satisfy the consumption need, so to speak by ‘stumbling upon’ the optimum. All the while, a path dependent consumer has a range of contingent opportunities in the beginning and through deciding on one particular alternative, sets self-reinforcing mechanisms in motion that lock him or her on the consumption path. That might or might not turn out to be the superior path to all other available opportunities. Crucial to the concept is foremost the self-reinforcement leading to lock-in.

The difference in the seemingly similar patterns of action lies in the theoretical explanation for the latter. Satisficing explains the *early stop* in finding a consumption solution. Path dependence makes no such claims. Satisficers are also not locked on a path per se. They might stick with a certain market offer, but the concept allows for consumers to switch, if they encounter a better solution. The reason they stuck with the merely satisfying offer in the first place after all, was not due to dependence on the incumbent choice, but to their wish to minimize effort as much as possible and the factual inability to take every offer available into account.

The similarities and disparities in short are presented below:

- Both concepts take the question of optimal consumption solutions into account (although not strictly claiming that the optimal solution might not ever be chosen).
- A satisficer does not strive for optimum but for satisfaction. No declaration on that regard by path dependence.

- A highly path dependent consumer is locked on the path, while the satisficer may change to the better solution if he or she gets knowledge of it (the satisficer just stopped looking; not hard to switch per se due to no bond as in the case of path dependence).
- Path dependence uses self-reinforcement processes *after* the decision on an offer is made. The concept of satisficing refers to *finding* the satisfying offer (sequential process of deciding on alternatives one by one).

Satisficing and path dependence might look similar from the outside, but they describe different consumption phenomena. However, while not being isomorphic, both concepts can be combined easily: A consumer might decide for a certain product after finding the satisfying solution and does not bother to look for a superior offer. Then, self-reinforcing mechanisms set in, leading to a stable repurchasing pattern that eventually leads to lock-in.

2.3.2 Inertia and Path Dependent Consumption

Inertia is a concept widely used in management as well as marketing research. Stemming from the field of psychology, the concept is not a character trait, in that it does not describe the proneness of a consumer to be 'inert' in general. It refers to the specific inaction or reluctance to change previous patterns an individual displays in a given context and specific situation. Hence, it is presented separately from the personality traits discussed below (under 2.3.4).

Jeuland (1979) explains inertia as one aspect of brand loyalty that forms due to a simplification strategy (e.g. less cognitive effort) or risk aversion of customers. In the same vein, Bawa (1990) refers to inertia as the opposite behavior to variety seeking[12], as the consumer aims at developing routines in order to avoid effort and risk. There lies an internal trade-off in every individual when it comes to the level of stimulation by outside attractions. Consumers usually want to minimize cognitive efforts (Shugan 1980). On the other hand, persistence on only known products and

[12] Variety seeking is described as the tendency to seek out unknown consumption situations due to the individual's need for novelty, change, and complexity (Simonson 1990).

services or brands can quickly become quite boring. This means, that the consumer, while seeking novelty to reach the optimal stimulation level (OSL), at the same time does not wish to be stimulated too much in order to avoid for example cognitive costs or the risks involved in switching to another, unknown market offer (Bawa 1990). So, inertia is the insistence on known consumption situations that serves the need of the consumer to lower the perceived stimulation level.

The reason for inertia to be confused with path dependence is hence apparent: Both concepts illustrate rigidity of consumption or, more general, a repeated pattern of consumption of some form. At first, they might seem to represent one single phenomenon. However, inertia and path dependence have a very different basis. The wish to avoid the effort of switching in inertia is stable over time and not connected to self-reinforcement. Otherwise, the individual would seek lower and lower levels of stimulation every time the consumption situation was presented. Inertia sets in from the very first moment of stimulation and remains unchanged thereafter. The same reasoning holds for the aversion of switching risk which also remains stable. Of course one might imagine situations, in which the *effort* of switching increases over time, which would lead to path dependence. But this is not described by inertia. The latter simply refers to quite literal inaction concerning a possible switch, without any claim to a precarious constriction of consumption choices, let alone lock-in, as is the case with path dependence. Therefore, while path dependence refers to a process, inertia rather represents a static phenomenon.

The similarities and disparities in short are presented below:

- Both concepts concern the rigidity of consumption decisions.
- Inertia is not driven by self-reinforcement but by stable risk aversion and effort reduction.
- Inertia does not refer to a lock-in. The state, the individual is in, stays the same over the consumption course, no matter how many times the consumption is repeated and switching does not necessarily become harder trough time.

2.3.3 Involvement and Path Dependent Consumption

A highly popular concept in both psychology and marketing research since the 1940's and 1960's respectively is the individual's involvement with a product, brand or service. Wondering about how and why consumers differ in their efforts to make consumption decisions, the level of involvement was found to be an influential variable (Laurent and Kapferer 1985).

Involvement is defined as "a person's perceived relevance of the object based on inherent need, values, and interests" (Zaichkowsky 1985, p. 342), the object being a certain product, service, or brand. This concept can be thus applied to any number of research concerning advertisement and consumption choices.

Zaichkowsky (1985) states that a great many consumer choices do not include extensive decision making or a thorough evaluation of consumption alternatives, which is connected to a rather low involvement state of the individual. This could lead to the assumption that *low involvement* and *habitual path dependence* are alike as habituation shows a great deal of automation and thus little cognitive effort. Furthermore, consumers in a low involvement state likely react passively on marketing efforts like advertisement, and not process the information they are confronted with excessively (Laurent and Kapferer 1985). This could likely lead to repetitive behavior, as new alternative offers would be overlooked. An example of a low involvement situation, which at the same time shows path dependence, is the choice of power suppliers (see Gärling et al. 2008), where the consumers get locked on a path (staying with a supplier) without being highly involved with the product.

In the same vein, an individual with *high involvement* towards a product weighs the information available more carefully and thus makes more informed consumption choices – a situation more likely leading to rational choices. The consumer might thereby *prevent* lock-in by constantly staying informed about the latest news connected to the products or services they are involved with, and switch when a better consumption alternative is available. Consequently, might the concepts of involvement and path dependence be antagonistic in nature?

This would imply that high involvement with a product prevents lock-in. However, this argument cannot be sustained when illustrating the matter with a simple example: A consumer highly involved with cameras, who is accustomed to a certain

camera brand, might find it impossible to switch due to a lock-in on the emotional level, through a growing bond towards the product's brand or product itself, and on a calculative level through investments (purchases of supplementary products of the same brand). The consumer might not make automated decisions as well as engage in information gathering efforts and high involvement activities, but still cannot deviate from his historically grounded decisions that prevent switching. In such a case, high involvement and path dependence might go hand in hand and not exclude each other. This also brings the necessity of a multi-dimensional look on path dependence to mind. In this example, the *emotional* bond to the brand as well as the *cognitive* path due to learning effects keep the consumer from switching to another product, meanwhile the consumption decision is not automated as in the case of the habitual path. After all, a consumer might be highly involved with a particular product and might have gathered an expert level of information on the latter. Thereby, certain investments of money and (learning) effort might have been made that cannot be transferred to another product of the same product class. Furthermore, the importance of considering the dimensionality of path dependence is supported by an empirical study. The investigation by Thomson et al. (2005) of emotional brand attachment (which they assigned to be an antecedent of loyal consumer behavior) showed discriminant validity of the former with the concept of involvement. This leads to the assumption that involvement and path dependence are clearly distinct concepts at least where the emotional dimension of path dependent consumption is concerned.

Lastly, involvement and path dependence might set in at different points in time. An involved consumer might encounter self-reinforcing effects with a product or brand that later lead to lock-in.

The similarities and disparities in short are presented below:

- Both concepts take the evaluation of consumption alternatives into account, specifically the cognitive efforts involved in making consumption choices.
- Involvement usually refers to a whole product class, whereas path dependence refers to the repetition of a kind of product choice.

- A highly involved consumer engages in information gathering and is consciously connecting to the product (class) in question. No declaration on that regard by path dependence.
- A highly path dependent consumer is locked on the path, while the highly involved consumer may switch. Involvement makes no claims to lock-in.

2.3.4 Personality Traits and Path Dependent Consumption

A further remark shall be made on the distinction of personality traits and path dependence. Personality traits are important concepts in the marketing arena. They depict the specific tendencies of individuals, for example to engage in various behaviors connected to either seeking novelty in a consumption experience, to reduce uncertainty by remaining with known offers, or to stay informed about developments in the market. Thereby, they reflect an individual's proneness to become loyal and arguably path dependent. A number of those traits have therefore been chosen to serve as control variables in the path break experiment (see study 2).

This concerns *exploratory buying behavior*, referring to an individual's need for stimulation by repeatedly purchasing unknown products and services (Raju 1980), *risk aversion*, which increases the likelihood of a consumer to stick to incumbent offers (Mandrik and Bao 2005), the *preference for status quo*, which stimulates the individual not to change current consumption patterns (Yen and Chuang 2008), and *need for cognition*, referring to the motivation of an individual to engage in cognitive tasks as for example information seeking and evaluating different market options (Haugtvedt et al. 1992). These specific character traits have been picked for this research, as they represent those personality traits that influence the individual's tendency to either stay with a chosen brand or switch. As this states, those traits merely *influence*, not determine, the consumer's bond with a product or service. So while exploratory buying behavior and the need for cognition might impede a stable path from developing, risk aversion as well as the preference for status quo will likely foster path dependent consumption.

On a further note, there are more very similar character traits to the above ones, as for example the need for diversification in consumption (Van Trijp et al. 1996), which is close to exploratory buying behavior. Naturally, not all personality trait

concepts could be included in this dissertation due to reasons of practicability. The selection of traits was conducted under thorough review of the loyalty and path dependence literature and through discussions with marketing experts of the Freie Universität Berlin.

Concerning the distinction of character traits and path dependent consumption, the former surely have an influence on the development of the latter while not representing conceptual equipollency. Path dependence would otherwise be nothing more than a character trait, and that notion is simply inaccurate – it is a state and not a trait concept. Just as it is the case with product switching (in absence of path dependence), individual dispositions *and* contextual factors will determine, whether the consumer becomes a 'switcher' or a 'continuer' (Keaveney and Parthasarathy 2001).

2.3.5 Switching Costs and Path Dependent Consumption

The last remark on the distinctions drawn here concerns a closer look on the concept of switching costs. Owing to their wide application and their apparent link to path dependence (as it is barriers to switching which keep the individual on the consumption path), there should be some further comments on the interrelation of the concepts.

Consumer switching, meaning the switch a consumer makes between two market offers, which essentially serve the same consumption need, is a popular phenomenon studied since the 1950's (e.g. Pessemier 1959; Ehrenberg 1965; Chance and French 1972; Mazursky et al. 1987; Keaveney 1995; Choi and Stack 2005). Switching causes damages in market share and profitability and hence, previous studies on switching behavior have mostly looked at the reasons, why customers switch away from an incumbent offer (Keaveney 1995). The concepts known to stand in close relation to switching behavior are for example quality, satisfaction, value, alternative attractiveness, trust, commitment, social influences, variety seeking, attitude toward switching, and of course the prominent switching costs (Bansal et al. 2005).

Stemming from migration research, the essential idea behind switching behavior is that a consumer switches due to push-factors (e.g. unhappiness with product features) of the previous offer and pull-factors (e.g. better product quality) of the alternative

offer (Moon 1995). Personal and social factors can intervene and either hinder the switching or facilitate it (Moon 1995). This relates to the concept of switching costs, defined as "the onetime costs that customers associate with the process of switching from one provider to another" (Burnham et al. 2003, p. 110).

Burnham et al. (2003) explicate the matter further by citing Fornell (1992), that not only economic costs are connected to the switching process, but that all sorts of barriers associated with search costs, transaction costs, learning costs, loyal customer discounts, customer habit, emotional costs, cognitive effort, as well as financial, social, and psychological costs have an impact. By that, they point out that previous research shows a lack of appreciation of the *multi-dimensional nature* of switching costs. To simplify the typology, they identify three overarching types of switching costs: procedural (loss of time and effort), financial (financially quantifiable resources), and relational (psychological or emotional discomfort due to breaking bonds). Also of course, contractual costs play a role in preventing customers from switching to another offer (Jones 1998).

When switching costs on different dimensions prevent consumers from breaking free from initial market choices, and further, if these barriers to switching can lock consumers in (Patterson and Smith 2003), are they synonymous to path dependence?

Clearly, switching costs can be seen as a *driver* of path dependence as they oftentimes prevent consumers from switching to better market offers (Choi and Stack 2005). Furthermore, path dependent processes increase switching costs, as the positive feedback mechanisms increase the barriers that keep the consumer on the consumption path. However, unlike path dependence, switching costs do not necessarily involve reinforcing mechanisms – they occur in the context of a *onetime* investment or purchase, too. In that case, switching costs would be closer to the before mentioned phenomenon of inertia. Switching costs do not claim repetition or reinforcement per se. In the same vein, not every switching barrier results in path dependence. Otherwise, every purchase would be followed by reinforcing choices and phenomena like variety seeking would not exist. This would only be the case when high switching costs are established at once, for example in the case of a contractual agreement that punishes switching financially. The same arguments hold

for loyalty and switching costs: There certainly is no loyalty without inherent switching barriers, but the concepts are not isomorphic.

So eventually, one can state that there is no path dependence without the accumulation of switching costs, which is the reason they are incorporated explicitly in the path dependent consumption dimensions. But not every barrier to switching leads to path dependence.

Concluding the conceptual distinction of path dependent consumption from related marketing concepts, it is worthwhile to emphasize the importance of clear definitions and conceptualizations particularly when working with new concepts and combining different research areas. The many similarities of the above mentioned concepts too often lead to an inappropriate swapping of terms – rendering them a mere linguistic repertory. Science however should take the effort to accurately illustrate the real life phenomena investigated. A variety of concepts therefore is not unnecessary but, if used purposefully, valuable. Hence, the above presented conceptual positioning of path dependent consumption is an important theoretical contribution of this dissertation. Furthermore, it should show critics that path dependence is not simply another term for already existing marketing concepts.

Table 6 gives an overview on the similarities and disparities of the concepts related to path dependent consumption, briefly summing up the arguments above.

Table 6: Similarities and disparities of path dependent consumption and related concepts

Path dependence versus	Similarity to path dependence	Disparities to path dependence
Satisficing	Concern for optimality	Absence of self-reinforcement and lock-in Focus on first versus repeated consumption decisions
Inertia	Rigidity, repurchase of products	No increase of rigidity over time
Involvement	(Possible) learning effects	Absence of self-reinforcement and lock-in
Personality traits	(Possible) influence on rigidity	Proneness to staying versus switching, not deterministic for path formation
Switching costs	Barriers might prevent consumer defection	No claim of self-reinforcement or of lock-in

2.4 Hypothesizing Path Break

With the conceptualization of the *formation* of path dependent consumption above and the placement of the latter in marketing research, the next interesting question is how these consumption patterns can be overcome. After all, must a consumer, once being locked, give up on ever leaving the incumbent path?

Just as with the case of path formation, the literature on that phenomenon is still emerging and especially studies on breaks in path dependent consumption are yet called for. Consequently, it is advisable to firstly turn towards existing research on path breaks in the organizational context.

Sydow et al. (2009, p. 702) while not defining path breaks themselves, argue the minimum condition necessary to speak of the latter to be "[…] the effective restoration of a choice situation". The lock-in illustrated under 2.2.3 represents the switching barriers that keep the consumer on the path. Hence, the definition of a path break in the individual consumption context results as follows:

A break in path dependent consumption is the consumer's overcoming of switching barriers resulting in the restoration of the pre-path consumption freedom of choice between market offers.

Whether the consumer *actually makes* the switch is theoretically not relevant for the path break to occur. Otherwise, every repeated purchase in the *absence* of switching would have to be considered path dependence. After all, the *dependence on the path* must be diminished – comparable to a state of consumer loyalty that has not yet reached the level of lock-in. Clearly however, if the consumer decides for the actual switch to an alternative market offer, a path break can be declared unambiguously.[13] But how can such a break be provoked if the path itself is stabilized through continued reproduction and reinforcement?

According to North (1993), actors are bound by their past and their resulting mental models – created by what they have learned thus far – inhibiting them from radically changing their routines. Hence, the only alteration possible is *incremental* (institutional) change, which is fueled permanently by actions of organizations and individual actors (North 1993).

Karim and Mitchell (2000) give an example of such incremental change by investigating acquisitions of firms: The *closer* the newly acquired resources of the firm are to the previously existing resources, the *smaller* the induced change of the firm's *abilities* to innovate. The more different said resources, the more likely will the opportunity for a (technological) path break be. Of course, this organizational path break is on a different level than individual path break. Transferring that notion to consumer behavior, a constant change in consumption patterns with slightly differing market choices could surely at some point overcome the lock-in on the path. An example for that development would be an individual, who starts to exchange some processed foods with home cooked meals or fresh produce and

[13] This is precisely why the path break in the empirical investigation will be conceptualized as an actual switch to another market offer. Due to limited abilities to measure the consumers' exact psychological states during the experiment, the obvious path break in form of a switch will serve as the distinct argument for the swicthing barriers to be overcome.

eventually avoids the former completely. But if the individual was in fact able to deviate from the path, there might not have been a case of path dependence in the first place.

Furthermore, there is the idea that small change (in the sense of an incremental change) can lead to and 'accidental *radical* change', when small actions randomly trigger consequences that lead to a fundamental alteration of the former path (Plowman et al. 2007). An example for such an effect in the consumer context would be the case of an individual who accompanies a friend to a sporting event, say a weekend hike, and after feeling a lot better about himself, ends up changing not only his eating habits altogether, but further engages in sportive activities and gets involved in other health related events. Although it was never meant to change the consumer's life that radically, the hike led to a drastic change in his consumption patterns and hence to a break in previously stable paths.

Contrasting the above described ways of breaking a path, Pierson (2000b, p. 76) states: „Change continues, but its bounded change" – within an institutional framework – "until something happens, that erodes or swamps the mechanisms of reproduction that generate the institutional continuity". Further he argues, that a lock-in can be ended, when the reinforcing mechanisms *diminish* altogether which implies not a small change to begin with, but a rather *radical* event leading to a big shift in the stable routine in order to stop the reinforcement cycle. In the same vein, Arthur (1994) supposes a path break scenario, in which an external shock, meaning a radical change in the environment for example, will trigger a sudden change of the formerly rigid routine. In the consumer context, this could be the move to a foreign country where the previous consumption paths cannot be reproduced due to a lack of supply or the case of two individuals joining households which leads to an alteration of the individual purchase patterns concerning for example groceries or cleaning supplies.

Ultimately, it seems that there are various theories on how exactly path breaks occur: *Incremental* change leading to *incremental* alteration, *incremental* change leading to *radical* alteration, and *radical* change leading to *radical* alteration. Possibly, there are incidences where each of those phenomena exists in real life. But as these theories were developed in the context of institutional and organizational change,

marketing studies investigating individual switching must be taken into account as well when conceptualizing the break of consumption paths.

The switching of consumers from their incumbent to alternative market offers has long been studied under the term 'consumer defection' (Capraro et al. 2003). Most researchers however, have investigated reasons for consumers to part freely, meaning without paying attention to severe switching barriers. The focus of said studies lies for example on the consequences of the consumer's switching for firms, like the impact on profitability (Reichheld and Sasser 1990; Colgate et al. 1996), the influence of demographic variables and intent to switch (East et al. 1998; Garland 2002; Buckinx and Van den Poel 2004; Bogomolova and Grudinia 2011), knowledge about better alternative offers (Capraro et al. 2003; Romaniuk and Sharp 2003), impact of product quality and satisfaction (Capraro et al. 2003; Chandrashekaran et al. 2007; McDonald and Stavros 2007), service failure and complaints (Rotte et al. 2006), the impact of variables like purchase recency and frequency (Buckinx and Van den Poel 2004) and attitudes (Williams et al. 2010). Situations, in which the consumer finds herself locked into a certain consumption routine, are generally omitted in these studies. It is mostly assumed, that the consumer is at all times rational enough to consider the market offers available, asses the best option to switch to, and freely chooses to leave the incumbent market offer. Therefore, while previous studies give valid insights into switching phenomena per se, they do not offer explanations for consumer rigidity on the one hand and path breaking mechanisms needed to resolve the latter on the other.[14] As a matter of fact though, a locked consumer might be *persuaded* to leave a certain path if there was an *effective path break approach* for firms to reach path dependent individuals. Research on such ways of persuasion would not only be valuable from a theoretical point of view (by closing that research gap) but further for marketing managers trying to reach locked consumers.

[14] There are studies though, that refer to habituation and the difficulties to "break" inveterate habits (e.g. Martin 2008). However, they do not investigate this notion sufficiently to offer insights for breaks in individual path dependent consumption. The findings on habituation that inform this research can be found under 2.2.2.

Given this shortage of insightful research, the approach employed in the following, is to turn to work on techniques of *persuasion* – meaning the marketing approaches looking at *pulling* the consumer *towards* an alternative market offer (instead of pushing it from the existing one). The field of study that is best matched to triggering a switch of the consumer from one consumption path to another is *advertising*. From as far back as the early 20th century, advertising was about a clear and persuasive message to the consumer (Heath and Stipp 2011). That message is meant to both, retain old customers that otherwise might switch and to attract new ones (Deighton et al. 1994). Hopkins (2007) even calls for future research to investigate advertising effectiveness in the presence of individual reinforcing mechanisms. Now, the question arising in the case of *path dependent* consumers is how to effectively reach out to them and what measure(s) to take in order to make an advertising message truly persuasive.

Generally, the effectiveness of an advertisement heavily depends on the nature of the target audience and the advertising situation (Rossiter et al. 1991). In finding out how to apply the most effective advertisement strategy in specific consumption situations, researchers have studied a vast variety of these 'natures'. Up until three decades ago, the focus of research was widely on cognitive information processing of customers, which was considered as the crucial determinant of message effectiveness (see Holbrook 1978; Edell and Burke 1987), but recently, the use of *informative* versus *affective* advertising has gained vast attention (see Janssens and De Pelsmacker 2005; Royo-Vela 2005; Bülbül and Menon; Cornelis et al. 2012).

The informative advertising approach is based on the notion, that individuals use information about offers in the marketplace to rationally weigh their options in order to make a consumption decision (Panda et al. 2013). Informative advertising is hence defined as supplying consumers with "[…] factual (i.e., presumably verifiable), relevant brand data in a clear and logical manner such that they have greater confidence in their ability to assess the merits of buying the brand after having seen the advertisement" (Puto and Wells 1984, p. 638).

Affective advertising on the other hand is defined as aiming "[…] to arouse a range of feelings in the audience. The aim of emotional or sentimental advertising is to trigger an emotional response in the receptor when exposed to the commercial."

(Royo-Vela 2005, p. 16). Those feelings of warmth, trust, excitement, etc. shall render the advertising and thus the offer advertised more relevant for the individual (Aaker and Stayman 1992). The stream of research on emotional or affective advertising stems from research on attitude towards ads (Brown 1998). Its reasoning states, that affective advertisement will produce positive feelings about the advertised product or service, resulting in favorable brand associations (Panda 2013).

There is a consent on the notion that the nature of persuasive appeals (informative versus affective) must match the processing type and motivation of the consumer in order to be effective (see Petty and Cacioppo 1984; Fabrigar and Petty 1999; Chandran and Menon 2004; Ruiz and Sicilia 2004; Roy and Phau 2014). The work of Petty and Cacioppo (1984) has shown that depending on the involvement a consumer has with a product category, a more or a less informative advertisement will be needed in order to increase message processing effectiveness. Furthermore, Rossiter et al. (1991) state that in order to reach out to the consumer, essentially all advertisements represent a balance between rational and emotional appeals.

Liebermann and Flint-Goor (1996) look at the differing effectiveness of informative versus affective approaches to advertising on different product-class *types*, as for example search versus experience goods. They then ask for more research on informative versus affective appeals based on a *segmentation of consumers* by certain characteristics as opposed to distinguishing only and very broadly goods from services (Liebermann and Flint-Goor 1996). This research addresses exactly that concern by providing a scale that measures separate dimensions of path dependent consumption (study 1) and further, by incorporating the respective scale items in the path break experiment (study 2).

Clearly, there are many studies on these two distinct advertising approaches, to inform research on path dependent consumption and path breaks. The following investigation on path breaks (study 2) will consider two dimensions of path dependent consumption, namely the *cognitive and the emotional dimension*. As they relate closest to previous literature on advertising appeals, they represent the natural choice to start investigating path breaks on individual path dimensions. Also, in the path dependence literature, the cognitive, as well as emotional dimension of lock-in as barriers to path breaks have explicitly been mentioned to be severe (Sydow et al.

2009). Likely, those dimensions play a dominant role in path dependence. Furthermore, the empirical focus on just two out of the four theoretically derived path dependent consumption dimensions is owed to reasons of applicability. An empirical investigation in the form of an experiment on all four dimensions lies beyond the scope of this research. Consequently, in the path break experiment the question to be answered is, whether it matters in terms of *advertising effectiveness* to choose an *informative* or *affective* advertising strategy when a consumer is *cognitively* or *emotionally locked* on a path.

Subsequently, what assumptions can be drawn from previous research concerning which appeal (informative versus affective) will be most effective at breaking which path manifestation (cognitive versus emotional)?

There seems to be a surprising neglect of previous research on advertising to consider the *type* of relationship (in terms of cognitive or emotional ties) the consumer has with a product, product category, or brand. There has been no research that investigates advertising effectiveness whilst discriminating between a cognitive and an emotional bond between individual and supplier. Early research, after the uprising of interest in affective advertising appeals, focused primarily on attitude formation and its influence on for example purchase intention (see Holbrook and O' Shaughnessy 1989). And recent studies had other study objectives as for instance the advertising effectiveness in dependence of an individual's self-construal (Agrawal and Maheswaran 2005), mixed emotions in advertising (Williams and Aaker 2002), the reactions such as guilt towards affective advertisement after recent unintended purchases (Mukhopadhyay and Johar 2007), or an advertising approach's fit with the consumer's regulatory focus (Roy and Phau 2014).[15] A noteworthy study, that did indeed focus on loyal versus non-loyal consumers and advertising effectiveness is that of Raj (1982). However, it investigates the different effects advertising for the incumbent product has on loyal versus non-loyal consumers[16] (e.g. increased sales) and *not* on the specific loyalty dimensions or the kind of advertising involved. The only kind of advertising used in the study was affective advertising and the results

[15] The regulatory focus describes an individual's motivation to either promote a positive or prevent a negative end state, as for example a positive or negative consumption experience (Roy and Phau 2014).

[16] High- versus low-loyalty consumers were separated by purchase frequency.

indicated that affective advertising led to an increase in sales by loyal consumers, but to no brand switches.

Nevertheless, some previous studies shed a little light on the *likely* dynamics of advertising approaches and consumer-supplier bonds. Going back to the study on effective processing of Petty and Cacioppo (1984), the effectiveness of the advertisement appeal relies on high (or low) involvement and hence on the need of the consumer to be supplied with more (or less) informative content. A high involvement with a product category results for example in a greater knowledge of the product's features as the consumer deliberately gathers respective information (Laurent and Kapferer 1985). Higher knowledge would therefore likely relate to a *stronger cognitive bond*, such as the bond developing in the case of path formation. The possible resulting necessity of the consumer to be supplied informative instead of affective advertisement (to further satisfy the need for information) speaks for a *matching of informative advertisement with cognitive path dependence* – in order to effectively reach out to the consumer and eventually break the consumption path.

Furthermore, in order for an advertisement to be effective, the consumer must have the ability to understand its content properly. Ability in that context refers to the skills needed to decode the advertising message (MacInnis and Jaworski 1989). With the increase of knowledge about a product and hence an expansion of said skills, the ability to decode related advertising messages will increase as well (Liebermann and Flint-Goor 1996). Therefore, consumers with a higher knowledge base concerning a certain market offer – as in the case of cognitively path dependent consumers – will decode informative messages with more ease than individuals with merely an emotionally bond. This does not result in the *need* for cognitively locked consumers to see informative advertisement in order to break their path. But looking at emotionally locked consumers, the opposite might hold true. As their information processing ability is not as high as that of the cognitively locked consumers, they will have a lower ability to process informative advertisement and therefore will more likely respond to an affective rather than an informative appeal.

Furthermore, Ruiz and Sicilia (2004) find that different personality types of consumers (specifically the individual preferences concerning information processing) yield different effectiveness levels of emotional versus cognitive

marketing appeals. The type of consumer must match the nature of the appeal in order to be most effective. It might be the case that individuals with a natural preference for learning will not only form a cognitive bond more easily (and hence show predominantly cognitive path dependence), but that they are further more likely to need an informative approach to be interested in an alternative offer. The same reasoning holds for individuals more prone to emotional bonds probably leaning towards affective appeals.

Additionally, agents react to uncertainty by accessing their pre-existing knowledge (Dosi and Egidi 1991). So in order to induce a switch to another market offer, which is inherently a situation of (more or less) uncertainty, it seems feasible, that the alternative, unknown offer's approach should come in a familiar form. A consumer with an emotional bond with a product for instance might need an affective avenue to recognize and consider alternative offers. The same holds for an informative approach, when the consumer has a cognitive path to the incumbent choice.

Summing up, although the literature on possible path breaks presented above is very limited, it provides enough insights in order to assume a connection between path dependent consumption dimensions and advertising effectiveness. It is argued here, that the right matching of the dimension of path dependent consumption (cognitive/emotional) and the form of advertising (informative/affective) leads to a more *effective* path breaking attempt, as the consumer, who is locked-in on a specific dimension, needs to be de-locked on that exact dimension before being able to perceive alternative consumption choices. The wrong form of advertising (e.g. affective advertising to a consumer showing cognitive path dependence) would not address the dominant dimension of lock-in and thus would have either no effect on the latter or at least a less effective one.

Therefore, the assumptions drawn here concerning the break of path dependent consumption are as follows:

> H1: Informative advertising is more effective than affective advertising in breaking path dependent consumption on a cognitive level.
>
> H2: Affective advertising is more effective than informative advertising in breaking path dependent consumption on an emotional level.

In the case of this project, the informative appeal is more effective than the affective one, when significantly more consumers leave the incumbent market offer in favor of the advertised alternative due to informative than due to affective advertising and vice versa.

Before continuing with the empirical part of this dissertation, it should be noted, that as the case of central versus peripheral processing showed, not either one route is used exclusively by the consumer. Rather a mix of informative and affective processing takes place, as both dimensions are interrelated and complementary in nature (Vaughn 1986; Liebermann and Flint-Goor 1996). Depending on the dominance of each dimension, consumers, who are cognitively *as well as* emotionally locked on a path, might therefore need a *mixed* advertising appeal.

3 Study 1 – Scale Development

After theoretically explicating path dependent consumption, the first empirical study presented concerns its measurement. This refers to the *differentiating* of the four distinct dimensions (cognitive, emotional, habitual, and calculative), as well as to the *measure* of the latter. This is crucial for the further investigation of path breaks in this work. Without a measurement tool, the kind of path dependence could not be identified and no matching of advertising appeals initiated.

There are no similar previous attempts at identifying cases of path dependence, which poses the problem of how to address the issue, as well as leaves room for a new course of action, enriching this line of research. Consequently, with the scale development, this dissertation seeks a new approach in path dependence research apart from the often employed case study designs (see Choi and Stack 2005; Frank 2007). And as a matter of fact, researchers of both path dependence and consumer loyalty have suggested similar notions to advance methodology and knowledge in the respective fields.

Vergne (2013) for instance states that, as far as feedback-loops and multiple-level lock-in (e.g. on a cognitive and on a habitual level) are concerned, case study designs are not helpful in investigating path dependence phenomena. He argues that basically

any stable pattern can be explained by path dependence ex post and that small events are almost impossible to be identified with certainty. And if a path dissolves, which would speak against the notion of a stable path in the first place, one could still argue with exogenous shocks, also identified ex post. Rather, other means of research are needed to thoroughly explain path dependence. This study combines two approaches, the development of a path dependence consumption scale to measure the process of path formation and also a path breaking experiment, that will investigate *what effects* lead to a path break under *what circumstances*. Vergne (2013) goes on to argue that the *effects* self-reinforcing mechanisms should have must be measured to understand their role in the path dependence process. That again speaks for the development of a scale that enables the measurement of the degree and kind of path dependence on the one hand, and experiments on the other hand, that show the process of becoming locked-in and later de-locked on different dimensions of path dependent consumption.

In loyalty research, Thomson et al. (2005) and Pan et al. (2012) for example recommend employing multi-item measures for consumer loyalty in future research due to the concept's complexity and abstract nature. This is in line with Peter and Churchill (1986), who have found that with abstract concepts, multi-item scales are more effective in delivering reliable results than single item measures. With path dependent consumption as an extreme form of loyalty, the use of a multi-item scale here is the consistent and appropriate choice. Pan et al. (2012) also ask researchers to particularly look at the interplay of different dimensions of loyalty – a request met by this research project by the separation of the four path dependent consumption dimensions.

The aim of the scale development is to a) get a better notion for the phenomenon of *individual path dependent consumption*, to b) show, that the theoretical *distinction of the four path dimensions* is empirically sound, and to c) *provide the means to measure path dependent consumption* in the second study of this work, the path break experiment.

3.1 Methodology of Scale Development

To identify path dependent consumers and the specific path dimension(s) that shaped their lock-in, a multi-item Likert scale is developed. The Likert scale is seen as especially reliable even concerning small item numbers and practicable regarding its development (Pepels 2000). The scale is based on the approach by Churchill (1979), whose study was seen as a paradigm shift. To date it offers orientation in generating valid and reliable measures. On the scale, distinct sets of items mirror each dimension of path dependent consumption in a reflective way. As portrayed under 2.2.1 the four dimensions formatively build the concept of path dependent consumption.

Churchill (1979) demands a stepwise approach in developing a marketing scale. Firstly, the domain of the concept must be specified in order to capture its essence as well as all its facets. To do this, a thorough definition of the concept is needed. Secondly, the scale's items are generated and experts in the concept's field test the items for face validity and comprehensiveness, which is referred to as cognitive testing. Thirdly, the items are probed in a (or several) pretest(s) after which the scale can be refined, problematic items changed or eliminated and the scale's length reduced. The last steps concern the assessment of validity and reliability, as well as the development of norms for the concept measured. The scale is used in a main study featuring a representative sample of participants, their data is analyzed, and their scores set the norms. These norms can function as orientation in future research (e.g. for comparing results) or for practical applications (e.g. assess the degree of path dependence of a specific customer group). As it is not this study's goal to achieve generalizability of the results as mentioned above, there will be no norm development presented here. Also, the results will not be employed to create a form of single path dependent consumption score integrating all dimensions. There is simply not enough research to base such an effort on. To assess the weighting of each dimension on a single path dependence score, more data on path dependent consumption of different products and services, target groups, industries and the like would be needed. However, this study aims at assessing, whether the *theoretically deducted dimensions* of path dependent consumption are indeed *separate* and can be found empirically. Furthermore, it shall provide a means to measure *single*

dimensions (in this case the cognitive and emotional dimensions), as needed in the path break experiment, to test, whether different path dimensions call for different advertising approaches. This is in line with recommendations of researchers to separately measure the single dimensions of the loyalty concept (Watson et al. 2015).

Lastly, the *reliability* of a measure concerns the steadiness of results given its repeated usage and the absence of random errors during measurement (Balderjahn and Scholderer 2007). In the scale development presented below, the reliability of item sets will be assessed with the help of Cronbach's alpha, which illustrates the internal consistency of a given scale (Kuß 2007). Further, a scale shows *validity* if its items accurately capture a concept's true meaning or value (Peter 1979). According to Netemeyer et al. (2003), validity can be divided into content and trait validity. In order to evaluate content validity – a scale's ability to mirror the relevant concept measured – a group of marketing and path dependence experts judges every single item and subsequent item refinements. The trait validity of a scale is given when the latter shows both *convergent* and *discriminant* validity. Convergence validity is given, when the concept is correctly measured independently from the specific instrument with which it is investigated (Kuß 2007). The discriminant validity on the other hand, should prove that the concept is different from unrelated concepts measured by the same method of investigation by producing uncorrelated results (Kuß 2007). Both, convergent and discriminant validity will be accounted for by the criteria of Fornell and Larcker (1981).

Before presenting the item generation for the scale, a further remark on the proceedings of study 1 is needed. The first pretest assesses three dimensions (namely the cognitive, emotional, and habitual dimension). Then, in the course of further theoretical considerations, the fourth (calculative) dimension was added. Owing to the changes in dimensionality and the interruption of the first pretest, its sample size is rather small (27 respondents). Nevertheless, the data was used to refine the first three dimensions and the results shall be presented here. The second pretest then featured a bigger sample (140 respondents).

3.2 Item Generation

For generating scale-items that accurately mirror the concept of path dependent consumption, first, the domain of the latter must be thoroughly investigated. The domain sampling method indicates that in a hypothetical, exhaustive item population all items must reflect said concept in all its facets and possibly to equal extend (Netemeyer et al. 2003). Subsequently, a smaller set of items that best mirror the concept can be chosen from this pool. As explicated under 2.2.1, path dependent consumption is a multi-dimensional concept. Therefore, each dimension – the cognitive, emotional, habitual, and calculative dimension – must be represented by its distinct set of scale-items.

Looking at the existing literature on path dependence, especially in the consumer context, there is practically no research to draw from. No path dependence scale has ever been developed. Therefore, marketing concepts, which are closely related to the dimensions of path dependent consumption, will serve as orientation. The aim was to create items that represent different nuances of almost similar meaning to account for variance in respondents' perception of items, as recommended by previous researchers (see Churchill 1979; Netemeyer et al. 2003). As the literature on the four dimensions of path dependent consumption was thoroughly presented in the conceptualization above, the research reviewed to generate the scale items is not repeated here, but the main works listed in table 7 for the purpose of giving an overview. Further research employed for orientation includes Beatty's et al. (1988) commitment scale and Harris and Goode's (2004) action loyalty items for the habitual dimension.

Table 7: Marketing concepts reviewed in the item generation

Dimension	Marketing concepts
Cognitive	• Cognitive lock-in (Kaplan and Tripsas 2008) • Cognitive switching costs (Murray and Häubl 2007; Chebat et al. 2011)
Emotional	• Brand love (Batra et al. 2012) • Commitment (Beatty et al. 1988; Bloemer and Kasper 1995; Dholakia 1997; Knox and Walker 2001; Agrawal and Maheswaran 2005; Pan et al. 2012) • Emotional branding (Rossiter and Bellman 2012) • Emotional attachment (Thomson et al. 2005; Grisaffe and Nguyen 2011) • Trust (Grisaffe and Nguyen 2011; Batra et al. 2012; Pan et al. 2012)
Habitual	• Habit (Kotler et al. 1996; Verplanken and Aarts 1999; Wood et al. 2002; Harris and Goode 2004; Ji and Wood 2007; Murray and Häubl 2007; Tam and Liu-Thompkins 2011) • Habit and loyalty (Tam and Liu-Thompkins 2011)
Calculative	• Conative antecedents to loyalty (Dick and Basu 1994) • Switching costs (Burnham et al. 2003; Patterson and Smith 2003; Bansal et al. 2005; Bell et al. 2005; Choi and Stack 2005; Hopkins 2007)

A total of 46 items was generated for the first pretest. 15 items belonged to the cognitive dimension (e.g. 'I don't know much about products of this brand'), 16 to the emotional dimension (e.g. 'I trust the brand'), and 15 to the habitual dimension (e.g. 'Next time, I would automatically repurchase this brand'),[17] as well as 11 items referring to the consumer's loyalty (e.g. 'I consider myself a loyal customer of that brand.'), duration and intensity of product usage (measured in years of usage and statements like 'I use the brand every day'), and feeling of lock-in (e.g. 'I feel like I

[17] 14 additional items for the calculative dimension were generated for the second pretest (e.g. "I consider switching brands too costly."; tanslated from German). Four remained, after the other items were evaluated by marketing experts of the Freie Universität Berlin.

cannot switch to another brand.').[18] Those additional items were included for insights into the variables connected to path dependent consumption as implied by the theoretical conceptualization above and to test which variables might be crucial to a path dependent consumption process (e.g. duration and intensity).[19]

All items were presented to seven path dependence and marketing experts of the Freie Universität Berlin prior to the first pretest in order for them to check for face validity and comprehensiveness. This procedure is necessary to ensure appropriate use of the concept domain and wording. Eleven items were considered problematic by at least one expert, as their affiliation with more than one dimension would have been possible. Those items were excluded from the sample and did not enter the pretest (for the remaining items see appendix 1). Further, some minor changes of wording were made.

3.3 Pretest 1 and 2 of Scale Development

Subsequently, the two pretests of the scale development are presented. Pretests generally do not aim at producing generalizable results. Their main purpose is to test measures and manipulations regarding their reliability and validity, check for feasibility, improve the wording of items and texts, and assure the smooth execution of the empirical design before conducting a larger investigation. Here, the pretests shall test the theoretical conceptualization of path dependent consumption concerning its multi-dimensionality and further test viable scale items to be employed in the path break experiment.

3.3.1 Methodology of Scale Pretest 1 and 2

The consumption stimuli employed in the first, as well as in the second pretest, are mobile phone brands. The participants were asked to answer the questions thinking of the brand of their current mobile phone. They were further told to indicate problems of understanding or difficulties in filling out the survey. The collected data

[18] All the exemplary items in parentheses have been translated from German.
[19] The analyses concerning these additional variables will be conducted with the data of the second pretest, as the first pretest did not include the calculative dimension.

and comments were then employed to purify the data (excluding items that the respondents found to be difficult to answer and use of coefficient alpha to test the internal consistency). Aside from items representing the four path dependent consumption dimensions, demographic variables (age, gender), as well as questions concerning the duration of mobile phone usage and previous switches were included in both pretests.

To determine the factor structure, an exploratory factor analysis in form of a principal component analysis (PCA) was conducted with all 35 items on the firstly three proposed dimensions. Exploratory factor analyses are used to reveal underlying structures in sets of variables (highly correlating groups versus groups with low correlation) that can be merged into distinct factors or dimensions (Backhaus et al. 2008). The PCA uses iteration to come up with a factor solution that encompasses highly correlating variables to as few factors as (reasonably) possible (Backhaus et al. 2008). In this study, the sets of items should reflect the respective path dependent consumption dimensions. All statistical analyses were conducted with the IBM software Statistical Package for the Social Sciences (SPSS).

3.3.2 Scale Pretest 1

Despite the small number of participants, the data of the first pretest was analyzed and employed for an initial scale refinement. Altogether, 27 participants (14 female; average age 30) concluded the first, paper-based path dependent consumption scale survey (see appendix 2). They were gathered in a convenience sample, which was feasible, as the purpose of this test was to get a first insight into the expectable data. 35 items entered the first pretest – 11 items on the cognitive dimension, 13 items on the emotional dimension, and 11 items on the habitual dimension.

In order to arrive at the refined set of items for each dimension, the data was revised according to the following theoretical and statistical reasoning: low item-total correlations (below .5), low factor loadings on the respective dimension (below .5), and comments from the questioned experts on item validity. Some items were kept despite of the fact that they lowered the respective Cronbach's alpha score as they are considered important in adding to the theoretical base of the dimension. While factor analyses should guide the researcher, the ultimate decision on the set of scale

items must remain the researcher's theoretical evaluation (Field 2009). After thorough reflexion on all items, this procedure led to the shortening of the scale to four items per dimension (see appendix 3 for the main SPSS outputs of the analysis).

The PCA was executed with orthogonal rotation (varimax). With a Kaiser-Meyer-Olkin (KMO) value of .67, the analysis was feasible (see Field 2009), further able to extract the three supposed factors with eigenvalues greater than 1 (see table 8) and showed an explained variance of 79.84%. The Bartlett`s test of sphericity ($\chi^2(66) = 259.81$, $p = .000$) showed that inter item correlations were sufficiently large. Except for one item on the cognitive dimension (Co09, see appendix 3) all KMO values for individual items were above .5. The survey further produced reliable data for the former three dimensions of path dependent consumption, with a Cronbach's alpha for the cognitive dimension of .81, the emotional items of .92 and the habitual dimension's items of .88 (see table 8).

Of course the number of participants of the pretest is not large enough to produce truly reliable results. Hence, the results of the EFA must be treated with caution and the second pretest of the scale development needs to deliver further insights. Furthermore, as explicated above, the calculative element (switching and sunk costs) proposed in the framework of Dick and Basu (1994) was integrated in the theoretical framework of path dependent consumption just after the first pretest. Hence, the new items of the calculative dimension were deducted from theory and incorporated into the scale development. After being judged by marketing experts on their face validity and comprehensiveness, they were then added to the refined scale items before the conduction of the second pretest. This resulted in the list of items to be found in the appendix 4.

Table 8: Summary EFA for scale development pretest 1 (N = 27)

	Rotated Factor Loadings		
Item	**Emotional dimension**	**Cognitive dimension**	**Habitual dimension**
CD04: "I learned how to handle the products of the brand."	-.12	**.85**	.01
CD06: "I don't know much about the products of the brand."	.50	**.67**	.06
CD07: "I am unsure how to handle the products of the brand."	.05	**.88**	-.07
CD09: "I don't know how to use the products of the brand."	-.01	**.89**	.10
ED01: "I trust the brand."	**.92**	.04	.05
ED02: "I feel emotionally connected to the brand."	**.71**	.26	.49
ED07: "The brand gives me a sense of security."	**.87**	.04	.23
ED11: "I like the brand."	**.90**	-.15	.33
BD01: "I would not repurchase this brand without thinking a lot about that decision."	.32	.01	**.81**
BD02: "Before buying such a product again, I would think a lot about alternative offers."	-.02	-.01	**.88**
BD06: "Next time I buy this product, I will routinely turn to this brand."	.56	.01	**.69**
BD10: "If I had to choose now, I would automatically choose products of this brand."	.56	.67	**.70**
Eigenvalues	5.46	2.77	1.35
% of variance	45.50	23.07	11.27
α	.81	.92	.88

Note: Factor loadings according to dimension appear in bold and all items were translated from German

3.3.3 Scale Pretest 2

A total of 140 participants (96 female; average age 23) answered the second pretest's paper-based survey, all of them being either first-year bachelor- or master-students of the department of economics of the Freie Universität Berlin (see appendix 5 for the survey). Every student fully completed the survey, so that all 140 filled out forms could be used.

To test for reliability, each dimension's Cronbach's alpha was again assessed with the help of SPSS. The data show pleasant results with a Cronbach's alpha of .74 for the cognitive dimension, of .82 for the emotional, of .63 for the habitual, and of .70 for the calculative dimension. Except for the cognitive dimension, each dimension's score could be improved by dropping one item (EmD02, HaD02, CaD03, see appendix 6). However, as these items are considered valuable in forming the concept of path dependent consumption, they were not excluded from the scale for reasons of face validity. The exploratory factor analysis only showed three instead of the expected four factors with a variance explained of 60.11% (see appendix 6). To test the four-factor solution, a new analysis with four predetermined factors and a slimmed set of items (according to the same theoretical and statistical grounds depicted under 3.3.2) was conducted, showing the following results.

The Cronbach's alpha was again feasibly high with a score of .70 for the cognitive, of .83 for the emotional, of .82 for the habitual, and .72 for the calculative dimension. The cumulative variance explained amounted to 80.78%. The KMO value was very high with .85 and the Bartlett`s test of sphericity ($\chi^2(36) = 594.32$, $p = .000$) showed that inter item correlations were sufficiently large. With the predetermined number of factors, two eigenvalues were lower than 1 (.96 for the cognitive and .53 for the habitual dimension). Further, all KMO values for individual items were very high, ranging from .79 to .90 (see appendix 7 for the main SPSS outputs). Table 9 shows an overview of the analysis' main results.

Of course, the number of items on each factor was fairly reduced with the cognitive, habitual, and calculative dimension consisting of only two items each. A new exploratory factor analyses with oblique rotation (direct oblimin), allowing for correlating factors, did not alter these results.

Table 9: Summary EFA for scale development pretest 2 (four dimensions; N = 140)

	Rotated Factor Loadings			
Item	**Emotional dimension**	**Calculative dimension**	**Habitual dimension**	**Cognitive dimension**
EmD03: "The brand gives me a sense of security."	**.85**	.26	.13	.08
EmD01: "I trust the brand."	**.85**	-.04	.17	.24
EmD04: "I like the brand."	**.69**	.24	.46	.16
CaD02: "I invested a lot of time into products of this brand."	.15	**.82**	.26	.05
CaD04: "I invested a lot of money into products of this brand."	.09	**.72**	.42	.13
HaD04: "If I had to choose today, I would automatically choose products of this brand"	.34	.24	**.82**	.09
HaD05: "I am accustomed to buying products of this brand."	.17	.46	**.75**	.15
CoD01: "I learned how to use the products of this brand."	.20	.06	.15	**.92**
CoD04: "I know how to handle the products of this brand."	.25	.60	.04	**.62**
Eigenvalues	4.52	1.27	.96	.53
% of variance	50.26	14.07	10.61	5.84
α	.82	.71	.63	.74

Note: Factor loadings according to dimension appear in bold and all items were translated from German

To test whether the newly added calculative dimension is responsible for those weak results, another factor analysis was run, excluding the calculative dimension (see table 10).

Table 10: Summary EFA scale development pretest 2 (three dimensions; N = 140)

	Rotated Factor Loadings		
Item	**Habitual dimension**	**Emotional dimension**	**Cognitive dimension**
HaD05: “I am accustomed to buying products of this brand.”	.84	.21	.18
HaD04: “If I had to choose today, I would automatically choose products of this brand”	.75	.42	.09
HaD03: “I got used to using products of this brand.”	.71	.03	.46
HaD02: “Before I bought such a product again, I would think a lot about the decision.”	.50	.12	-.01
EmD01: “I trust the brand.”	.09	.86	.24
EmD03: “The brand gives me a sense of security.”	.24	.82	.15
EmD04: “I like the brand.”	.47	.68	.25
CoD03: “I am unsure how to operate the products of the brand.”	-.16	.14	.79
CoD04: “I know how to handle the products of this brand.”	.40	.14	.73
CoD01: “I learned how to use the products of this brand.”	.18	.21	.70
CoD02: “I don’t know much about the products of this brand.”	.36	.35	.52
Eigenvalues	4.90	1.27	1.10
% of variance	44.55	11.52	9.93
α	.56	.83	.74

Note: Factor loadings according to dimension appear in bold and all items were translated from German

The results confirm those of the first pretest in showing three distinct factors representing the three dimensions of path dependent consumption with each item

sorted according to its intended dimension.[20] The variance explained cumulated to 66%, the KMO value amounted to .85, the Bartlett`s test of sphericity ($\chi^2(55) = 668.32$, $p = .000$) was satisfying and the individual KMO values were all greater than .82. Lastly, all factors showed eigenvalues greater than 1 (see appendix 8 for the main SPSS outputs). Despite these results the calculative dimension will not be excluded from the conceptualization of path dependent consumption, as it is considered theoretically important to account for sunk and switching costs regarding consumption paths. However, further research might be necessary to understand the calculative aspects of path dependence better.

Completing the scale development of study 1 is the assessment of validity of the measure. The content validity, which illustrates whether the measure truly represents the concept measured, was ensured through constant evaluation and item modification with the help of experts in the field of marketing and path dependence. This was done for all of the four dimensions of path dependent consumption and therefore, the premise of content validity should be satisfied.

In order to test for convergence and discriminant validity, the criteria of Fornell and Larcker (1981) are employed. Their approach is preferred by many researchers to the use of the multitrait-multimethod matrix[21] (Jourdan 1999; Farrell 2010). According to this method, convergent validity is given, when the average loading of the items on their respective factor exceeds the variance extracted of said factor (Fornell and Larcker 1981). Further, discriminant validity is given, when the average variance extracted between two factors exceeds the squared correlation of the respective items of these factors (Fornell and Larcker 1981). For the four dimensions of path dependent consumption, all items and corresponding factors showed convergent as well as discriminant validity (see appendix 9). The measure therefore accurately mirrors (convergent validity) the four distinct (discriminant validity) dimensions of path dependent consumption.

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[20] The emotional item Em02 and the habitual item Ha01 (see appendix 4) were omitted, as the results and an evaluation of the wording displayed a poor fit with the rest of the respective dimension's items.

[21] The matrix shows the correlations between a concept and the *same concept* measured by *another method* (convergence validity), as well as *another concept* measured by the *same method* (discriminant validity) to determine the scale's accuracy (Campbell and Fiske 1959). However, the four dimensions of path dependent consumption were measured only by means of a Likert scale and not with an alternative approach.

Although not crucial to the scale development itself, analyzing the data for further relations of the surveyed variables revealed additional insights. In this specific study, the mean for the cognitive path dimension was highest (M = 4.10, SD = 0.78), followed by the emotional (M = 3.76, SD = 0.84), the habitual (M = 2.99, SD = 1.15), and the calculative (M = 2.90, SD = 1.13) dimension. Concerning the consumption context of the pretest, this speaks for a stronger cognitive and lesser emotional bond consumers have with their mobile phones and a weaker habitual and calculative bond. Except for the relation between the habitual and calculative dimension, all means were significantly different (see table 11). Consequently, in this context, cognitive paths might be more important than emotional and habitual or calculative bonds in forming a possible lock-in. Furthermore, there was a significant correlation of the duration of usage of that specific mobile brand and the cognitive and habitual dimension, but not with the emotional and calculative dimension (see table 12). However, the correlation was rather low (Backhaus et al. 2008). The number of previous brand switches had no significant correlation with either dimension as was the case with the gender variable. Further, the only (weak) significant correlation between age and any dimension concerned the calculative dimension (r = -.15, p = .036).

Table 11: T-tests of path dimension means scale pretest 2

Dimensions	***t*-value**	**Significance (*p*)**
Cognitive & emotional	t (139) = 5.16	p = .000
Cognitive & habitual	t (139) = 16.78	p = .000
Cognitive & calculative	t (139) = 18.13	p = .000
Emotional & habitual	t (139) = 10.90	p = .000
Emotional & calculative	t (139) = 12.16	p = .000
Habitual & calculative	t (139) = 0.915	p = .362

Table 12: Correlation of usage duration and path dimensions (N = 140)

Correlation of usage duration and the following dimension of path dependent consumption:	**Pearson correlation (*r*)**	**Significance (*p*, one-tailed)**
Cognitive dimension	.21**	.007
Emotional dimension	.12	.075
Habitual dimension	.16*	.031
Calculative dimension	.10	.122

*significant at the 0.05 level

**significant at the 0.01 level

Concerning the items of loyalty, feeling of lock-in, and usage intensity, there were significant correlations with all path dependent consumption dimensions, as expected (see table 13). The only exception was the correlation between the habitual dimension and the usage intensity, which did not yield a significant result.

Table 13: Correlation of loyalty, feeling of lock-in and usage intensity with path dimensions scale pretest 2 (N = 140)

Dimension	**Loyalty**	**Feeling of lock-in**	**Usage intensity**
Cognitive dimension	*r* = .50**	*r* = .20*	*r* = .34**
	p = .000	*p* = .000	*p* = .000
Emotional dimension	*r* = .69**	*r* = .36**	*r* = .17*
	p = .000	*p* = .000	*p* = .049
Habitual dimension	*r* = .87**	*r* = .59**	*r* = .14
	p = .000	*p* = .000	*p* = .099
Calculative dimension	*r* = .69**	*r* = .52**	*r* = .27**
	p = .000	*p* = .000	*p* = .002

3.4 Conclusion of Scale Development

The first empirical investigation (study 1) of this dissertation aimed at the *distinction* of the four proposed dimensions of path dependent consumption (cognitive, emotional, habitual, and calculative) and the *measurement* of the latter. Deducted from path dependence and loyalty research, the items were employed in a scale development following Churchill's (1979) paradigm. Thereby, the study did not intend to yield generalizable results, but focused on a first empirical support for the theoretical considerations above.

Set in the context of the mobile phone industry, the investigation was able to show, that at least three of the four dimensions indeed produced empirically separate factors. The items on the respective dimensions generated valid and reliable results to measure cognitive, emotional, and habitual path dependence. This supports the theoretical notion, that path dependence is fostered by different feedback mechanisms that result in specific bonds between the consumer and the market offer. Consequently, path dependence, just as loyalty, should be considered a *multi-dimensional concept* and it is not feasible, to think of it as a singular state of lock-in. Rather, depending on the context, different path dimensions may be more or less involved in forming the dependence on the specific consumption pattern. So, the very kind of path dependence will likely vary across products, consumer groups, and consumption situations. In the future, the path dependence concept should therefore not only be investigated regarding the feedback mechanisms *leading to* lock-in, but further, in light of the *kind* of path manifestation.

Concerning the calculative dimension of path dependence, the study did not deliver completely palpable results. In order to arrive at a four factor solution, the scale had to be shortened considerably. While this must not be problematic – the calculative dimension might still be accurately represented by those two items – several factors might have fostered those results. Firstly, the *chosen consumption context* (mobile phones) for the study was initially selected to investigate the formerly three deducted path dimensions. It is possible, that consumers (in this case students) while experiencing emerging cognitive ties, emotional attachment, and habit formation, simply do not take a clear stand on the sunk and switching costs connected to their mobile phone usage. Maybe a different context would produce a clear-cut distinction

between all four dimensions without the necessity to exclude too many items. Secondly, this being the first research project of its kind, there is *no previous work* to draw conclusions from. Even Dick and Basu (1994), who included the calculative dimension into their framework for consumer loyalty, did not test their assumptions empirically. There might be underlying connections between dimensions, likely also dependent on the consumption context, that would influence how well the dimensions can be distinguished. There simply needs to be more research on that specific topic to deduct a stronger theoretical basis for item generation. Lastly, while the results presented here are not all completely feasible from a theoretical standpoint, the calculative dimension embodies a very straightforward phenomenon – the sunk and switching costs connected to the consumption of a certain product or service. It seems crucial to include the notion of switching costs as fueling path dependence, as they can accumulate over time to act as switching barriers. Consumers however, might differ greatly in their *perception of the investments* made. Apart from strictly monetary and time investments, two items of the calculative dimension (about the 'effort' or 'costs of switching', see appendix 4, items CaD1 and CaD3 respectively) could have been confused to represent *costs of emotional or cognitive investments*. In the four factor solution, exactly these items had to be eliminated. Although marketing experts judged those items as fitting the calculative dimension, their wording might have to be adjusted to more accurately describe the efforts and costs asked for (e.g. 'switching would cost a lot of money' instead of 'switching would induce high costs'). The blurred dimensions might therefore be avoided by further investigations into the overlap of dimensions and adjusted wording. A radical approach would be to refrain from including the calculative dimension in the path dependent consumption concept altogether. This is not recommendable however, as the dimensions are theoretically sound and the implicated loss of information might result in a grave reduction of the scales usefulness.

Concerning the additional variables surveyed, there seems to be a significant, if weak, relation between the duration of product usage and the strength of cognitive, emotional, and habitual path dependence. This supports the notion that path dependence develops through self-reinforcing mechanisms that need time and repetitiveness in order to form stable patterns. The calculative dimension is again set

apart in that there is no relation to usage duration, but – conversely to all other dimensions – to the age of the consumer. Future research that goes beyond this study in terms of generalizability and product/service diversity might aid in understanding the specific role of single path dimensions in the consumption context.

Regarding the feeling of lock-in and the global loyalty items, the correlations were just as expected. It seems like the individual path dimensions are not only positively connected to self-proclaimed loyalty towards the incumbent market offer, but further to a feeling of lock-in, that is, to the perception of the consumer, that the bond to the consumption pattern hinders switching. This is in line with the theoretical conceptualization of path dependent consumption with lock-in as an extreme form of consumer loyalty.

Most importantly for the subsequent empirical investigation, study 1 showed, that the cognitive and emotional dimensions of path dependence could accurately be reflected by their respective items. For the purpose of this study, the latter can therefore be employed in the experiment presented below.

4 Study 2 – Path Break Experiment

Study 2 represents the second part of the empirical investigation of this dissertation. By means of a laboratory experiment, it aims at exploring the connection between specific path dependent consumption dimensions involved in path formation and matching path breaking approaches – a novelty in the field of path dependence as well as loyalty research. Thereby, this project aligns itself with current developments in the field, as in the past decade, the interest in customer retention and for that matter defection studies has much increased (Michalski 2004). In order to gather meaningful insights with this new approach and to ensure practicability, the investigation is limited to *two dimensions*, namely the cognitive and the emotional dimension of path dependent consumption.

4.1 Methodology and Design of Path Break Experiment

The following study takes the form of a path break *experiment*. As one method of investigative research, experiments enable the manipulation of one or several *independent influencing variables* and the measuring of the resulting effect of those on *dependent variables* of interest (Kuß and Kleinaltenkamp 2011). The independent and dependent variable must show a correlation and further, a *causal* relation, which requires a chronological order of the cause-effect relation (the effect on the dependent variable appears *after* the manipulation of the independent variable) and the exclusion of alternative, non-random influences that could cause the variance of the dependent variable(s) (Kuß 2007). Additionally allowing for the inclusion of control variables, that might impact the dependent variable in real life, experiments further have the advantage of forwarding internal consistency. One specific way to achieve this is by means of laboratory experiments. Through focusing on a controlled experimental setting, they increase internal validity, which refers to the actual causal relation between the independent and the dependent variable without the occurrence of outside, unplanned disturbances (Kuß 2007). As this study is amongst the first in exploring consumer path breaks and the first to consider the dimensionality of the path dependent consumption concept, the internal and not external validity is focused on, and therefore a laboratory setting is more favorable.[22]

There have been only very few experiments, that are set in the context of path dependence research so far. Examples include Gärling et al. (2008) and Langer (2012), both investigations by means of internet based surveys. The latter, asking participants to make fictional consumption decisions, have been found to yield viable results (Bazerman 2001; Gärling et al. 2008). This research follows that particular approach for conducting the path break experiment.

The small number of related studies is unfortunate, as methodological uni-dimensionality in research generally is detrimental to illuminating real life phenomena from different angles and with different levels of abstraction. Especially in the case of path dependence, ex post justifications of small events and of path

[22] External validity is especially high in *field* experiments, set in actual, real life consumption situations. They produce results with higher generalizability, but make it difficult to control unwanted influences on the dependent variable (Kuß 2007).

breaks are oftentimes not thoroughly convincing. Experiments are very well suited to have a closer look at what happens during the formation or dissolving of a path. Recently, path dependence researchers therefore asked for controlled laboratory experiments to manipulate initial conditions, feedback mechanisms and to rule out unwanted influencing variables (see Vergne 2013; Kay 2013). This study meets that demand with the investigation described below.

Objective

The experiment aims at exploring what manipulation works best on which dimension of path dependent consumption when breaking consumption paths. The goal of the experiment is to first build consumption paths on two distinct levels – on a cognitive and an emotional level – and then break these paths using both informative and affective advertisement. Thereby, the underlying assumptions are that the level of lock-in of the consumption path influences the efficiency of a possible path break. Specifically, when the lock-in occurs on a cognitive level, in order to reach the consumer and break the path effectively, informational advertising is needed. Respectively, when locked on an emotional path, affective advertising is more suitable to trigger a path break. Therefore, the experiment consist of a two (path *building* manipulation: cognitive versus emotional) by three (path *breaking* manipulation: informative advertising versus affective advertising versus no advertising [control]) between-subjects factorial design, leading to altogether six experimental groups. Table 14 shows an overview of the latter. The two respective control groups without advertisements were included to show whether it is generally efficient to advertise or not when dealing with consumption paths. This provides especially valuable information to marketing practitioners.

Table 14: Overview path manipulation and respective experimental groups

Cognitive consumption path			Emotional consumption path		
Path break manipulation (advertisement):					
Informative	Affective	None	Informative	Affective	None

Context

To construct the path building and breaking manipulations, three fictional banks (Apusbank, Velabank, and Lynbank) offering giro accounts tailored to students were employed. In previous research, the banking industry has often been used to conduct research on consumer loyalty, retention and switching (see Colgate et al. 1996; Garland 2002; Burnham et al. 2003; Rotte et al. 2006; Chebat et al. 2011; Michalski 2004; Bogomolova 2011). Furthermore, banks usually maintain long term relationships with their customers (Bell et al. 2005), which is crucial in a study about consumer loyalty. Also, these long term relationships mostly result in an increase of bank-specific knowledge (Bell et al. 2005), as well as relational engagement (Gwinner et al. 1998) – properties needed for the manipulation of cognitive and emotional feedback mechanisms. Consequently, banks provide the required combination of cognitive and emotional facets of the consumer-supplier bond needed to investigate these dimensions in the present study. Furthermore, a distinct financial superiority or inferiority of one market offer over another (e.g. lower or higher account fees) can be manipulated in order to test for path dependent decisions.

To enable reinforcement of the path dimensions through time, the participants of the study were told, that certain banks offered special giro accounts for students, the contract of which had to be renewed every semester. The latter were represented by different experimental rounds in the experiment. Thereby, the respondents were provided with information on and had to actively choose between different market offers again and again, leading to the desired feedback cycles.

Experimental rounds

The experiment took place over five rounds. After an introduction, which presented information about the researcher, the general context (consumer behavior study in the banking sector) and the rough proceeding (number of rounds and task to choose a giro account) of the study to the participants, the latter were randomly[23] assigned to

[23] Randomization shall ensure the equal distribution of individual traits and influences on the dependent variable over experimental groups (Kuß 2007).

one of the two path scenarios (cognitive and emotional) and by this means their specific path manipulation.

The formation of path dependent consumption of the participants was manipulated in the *first three*[24] experimental rounds. Participants in the 'cognitive path dependence group' were provided with an informative scenario about the offers connected to their account (see appendix 10 for the cognitive scenario texts). To induce learning effects, the primary self-reinforcing mechanisms on the cognitive path dimension, the respondents further had to answer multiple choice questions about the offer of the incumbent bank, such as the height of overdraft interest. The participants of the emotional path dependence group on the other hand were given an affective scenario in order to build an emotional connection to the bank. The primary self-reinforcing mechanisms over the three rounds induced trust, attachment, and a positive affective bond to the incumbent bank via the wording of the scenario texts (see appendix 10 for the emotional scenario texts). Scenario experiments are frequently used to create specific consumption contexts in research settings and to study resultant consumer behavior. They allow for even complex manipulations and enable the controlling of various variables of interest (Bitner 1990; Kinard and Kinard 2013). The two scenario texts were approximately matched in word-count and only distinguished by their rational-informational or affective-emotional character.

In the first three path building rounds, participants were not provided with a superior market offer. The incumbent giro account was indeed the best solution to their consumption need. This gave opportunity for the path to manifest by means of self-reinforcement. However, from the *fourth round* onwards, a better offer by another bank (same service at smaller costs) was available with no switching barriers in place other than the cognitive or emotional ones build until then. According to the operationalization, to show a lock-in, the participants should not switch to the superior offering after building the consumption path even if they are provided access to it. Round four then served as the test for lock-in and path dependence, as well as a control round to be compared to the last *round five*, where the better market

[24] This follows the previous research project of Langer (2012), which has aimed at building consumer path dependence. Her investigation has shown the formation of a relatively stable consumption pattern in an experimental setting after three experimental rounds. This served as orientation in this project to assess the number of path building rounds.

alternative was advertised in order to *actively trigger* a path break and test the hypotheses concerning the matching of advertising approach and path dimension (see 2.4). Consequently, the path break manipulation in round five took the form of either an informative or an affective advertisement (or in the case of the control groups, no advertisement) and again, the respondents were randomly assigned to one of the three possible advertising conditions. The advertisements were constructed to match realistically the character of current online ads for giro accounts by real German banks (see appendix 10 for the advertisements).

Every round had roughly the same course of events. Firstly, participants were given information about the market offer(s), and secondly, they could decide on the bank they wanted to choose for the next semester. During the path manipulation, the incumbent bank was the only one available, so participants had to re-select that particular bank and the cognitive and emotional reinforcement was induced. In round five, the respective advertisement was included in addition to the previous information on the market offers. To measure the kind and degree of path dependent consumption, the respective scale items from study 1 were used together with questions on switching intentions in round two, four, and five. More data-points would have been informative to further insights on the path process, but asking the participants to answer to the same questions too many times could result in a treatment effect that could influence the way they answer the questions. Therefore, instead of measuring the path dependence in every round, those three points were selected to show the scores before (round two), during (round four), and after a possible lock-in (round five).

Table 15 illustrates the rough progression of the path break experiment and table 16 gives an overview of its parameters.

Table 15: Progression of the path break experiment

	Cognitive path	**Emotional path**
	Introduction	
R1	Informational scenario + task Conditions Apusbank	Emotional scenario Conditions Apusbank
	No choice, decision for Apusbank	
R2	Informational scenario + task Conditions Apusbank	Emotional scenario Conditions Apusbank
	No choice, decision for Apusbank	
	Path dependence scores, intention to switch	
R3	Informational scenario + task Conditions Apusbank, Velabank, Lynbank	Emotional scenario Conditions Apusbank, Velabank, Lynbank
	Decision between Apusbank (superior), Velabank, and Lynbank	
R4	Conditions Apusbank, Velabank, Lynbank	Conditions Apusbank, Velabank, Lynbank
	Decision between Apusbank, Velabank (superior), and Lynbank	
	Path dependence scores, intention to switch	
R5	Conditions Apusbank, Velabank, Lynbank	Conditions Apusbank, Velabank, Lynbank
	Decision between Apusbank, Velabank (superior), and Lynbank	
	Path dependence scores, intention to switch	
	Concluding questions concerning manipulation checks, character traits, attitudes, experiences, demographics	

Table 16: Overview of the path break experiment parameters

	Path building	**Path breaking**
Stimulus	Artificial giro accounts for students	
Manipulation	Informative and emotional scenarios	Informative and affective advertising
Operationalization	Respondent does not switch from incumbent offer in round three and four	Respondent switches to alternative offering in round five
Hypotheses	H1: Informative advertising is more effective than affective advertising in breaking path dependent consumption on a cognitive level. H2: Affective advertising is more effective than informative advertising in breaking path dependent consumption on an emotional level.	
Method	Online scenario experiment	

4.2 Experimental Manipulations and Measures

After illustrating the general approach and the design of the path break experiment, the following chapter further highlights the ways in which the experimental manipulations and the according variables of interest, including independent and dependent, as well as control variables were designed and measured.

Manipulations and independent variables

Apart from the scenario texts mentioned above, specific giro account conditions, and an informational as well as affective advertisement had to be created to achieve the desired experimental manipulations.

In order to generate realistic giro account offers, the current German banking sector was explored and the main parameters for consumers, to decide on a specific

account, inquired. It appears that account and credit card fees, as well as especially overdraft fees are amongst the most important factors for German consumers to choose between giro accounts (Hagen 2013). Furthermore, credit card fees range from zero (usually combined with a minimum monetary entry each month up to around 2000 Euros) to 30 Euros a year (Hagen 2013). Overdraft interests of around 10% (ranging from about 7.50% to 13.99%) represent the average (Hagen 2013; Öchsner 2014), with 6.90% to 11.90% for special student account offers (Girokontovergleich.net 2016). Another means of differentiation for banks is the level of cash withdrawal services they can offer their customers via the number of accessible automated teller machines (ATMs) and branches (Hagen 2013). The number of branches differs greatly between German banks. The Deutsche Bank AG for instance has 2984, while the Targobank AG & Co, KGaA has only 351 (Bankenverband 2014). Other banks only offer online services. Furthermore, there have been 56794 ATMs in Germany in 2014 (Deutsche Bundesbank 2015). Many banks offer withdrawal free of charge from other banks, which is why it is hard to assess the average number of accessible ATMs for the German consumer.

To construct the experimental giro accounts, these facts were employed. Consequently, the conditions included in the experiment to discriminate between market offers were *account* and *credit card fees*, *overdraft fees*, and the *number of ATMs* and *branches* offered by a specific bank. In accordance with the specific experimental round, the conditions were adjusted in order to either make the incumbent or the alternative offer superior in monetary terms.

Table 17: Experimental giro account offers per round

Round	Apusbank (incumbent)	Velabank	Lynbank
1	Account fees: - Credit card: 10 € Overdraft rate: 8.51% # ATMs: 13000 # Branches: 441	- not available -	- not available -
2	Account fees: - Credit card: 10 € Overdraft rate: 8.51% # ATMs: 13000 # Branches: 441	- not available -	- not available -
3	Account fees: - Credit card: 15 € Overdraft rate: 8.83% # ATMs: 13200 # Branches: 452	Account fees: - Credit card: 15 € Overdraft rate: 9.75% # ATMs: 9000 # Branches: 383	Account fees: 15 € Credit card: 10 € Overdraft rate: 9.27% # ATMs: 12000 # Branches: 511
4	Account fees: - Credit card: 15 € Overdraft rate: 9.51% # ATMs: 13200 # Branches: 452	Account fees: - Credit card: 8.90 € Overdraft rate: 8.49% # ATMs: 13000 # Branches: 483	Account fees: 15 € Credit card: 10 € Overdraft rate: 9.27% # ATMs: 12000 # Branches: 551
5	Account fees: - Credit card: 15 € Overdraft rate: 9.51% # ATMs: 13200 # Branches: 452	Account fees: - Credit card: 8.90 € Overdraft rate: 8.49% # ATMs: 13000 # Branches: 483	Account fees: 15 € Credit card: 10 € Overdraft rate: 9.27% # ATMs: 12000 # Branches: 511

Table 17 shows the specific conditions offered by each of the three banks over the different experimental rounds. Regarding giro accounts of actual banks, those designed here are at the lower cost limit, as they are supposed to be special offers for students, but are still within the realistic range.

Although individuals will differ with regard to what offer they will *personally* favor (e.g. depending on their preferences concerning online banking versus using a bank's branch, cash withdrawal habits, and so forth), there is a monetary difference between offers connected to the account, credit card, and overdraft fees, that can be calculated in order to determine the most favorable offer.

On average, German consumers who make use of the overdraft option (one in five Germans) overdraw 1043 Euros per month (Öchsner 2014). Given that and a *hypothetical* overdraft period of 120 days per semester (20 days per month), in round three, the incumbent bank (Apusbank) was superior as can be seen from the following calculation:

Costs Apusbank per semester R3:

Overdraft fees: 1043 € * 0.0883 * 120 / 365 = 30.28 €

Overdraft fees + credit card fees: 30.28 € + 15 € = **45.28 €**

Costs Velabank per semester R3:

Overdraft fees: 1043 € * 0.0975 * 120 / 365 = 33.43 €

Overdraft fees + credit card fees: 33.43 € + 15 € = **48.43 €**

Costs Lynbank per semester R3:

Overdraft fees: 1043 € * 0.0927 * 120 / 365 = 31.79 €

Overdraft fees + account and credit card fees: 31.79 € + 25 € = **56.79 €**

So on average, the Apusbank's offer in round three yielded 3.15 € lower costs than the Velabank's offer and 11.51 € lower costs than the Lynbank's.

From round four on, one of the alternative banks, the Velabank, made the better offer:

Costs Apusbank per semester R4 and R5:

Overdraft fees: 1043 € * 0.0951 * 120 / 365 = 32.61 €

Overdraft fees + credit card fees: 32.61 € + 15 € = **47.61 €**

Costs Velabank per semester R4 and R5:

Overdraft fees: 1043 € * 0.0849 * 120 / 365 = 29.11 €

Overdraft fees + credit card fees: 29.11 € + 8.90 € = **38.01 €**

Costs Lynbank per semester R4 and R5:

Overdraft fees: 1043 € * 0.0927 * 120 / 365 = 31.79 €

Overdraft fees + account and credit card fees: 31.79 € + 25 € = **56.79 €**

Here, the Velabank's offer would cost 9.60 € less than the Apusbank's and 18.78 € less than the Lynbank's. These calculations are based on the average overdraft amount used by German consumers (act/act bond basis). Of course, the individual participants in the survey might show a different behavior by either producing a higher or lower overdraft per semester. But whether consumers overdraw a smaller (as might be the case when only focusing on students as a comparatively low income group) or bigger amount for a shorter or longer amount of time, in relation to the other offers, the Apusbank in round three and the Velabank in round five always hold the more lucrative market offer. Furthermore, even if the overdraft fees are ignored completely, the offer of the Velabank still holds the lowest account and credit card fees and is thus preferable in any case.

Although the difference in the offers might *seem* comparatively small, it was intentionally designed that way for several reasons. Firstly, the experimental setting ensured *no switching barriers*, *except* for those build by the *cognitive* and *emotional path manipulations*. In real life, consumers face greater efforts in terms of search and setup costs (e.g. gather information about alternative offers and setting up a contract with the new supplier result in cognitive efforts and time invested) connected to switching giro accounts. In the experiment, they could switch by clicking on one of the three market offers, without having to terminate the former contract. And the information they needed to base their decision on, was handed to them in the form of a summary on the conditions of each giro account. Secondly, the offerings of banks in real life are usually close to one another, especially when it comes to acquiring

new customers such as students. Most major banks differ only slightly in their conditions. Therefore, it would have been inadvisable, to make the incumbent offer highly inferior all of a sudden in round four. Respondents might find that too much of an obvious manipulation to switch banks. Thirdly, consumption paths usually develop over elongated periods of time – likely weeks, months or even years of feedback mechanisms depending on the specific consumption frequencies and intensity. A strong bond created this way will more likely withhold enticing efforts of rival suppliers. Expectedly, a 30-minute survey cannot adequately mirror these real life phenomena, even if this procedure heightens internal consistency – a path created this way might be less strong, than one occurring naturally. However, the paths created on the two dimensions will be measured by the path dependent consumption scale in order to assure the *effectiveness of the manipulation* in addition to relying on the monetary favorability of one account over the other. The non-switching to the better alternative shall illustrate the successfully formed consumption path or lock-in. Further, the path break manipulation focuses on the *efficiency* of the *advertising approach*. The experiment is about testing, which kind of dimension needs which kind of advertising. Therefore, relatively weak path dependence is acceptable, as long as the difference between advertising approaches with the corresponding path dimensions is *significant*.

The advertisements used to trigger a path break were designed by two different means: ad text and visual. The informative advertisement had no emotional visual and the text showed was constricted to informational wording, summarizing the giro account conditions in a factual, informative way. The affective advertisement featured a visual focusing on emotions associated with warmth, joy, and friendship, all of which are commonly employed in emotional appeals (see Rossiter et al. 1991; Janssens and De Pelsmacker 2005; Panda 2013). Affective ads in the banking sector oftentimes include pictures in order to evoke a buyer-seller relationship, thereby rendering the otherwise relatively abstract offer more tangible and giving the bank a "face" (Panda et al. 2013, p. 13). This approach is in line with previous research, in that informational advertising should rationally present important choice criteria to the consumer, whereas emotional approaches should trigger positive affective

associations while exposition to the ad (see Abernethy and Franke 1996; De Pelsmacker and Geuens 1997; Jourdan 1999; Janssens and De Pelsmacker 2005).

Both advertisements were chosen among a pool of different informational and affective appeals evaluated by marketing experts (see pretest 1 under 4.3). To test, whether the advertisements were assessed according to their intended manipulation purpose, the classification scale by Jourdan (1999) for dominant informational or emotional characteristics of advertisements was employed. The scale was adapted to the present research project, thereby translating the scale to German, dismissing one item and pretesting the adjusted scale with marketing experts. The items were measured on a 5-point Likert scale.

Lastly, the main independent variable of interest in the experiment constitutes the kind of path manipulation, which was assessed by the respondents assignment to version A (cognitive path manipulation) or B (emotional path manipulation) of the survey.

Dependent variables

As the manipulations in the experiment aimed at path building and breaking, the dependent variables included the *path dependence on the two dimensions* in focus, the *intention to switch*, and the *actual switching or staying* behavior of the respondents over the experimental rounds.

Consequently, the path dependent consumption scale items of the cognitive and emotional dimension were employed to measure the according levels of path dependence induced by the path building manipulation. The items on a 5-point Likert scale (ranging from strong agreement to strong disagreement) were taken from study 1 and adjusted to fit the context of the study (giro accounts by fictional banks). Furthermore, the intention to switch banks was measured by four items on an 11-point scroll bar (also ranging from strong agreement to strong disagreement). The reason to include eleven steps as opposed to the common 5-point scales was grounded in the assumption, that the *intention* to switch might show incremental differences between rounds which could not be captured by five answering options. As respondents might not be able to clearly decide on the specific option they should

mark out of the 11 options, a scroll bar was employed giving them the freedom to slide along the continuum. The items on path dependent consumption as well as intention to switch can be found under appendix 11.

Lastly, the actual staying or switching was measured directly by asking respondents to choose one of the three possible banks. This mirrors real life behavior as respondents actually had to choose between offers instead of only reporting intentions or evaluating them.

Control Variables

Apart from the main variables of interest around the building and breaking of the consumption path, others were included to serve as control variables. They were suspected to have an influence on the relationship of the independent and the dependent variable or they were simply needed to check for bias during the investigation.

To assess respondent's personality traits, the EBBT (Exploratory Buying Behavior Tendencies) scale was adapted for the purpose of this research from Baumgartner and Steenkamp (1996). Further, risk aversion and the satisfaction with status quo was assessed with the scales of Craig and Ginter (1975), the need for cognition with that of Epstein et al. (1996), and involvement (with banks) with the scale of Zaichkowsky (1985). Those concepts might relate to results on path formation and break in that they have either a connection to processing advertising messages (the need for cognition and involvement) or to general switching tendencies of individuals (exploratory buying behavior, risk aversion, and satisfaction with the status quo). The scales of the according concepts were adapted to fit this studies purpose. This included translating the items to German, shortening the scales to no more than five items per scale in order to avoid the participants fatigue with the already extensive survey, and getting the adapted scales evaluated by marketing experts of the Freie Universität Berlin (see pretest 2 under 4.3). Furthermore, the attitude towards ads and banks and the experience with banks of the participants were asked for. Those variables might as well influence whether a respondent becomes locked-in (attitude and experience with banks) and how effective a path break advertisement might be (attitude towards advertisement). All items used to gather information on the control

variables were measured on a 5-point Likert scale (ranging from strong agreement to strong disagreement). Finally, questions to check for the respondent's attention while filling out the survey were placed after round three and round four (approximately after the first and second third of the survey), the respondents were asked to guess the objective of the study, and demographic variables were surveyed as well, including age, gender, and student status. All control variables with the respective items can be found under appendix 11 and 12.

The items of all above mentioned concepts, such as the path dependent consumption, the intention to switch, and character traits, were rotated randomly to avoid a sequence bias and several items were further reverse coded (negative connotation), so that respondents would have to pay attention to questions rather than literally develop a one-sided answering pattern.

Table 18 shows an overview of all control variables surveyed in study 2.

Table 18: Control variables in the path break experiment

Control variables path break experiment	
Demographics	• Age • Gender • Student status
Personality traits	• Exploratory buying behavior • Risk aversion • Need for cognition • Satisfaction with status quo • Involvement (banks)
Attitudes and experience	• Attitude towards banks • Attitude towards advertisement • Experience with banks
Others	• Research objective • Attention checks • Realism of giro account conditions • Relevance of giro account conditions

4.3 Experimental Pretest 1 and 2

The first pretest's aim was to test the advertisement stimuli (informative versus affective), possible bank names for the three banks needed in the experiment, and the specific wording of the scenario texts by means of a peer review. Consequently, five experts of marketing, advertisement and consumer research were asked in a paper based survey to review nine advertisements, 14 bank names, and two scenario texts (affective versus informative), in order to choose the most suitable ones for the further investigation.

The informative advertisements consisted of a text that rationally and concisely portrayed all the main terms of the giro account offer. No visuals were included in order to avoid emotional triggers. Contrasting them, the different affective advertisements were designed to feature visuals communicating warmth, trust, humor, freedom, fun, friendship, relaxation, and sociability. The wording was chosen to induce trust, fairness, and positivity towards the abstract offer, but the text did not reveal any information on significant account features.

The experts were asked to rate all advertisements on the scale of Jourdan (1999) to assess the informational and affective characteristics. They could further comment on each advertisement separately to point out possible issues or make suggestions for improvement. Subsequently, the informative and affective scores for each proposed ad were calculated. The informative ad was chosen for the study that was rated most informational and 2.79 times more informational than affective. Conversely, the affective ad was chosen that produced the highest affective-to-informational ratio (2.92) while yielding the highest affective score. Taking the comments and suggestions into account, minor visual changes were made to the advertisements before the second pretest.

The bank names were found by random combination of letters to form one- or two-syllable words (like Mar- or Alva-) to serve as brand names (consequently Marbank or Alvabank). The experts were asked to rate all 14 names based on how *realistic* they found the names to be for the banking sector, how *positive or negative* they felt the names appeared, whether the names reminded them of *any other brand names*, and whether they triggered *associations* of any kind. The three bank names were

selected for the further study that had no associations to other brands or names, and that scored highly but foremost equally in terms of realism and positive appeal.

Lastly, the evaluation of scenario texts yielded good results. The bank in both scenarios appeared equally positive and the cognitive scenario was rated 2.47 times more informative than affective, while the emotional scenario was rated twice as affective as informative. From that perspective, the manipulation of the informative scenario was more successful. It should be noted though, that the emotional scenario had to provide some level of information about the conditions of the bank's offer to enable a choice for the respondent. That is not problematic, as in the cognitive experimental condition, learning effects are induced through multiple choice tasks while the emotional bond is fostered by affective framing of the relationship between bank and consumer described in the scenario. So while participants in both conditions will get *basic* information on the market offers, the path manipulation differs according to the intended dimension.

Subsequently, a second pretest was conducted in order to test the complete survey under the same conditions as the later main study. Therefore, it was internet based, included all manipulations and variables, featured random assignment to experimental groups as well as item randomization, and held questions checking for attention. The focus was on testing the unhindered flow of answering the survey, whether the path manipulations worked, and whether respondents understood all questions and could manage the required tasks. During this pretest, the participants could also leave comments and suggestions on any part of the survey and of course, on the overall impression they got from the experiment.

32 respondents took part in the investigation (13 female, 19 students, average age 27). They were randomly assigned to each experimental condition (17 to the cognitive and 16 to the emotional path condition). Apparently, there were no technical problems in answering any of the questions and the market offers were evaluated as realistic.

Although the second pretest was not large enough to produce reliable results, a brief analysis of the data revealed, that the path manipulations seemed to work. Most participants made path dependent choices by staying with the incumbent bank (13 versus 4 in the cognitive and 13 versus 3 in the emotional condition) and further,

those that switched after seeing an advertisement did so more often due to the matching kind of advertisement (cognitive path: 1.1 times more often after the informative ad; emotional path: 2.2 times more often after the emotional path). Additionally, the informative advertisement was considered 2.2 times more informational than affective and the affective advertisement 2.3 times more affective than informative. Hence, the path stimuli seemed to be designed appropriately. But again, these results rely on a too small number of participants to make strong claims.

The comments on single survey questions, overall understanding, and practicability of the investigation were positive and only minor changes (wording, visual) were made before launching the experiments main study.

4.4 Main Study of the Path Break Experiment

After the pretesting phase, the main study of the path break experiment was conducted. In the following, the sample and an initial data revision, as well as the statistical analyses of the experimental data will be presented.

4.4.1 Sample and Initial Data Revision

Participants received a hypertext link leading to the online survey, which on average took 17 minutes to be filled out. Although certainly a long survey, its completion time still does not exceed the one of previous path dependence research in marketing. For example answering the survey of Gärling et al. (2008) took about 30 minutes. All participants were randomly assigned to one of the six experimental groups.

Two sampling approaches were employed in the collection of research data. First, a convenience sample via university networks of selected German universities (FU Berlin, Brandenburgische Technische Universität Cottbus-Senftenberg, Leuphana Universität Lüneburg), and social platforms such as Facebook yielded 104 valid responses.[25] Although convenience sampling does not provide representative data (see Sudman and Blair 1999), its advantages lie in practicability and speed of the data collection. In addition, it was already mentioned, that this study does not aim for

[25] In the convenience sample, 25 cases were excluded due to false answers to the attention questions or simply empty questionnaires.

generalizable results but concentrates on internal consistency and specific cause-effect relations in path dependent consumption.

As the experiment's design called for a large sample, Amazon Mechanical Turk (MTurk) was employed to reach the remaining individuals needed with the online survey. MTurk proved to offer reliable data in previous research projects (Buhrmester et al. 2011) and further enhanced practicability by quickly providing the desired number and segments of participants needed for the study. As the survey was designed in the German language for instance, only native speakers were asked to take part.[26] Nevertheless, screening questions were included in the survey to check for individuals who did not take the time to read the questions or who simply did not have the (language) skills to answer them. Screening questions are a recommendable tool when employing services such as MTurk (Kittur et al. 2008; Goodman et al. 2012). This approach added 291 valid out of altogether 380 responses.[27] Furthermore, in order to check for artifact bias, a question was included to find out whether any of the participants guessed the study's aim correctly (Shimp et al. 1991). No one was able to identify the latter, so none of the 395 individuals could purposefully adapt their answers to match the research objective. Thus, after reviewing the data concerning invalid cases, altogether n=395 remained for further analyses with 198 set in the cognitive (version A) and 197 in the emotional (version B) condition. 34.9% were female, 51.1% students, and the average age amounted to 32 (73.2% between the age of 20 and 39; range 18 to 70). Respondents were distributed across experimental groups fairly equally (see table 19).

[26] MTurk offers a list of specifications to group possible participants, including for example country and language skills.

[27] Mturk is a service mainly used in English speaking communities. Therefore, the attainable pool of German speaking participants is considerably smaller compared to the English speaking one. Although the majority of participants here were German speakers, around 23.42% had to be excluded as their German skills clearly did not suffice for them to deliver valid answers. This was indicated by their answers in the open question sections and by answers given to the attention questions.

Table 19: Number of respondents across experimental groups

Version A			**Version B**		
Informative ad	Affective ad	No ad	Informative ad	Affective ad	No ad
61	64	73	72	60	65
Total: 395					

Of the 395 participants, 288 stayed with the Apusbank in R3. Out of those, 204 stayed further in R4 and are hence considered path dependent (51.65% of all participants became path dependent - 95 in the cognitive and 109 in the emotional condition). As path dependence is described as a rare disease, the high number of path dependent consumers speaks for a successful path manipulation.

After the path break manipulation, 40 out of the 204 path dependent participants managed to break the path in round five (19.61% of path dependent respondents and 28.79% of those who saw an advertisement). They were composed of 18 cognitive path (12 informative, 5 affective, and 1 no ad) and 22 emotional path (5 informative, 16 affective, and 1 no ad) dependent participants.[28]

Table 20 shows the progression of the above illustrated participant's path dependence and path break according to the respective experimental conditions (path and path break manipulations.

[28] In 38 of these 40 path breaks, the better offer (Velabank) was chosen. Two respondents chose the Lynbank – one belonged to the affective and one to the no advertisement group.

Table 20: Progression path dependence and path break in numbers

	Total (A, B)
Number participants	395 (198, 197)
Number path dependent participants	204 (95, 109)
Number path breaks	40 (19, 22)
Ad kind	12 informative 5 informative 5 affective 16 affective 1 none 1 none

This early look at the path developments indicates support for the efficiency of matching the path break approach to the respective path dimension. Although many respondents stayed on the path, most that did switch to another offer broke the path after seeing the assumed matching advertisement. Figure 9 shows the distribution of path dependent participants over the three available market offers in round five for both version A (cognitive path) and B (emotional path) of the survey. Looking at the number of switches per round for the non-path dependent participants, the data show, that most switched to the superior offer (Velabank) in round four (46 of 78 switches in version A; 41 of 73 switches in version B). This indicates that most respondents were able to recognize the better offer when it was made available.

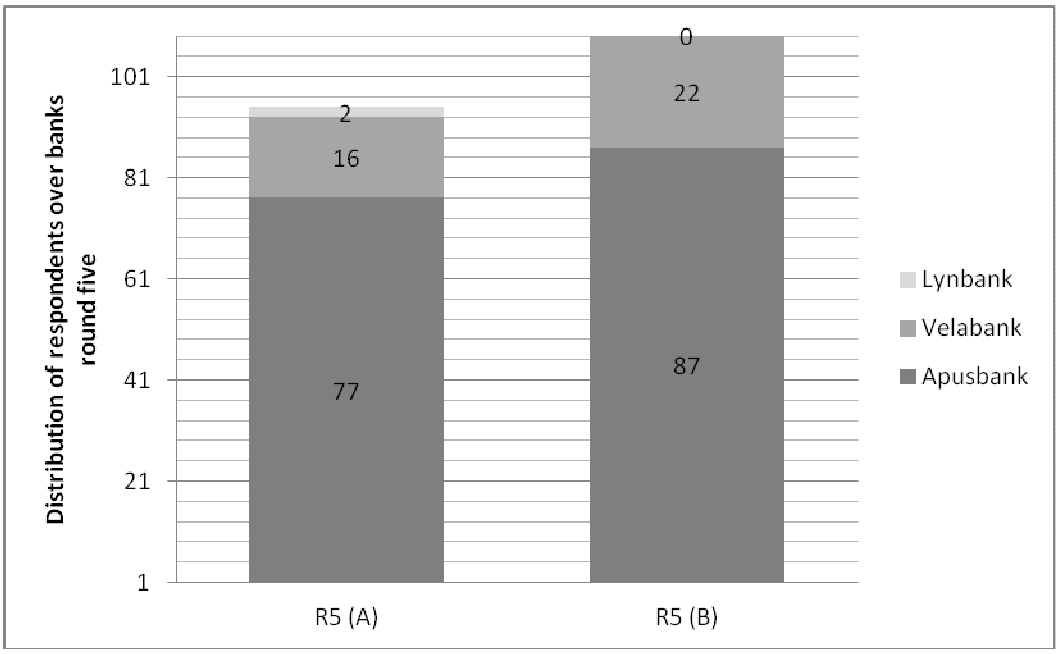

Figure 9: Banks chosen by path dependent participants (A and B) in round five

Figure 10 illustrates the number of switches made by non-path dependent participants in each round. For both path manipulation conditions, there is a distinct peak in switches in round four, when the superior market offer was available first.

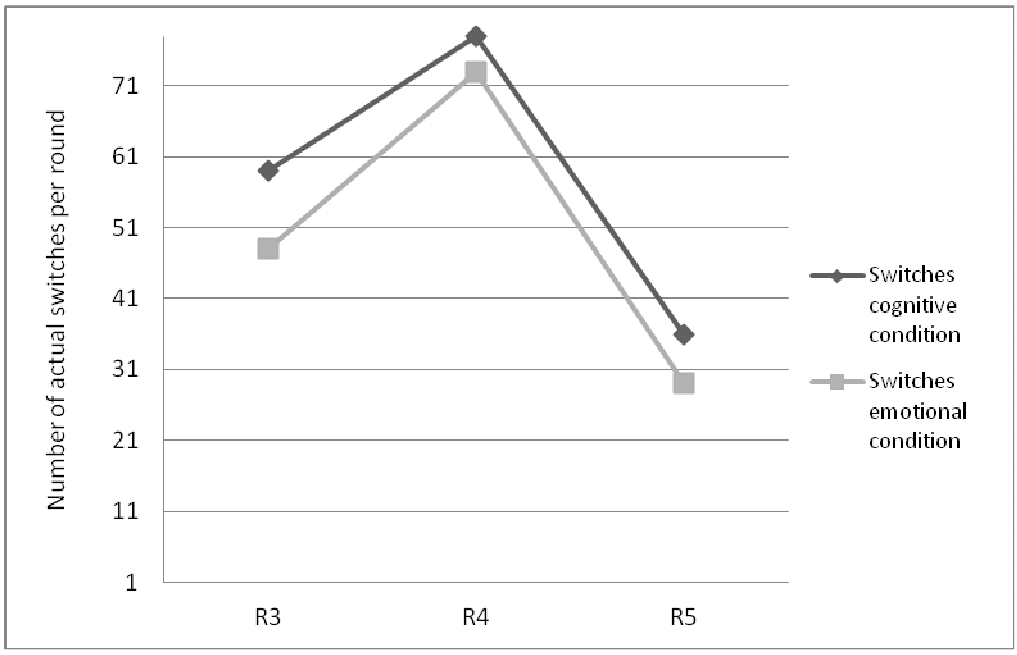

Figure 10: Number of bank switches over rounds for non-path dependent participants

Furthermore, figure 11 and 12 show the distribution of non-path dependent participants over the giro account offers in each round for the cognitive and emotional path condition respectively. In round three, the Apusbank attracted most participants, as it was the superior offer, followed by the Lynbank (second best alternative considering overdraft fees and money withdrawal opportunities), and then the Velabank. This again speaks for the participant's ability to discriminate between the three different giro accounts offered and to generally choose the better alternative. Low numbers of respondents choosing the Lynbank in round four and five (least attractive) support that finding.

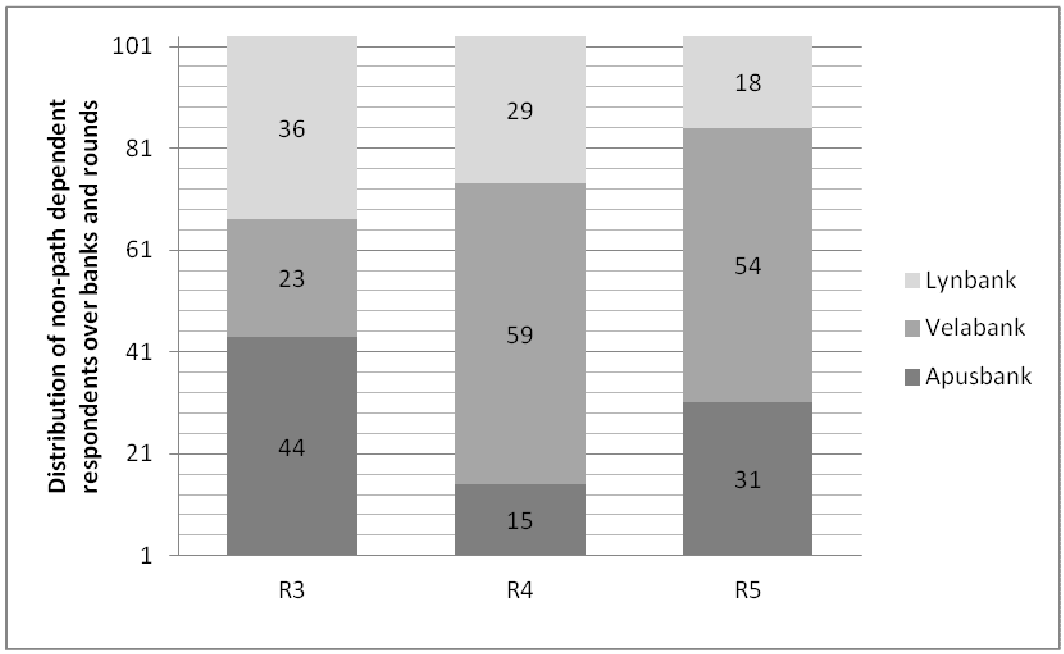

Figure 11: Banks chosen by non-path dependent participants (cognitive condition)

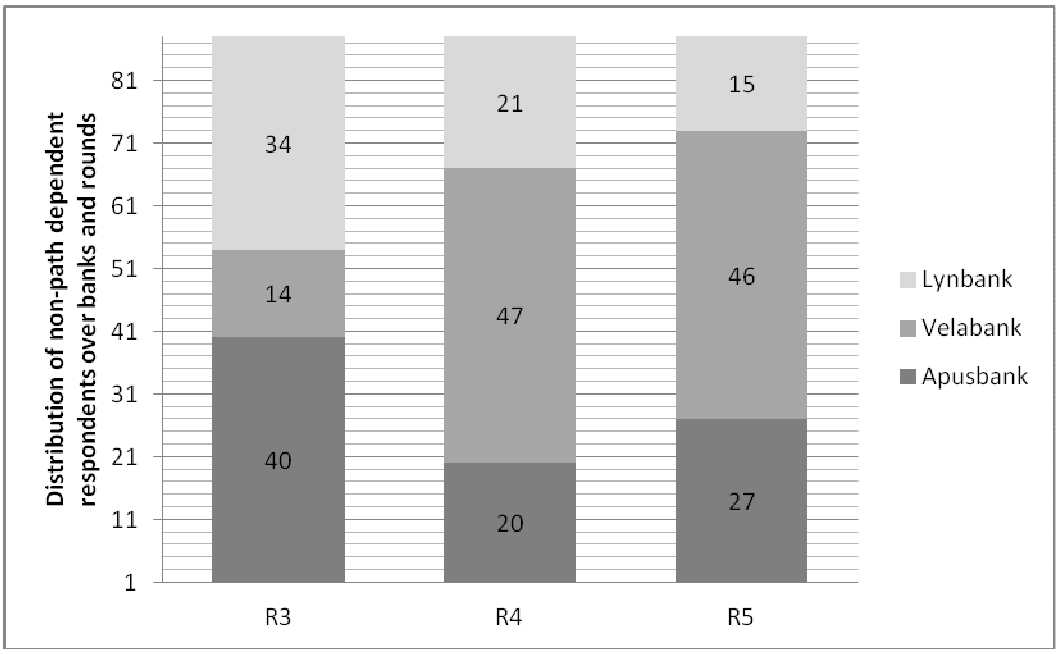

Figure 12: Banks chosen by non-path dependent participants (emotional condition)

The next chapter represents the statistical analyses concerning manipulation checks, the development of path dependence scores and intention to switch over the experimental rounds, control variables, and hypotheses testing.

4.4.2 Statistical Analyses of the Main Study

4.4.2.1 Statistical Methods

The statistical analyses applied to the experimental data mainly consist of different multivariate methods, namely contingency tables, analysis of variance (ANOVA) and covariance (ANCOVA), and binary logistic regression. The choice of each method is influenced by the specific form of data analyzed, which stem from either categorical or continuous variables.

Contingency tables are a means of analyzing categorical data by frequencies. By the help of the Pearson's Chi²-test, frequencies from *at least two categorical variables* are compared in order to determine, whether those frequencies occurred by chance or due to an existing (significant) relationship between the variables (Field 2009). By that, this method cannot make any claims of causal effects, meaning that it cannot distinguish between independent and dependent variables. But by ruling out

alternative explanations and within the controlled setting of an experiment, it is possible to make certain assumptions about which variable influenced another. In this study, contingency tables are used to assess the relationship between belonging to an experimental group and the decision to stay with the incumbent offer or not. Further, they are employed to check for significant differences between different demographic groups and the corresponding path building and breaking frequencies.

A method that delivers more insight into the relationship between variables is the ANOVA. This analysis, comparing variances between and within (experimental) groups, requires a *categorical independent* and one or more *continuous dependent variables*. It thus analyzes the ratio of systematic versus unsystematic variance, called the F-ratio to determine, whether the independent grouping variable had a significant effect on the continuous dependent variable or not (Field 2009). Following the same principle is the ANCOVA, which allows for the inclusion of more continuous independent variables that are assumed to have an influence on the dependent variable without being the focus of interest in the investigation (Backhaus et al. 2008). By adding covariates to the model, parts of the unexplained or unsystematic variance within experimental groups can be explained and further, bias from variables, that systematically vary with the experimental manipulations, can be removed (Field 2009). For this research, ANOVAs are used to investigate the influence of the kind of advertising on the intention to switch and ANCOVAs assess the influence of path manipulation and character traits on the path dependent consumption scale scores on the cognitive and emotional dimensions.

Binary logistic regression is used to fit a model to research data that predicts the values of a *dependent variable of categorical character* with two possible outcomes from one or several *independent categorical or continuous variables* (Field 2009). In other words, that method allows predicting, what the specific *odds* are that the binary dependent variable assumes one of two possible states given a change in the independent variable(s). Further, categorical independent variables can be included as so called ‘dummy variables’ that can assume the values 0 or 1 (Backhaus et al. 2008).[29]

[29] The 0 stands for a certain variable state as non-present, while the 1 indicates that the state is present (e.g. 0 stands for no informative advertisement and 1 for informative advertisement). Following this

So essentially, binary logistic regression is based on linear regression, in calculating a model from the correlations between variables, but has two main distinctions: 1) not all variables need to be of metric character, and 2) the model produces the odds of the dependent variable falling into a certain category instead of its actual value. As the dependent variable that indicates whether a path break was achieved (switch versus stay) is categorical and the independent variables measured are both categorical (cognitive versus emotional path) and continuous (character traits, attitudes, and experience), binary logistic regression lends itself to be employed for testing the hypotheses.

4.4.2.2 Manipulation Checks and Control Variables

Manipulation Checks

The first manipulation check concerns the question, whether the experimental condition (cognitive versus emotional) had any influence of the development of path dependence. This was analyzed with the help of contingency tables. Results indicate, that there was no significant difference between being assigned to Version A (cognitive path) or B (emotional path) and making path dependent decisions in round three and four ($\chi^2(1) = 2.14$, p = .144). Hence, there was seemingly no influence of the kind of manipulation (cognitive versus emotional) on the likelihood of becoming path dependent, which speaks for the manipulation in both groups working to equal extent.

Next, the efficacy of the advertisement manipulation was analyzed. Specifically, t-tests were employed to show the difference between the informative and affective degree of the informative and affective advertisement. The informative ad was perceived to be significantly more informative (M = 3.69, SE = 0.86) than affective (M = 2.60, SE = 1.00), $t(394) = 15.67$, $p = .000$, $r = .62$) and also more informative (M = 3.69, SE = 0.86) than the informative degree of the affective ad (M = 2.19, SE = 1.16, $t(394) = 19.58$, $p = .000$, $r = .70$). In the same vein, the affective ad was

logic, the number of dummy variables included in the analysis is determined by the number of states a variable can assume minus 1 (the last state is accounted for 0-values in all other states).

perceived to be significantly more affective (M = 3.89, SE = 0.82), than informative (M = 2.19, SE = 1.16), $t(394) = 20.78$, $p = .000$, $r = .72$) and more affective (M = 3.89, SE = 0.82), than the affective degree of the informative ad (M = 2.60, SE = 1.00), $t(394) = 17.96$, $p = .000$, $r = .67$). The respective effect sizes speak for large differences (see Field 2009). Hence, the manipulation for triggering the path break was valid.

Regarding the appropriateness of the fictional giro account terms, the data show that respondents evaluated the single conditions as realistic. Rated on a scale from one to five (1 being the least realistic), the account fees (M = 4.00, SD = 1.04) got the highest scores, followed by the overdraft interests (M = 3.51, SD = 1.07) and the credit card fees (M = 3.40, SD = 1.14).

Control Variables

As some variables controlled for in this experiment are binary, cross-tabulation is used to check whether they have significant influences on firstly *becoming path dependent* and secondly, on *breaking the established path*. The control variables include gender, the student status, the sampling technique, and the non binary variable age (the analysis concerning the latter is a t-test).

Employing the Chi^2-coefficient, the results show, that there is no significant difference of belonging to either the convenience sample or the sample acquired over Mturk, between being male or female, and further, no significant influence of age on becoming path dependent (see table 21). The same holds for the likelihood of a path break in round five. Henceforth, there will be no division in analysing the different groups of participants when evaluating the survey results. The only variable that showed a significant association between groups is the student status on breaking the path. It seemed that based on the odds ratio, being a student (versus not being a student) had 2.69 times higher odds of breaking the path (26.1% of path dependent students broke the path versus 11.2% of path dependent non-students). This finding might be owed to the scenario setup and the giro account offers being tailored to students. It may be the case, that non-students felt less addressed by the advertisement for student accounts than actual students.

Table 21: Results analyses of control variables (age, gender, student status, and sample)

Control variables	**Becoming path dependent***	**Path break***	**Method of analyses**
Age**	Path: M = 26.7, SE = 1.95 No path: M = 26.46, SE = 1.94 $t(203) = .12$, $p = .902$	Path break: M = 25.23, SE = 3.56 No path break: M = 27.06, SE = 2.26 $t(39) = -.51$, $p = .612$	t-test
Gender*	$\chi^2(2) = .32$, $p = .851$	$\chi^2(2) = 1.04$, $p = .595$	Chi²-test
Student status*	$\chi^2(1) = 3.78$, $p = .052$	$\chi^2(1) = 7.02$, $p = .008$	Chi²-test
Sample*	$\chi^2(1) = 1.46$, $p = .227$	$\chi^2(1) = .05$, $p = .825$	Chi²-test

*nominal variable
**metric variable

Besides the control variables mentioned above, several character traits, namely the need for cognition (NfC), risk aversion (RA), the satisfaction with the status quo (SSQ), exploratory buying behavior (EBBT), the involvement with banks (Inv.B), the attitudes towards banks (Att.B) and advertisement (Att.A), and previous experience with banks were measured. Figure 13 shows the mean values for these concepts for path dependent (PD) and non-path dependent (non-PD) participants. Apparently, there are only small differences between path dependent and non-path dependent participants concerning these concepts. Two ANCOVAs were run to check for significant influences on becoming path dependent on the cognitive and emotional dimension (measured by the PDS on both dimensions).

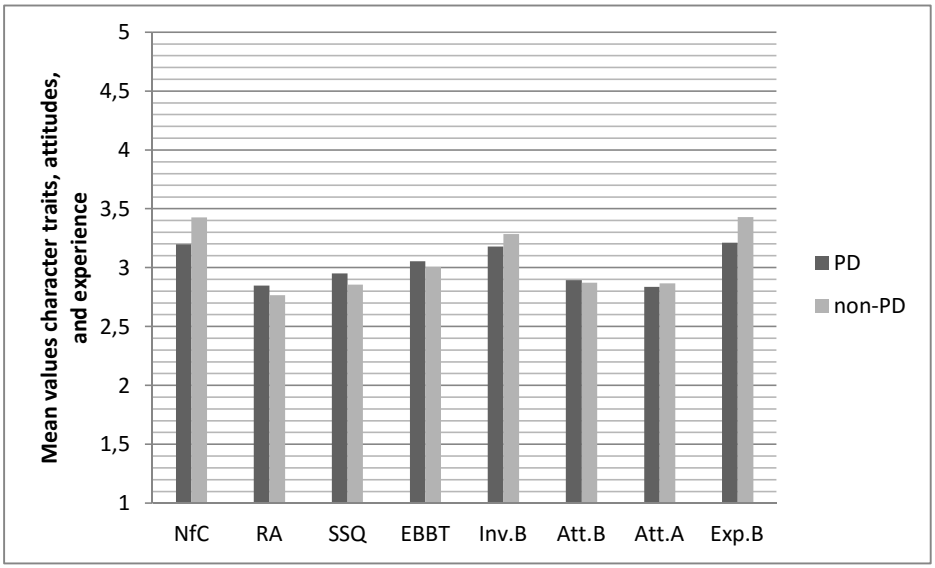

Figure 13: Mean values of character traits, attitudes, and experience with banks

Although participants were randomly assigned to the experimental conditions, an analysis of variance (ANOVA) was run prior to the ANCOVA, to check for the covariates being equally distributed over version A and B. Concerning those concepts, the groups of version A and B did not differ significantly, so the traits can be used as covariates. Table 22 shows the results of the two ANCOVAs.

Most covariates had no significant influence on the participants becoming path dependent on each dimension. For the cognitive path dependence though, the need for cognition ($F(1, 385) = 23.16$, $p = .000$, $r = .24$), and the experience with banks ($F(1, 385) = 8.10$, $p = .005$, $r = .14$) had a significant impact. The version (A or B) of the survey also had a significant impact on the cognitive PDS after controlling for the covariates ($F(1, 385) = 11.67$, $p = .001$, *partial* $\eta^2 = .03$).

For the emotional path dependence, risk aversion ($F(1, 385) = 5.93$, $p = .015$, $r = .12$), involvement ($F(1, 385) = 4.42$, $p = .036$, $r = .11$) and the attitude towards banks ($F(1, 385) = 11.40$, $p = .001$, $r = .17$) had a significant effect on the emotional PDS. Just as above, the version (A or B) of the survey still had a significant impact on the emotional PDS after controlling for the covariates ($F(1, 385) = 48.94$, $p = .000$, *partial* $\eta^2 = .11$).

Table 22: ANCOVA results (character traits, attitudes, and experience with banks on cognitive and emotional PDS)

Control variables	**Path dependent consumption score**	
	Cognitive PDS R4**	**Emotional PDS R4****
Experience with banks**	F(1, 385) = 8.10 *p* = **.005**	F(1, 385) = 0.18 *p* = .675
Attitude towards banks**	F(1, 385) = 0.43 *p* =.511	F(1, 385) = 11.40 *p* = **.001**
Attitude towards ads**	F(1, 385) = 0.28 *p* = .599	F(1, 385) = 2.57 *p* = .110
Need for cognition**	F(1, 385) = 23.16 *p* = **.000**	F(1, 385) = 0.00 *p* = .985
Risk aversion**	F(1, 385) = 0.04 *p* = .842	F(1, 385) = 5.93 *p* = **.015**
Satisfaction with status quo**	F(1, 385) = 0.54 *p* = .461	F(1, 385) = 1.00 *p* = .317
Exploratory buying behavior**	F(1, 385) = 0.49 *p* = .484	F(1, 385) = 0.15 *p* = .697
Involvement**	F(1, 385) = 1.97 *p* = .161	F(1, 385) = 4.42 *p* = **.036**
Version*	F(1, 385) = 11.67 *p* = **.001**	F(1, 385) = 48.94 *p* = **.000**
Levene's Test:	F(1, 393) = 2.60 *p* = .108	F(1, 393) = 0.46 *p* = .499

*nominal variable
**metric variable
Note: significant values appear in bold

Apparently, character traits do not seem to influence development of path dependence equally on the different dimensions. This speaks for the necessity of separating the different path dependence dimensions and hence supports the

theoretical approach of this research. It comes as no surprise that the need for cognition had a major influence on the cognitive path dependence scores, while it had no significant effect on the emotional ones for instance. What also becomes clear in this study is that besides the specific feedback mechanisms that form a consumption path, other variables such as experiences, attitudes, and certain character traits play a role in locking the consumer on a path.

4.4.2.3 Development of Path Dependence Scores and Intention to Switch

Development of Path Dependence Score

Looking at the development of path dependent consumption over the experimental rounds three, four, and five (measured by the path dependent consumption scale on the cognitive and emotional dimension, see table 23), it appears, that not only the manipulations of the cognitive and emotional path worked (the difference between version A and B of the survey), but further, that there are significant differences between path and non-path dependent individuals.

Figures 14 and 15 show the different path dependence score (PDS) developments for path dependent and non-path dependent participants in the cognitive and emotional path conditions (version A and B) of the experiment respectively. As previous research suggested (see Langer 2012), after three experimental rounds, participants should have developed a path dependence on the manipulated path dimension. This was supported by the data, illustrated by looking at the relevant data points of round four. For the cognitive path manipulation (version A), there was a significant difference in the cognitive PDS between path dependent (M = 3.96, SE = 0.77) and non-path dependent (M = 3.49, SE = 0.66) participants ($t(94) = 6.09$, $p = .000$, $r = .53$).

Table 23: Mean path dependence score over experimental rounds

Group	Mean path dependence score (PDS) over rounds					
	R2		R4		R5	
	Cognitive PDS	Emotional PDS	Cognitive PDS	Emotional PDS	Cognitive PDS	Emotional PDS
All	3.48 (0.84)	3.28 (1.00)	3.59 (0.82)	3.31 (1.02)	3.61 (0.86)	3.28 (1.02)
All PD	3.43 (0.96)	3.30 (1.15)	3.68 (0.93)	3.45 (1.19)	3.74 (0.99)	3.43 (1.16)
Cognitive group PD	3.68 (0.67)	2.73 (1.28)	3.96 (0.77)	2.89 (1.25)	4.05 (0.83)	2.90 (1.23)
Emotional group PD	3.21 (1.12)	3.79 (0.73)	3.43 (0.98)	3.94 (0.88)	3.47 (1.04)	3.89 (0.87)
non-PD all	3.53 (0.68)	3.26 (0.81)	3.49 (0.68)	3.15 (0.79)	3.47 (0.68)	3.13 (0.81)
Cognitive group non-PD	3.54 (0.67)	3.17 (0.79)	3.49 (0.66)	3.08 (0.77)	3.47 (0.67)	3.05 (0.76)
Emotional group non-PD	3.52 (0.70)	3.37 (0.83)	3.49 (0.70)	3.25 (0.81)	3.48 (0.69)	3.22 (0.85)

Note: Standard deviation in parentheses

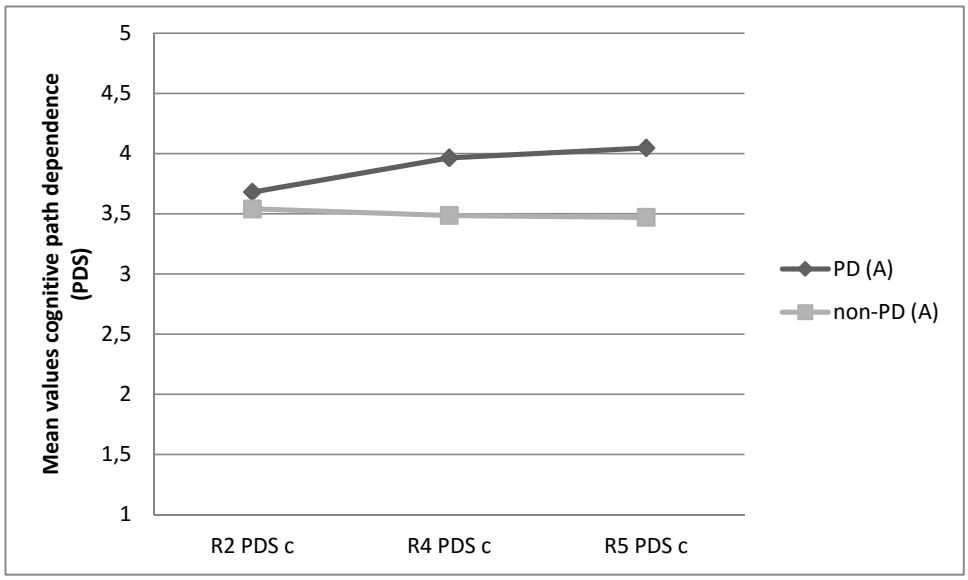

Figure 14: The development of cognitive path dependence of path versus non-path dependent participants

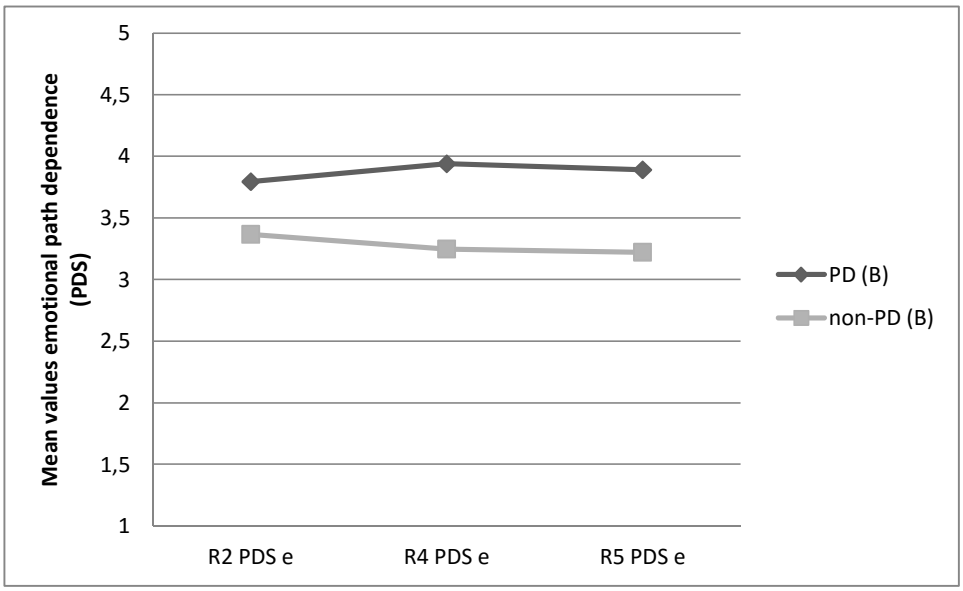

Figure 15: The development of emotional path dependence of path versus non-path dependent participants

The same holds for the difference in the emotional PDS for participants assigned to the emotional path condition (version B; path dependent participants: M = 3.94, SE =

0.88; non-path dependent participants: M = 3.25, SE = 0.81; $t(108) = 8.21$, $p = .000$, $r = .62$).

So the difference between the PDSs was just as expected, showing high effect sizes. The scale was able to measure those that became path dependent as path dependent on the different dimensions.

Next, the difference between the versions A and B concerning their PDS are investigated. Figures 16 and 17 show how the cognitive and emotional path dimensions differ between each experimental version over the rounds. As intended, the cognitive PDS was significantly higher for participants assigned to the cognitive consumption path than to the emotional path (see table 24).

Table 24: Difference version A (cognitive path) and B (emotional path) on cognitive path dependence score (path dependent participants)

Round	**Mean and SE**	***t*-values, df, and *p*-values**	**Effect size**
R2	A: M = 3.68, SE = 0.67 B: M = 3.21, SE = 1.12	$t(179.62) = 3.72$ $p = .000$	$r = .27$
R4	A: M = 3.96, SE = 0.77 B: M = 3.43, SE = 0.98	$t(199.61) = 4.37$ $p = .000$	$r = .30$
R5	A: M = 4.05, SE = 0.83 B: M = 3.47, SE = 1.04	$t(200.49) = 4.44$ $p = .000$	$r = .30$

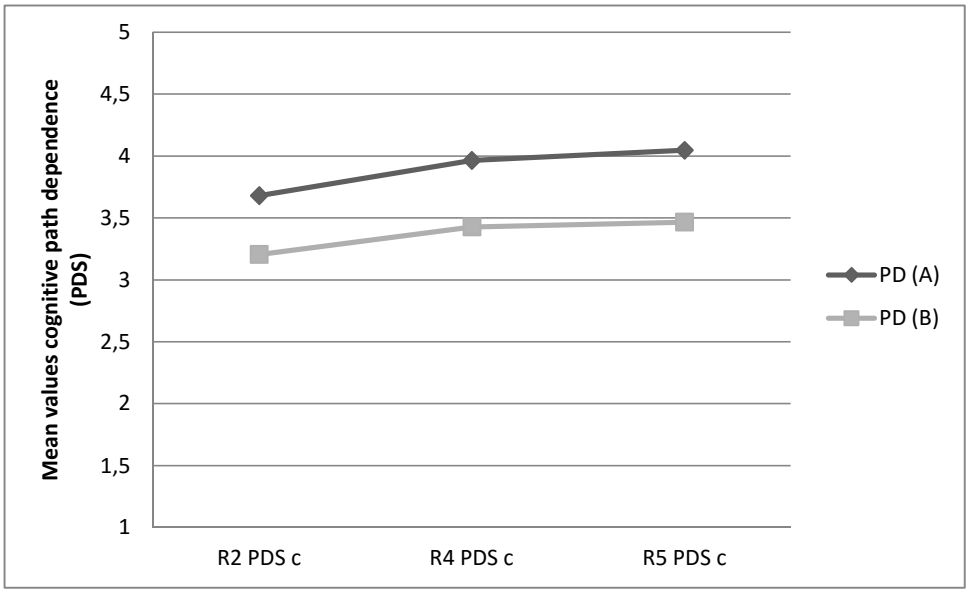

Figure 16: The development of cognitive path dependence of path dependent participants assigned to version A (cognitive path) versus B (emotional path)

Similarly, the emotional PDS was significantly higher for participants assigned to the emotional than to the cognitive consumption path (see table 25).

Table 25: Difference version A (cognitive path) and B (emotional path) on emotional path dependence score (path dependent participants)

Round	**Mean and SE**	***t*-values, df, and *p*-values**	**Effect size**
R2	A: M = 2.73, SE = 1.28 B: M = 3.79, SE = 0.73	*t*(144.39) = -7.140 *p* = .000	*r* = .51
R4	A: M = 2.89, SE = 1.25 B: M = 3.94, SE = 0.88	*t*(165.63) = -6.834 *p* = .000	*r* = .47
R5	A: M = 2.90, SE = 1.23 B: M = 3.89. SE = 0.87	*t*(166.21) = -6.529 *p* = .000	*r* = .45

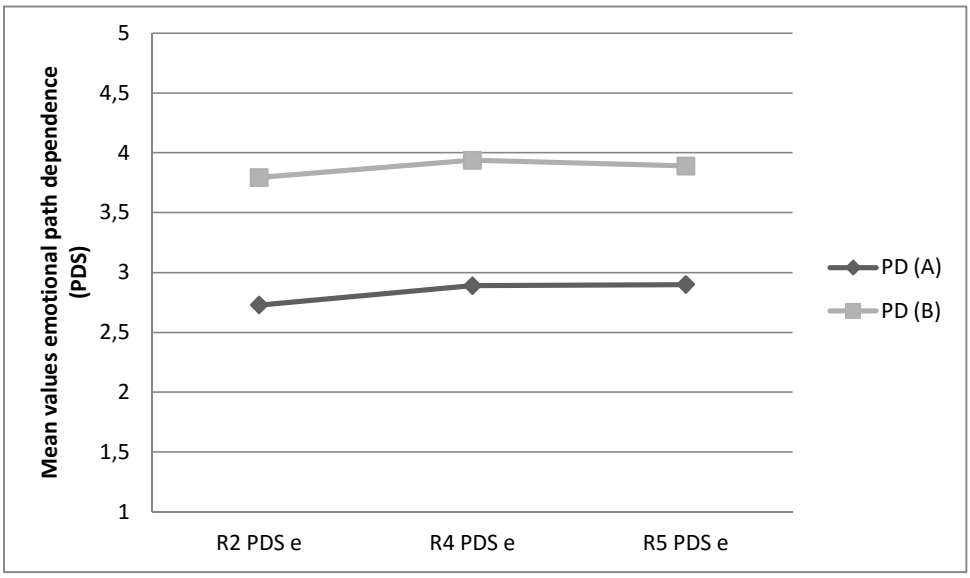

Figure 17: The development of emotional path dependence of path dependent participants assigned to version A (cognitive path) versus B (emotional path)

The figures 16 and 17 also illustrate the equal development that is a parallel increase of cognitive and emotional PDS in both path conditions, but at significantly different levels. This again speaks for a successful path manipulation with positive feedback mechanisms at work.

What can be further seen from the mean values of the cognitive and emotional PDS, is that the participants in the *emotional condition scored higher* on the *cognitive path dependence score* than the participants in the *cognitive condition* on the *emotional path dependence score*. That likely relates to the fact that respondents needed a basic knowledge of the giro account terms to make a decision between market offers. Since the difference between the cognitive PDS in both versions is significant though, this does not cause concern for this investigation.

Moreover, the curve falls in the emotional condition, indicating the path break and the respective lowering of path dependence in the groups assigned to version B of the survey. For the cognitive condition, the line does not drop, but the *increase* decreases – this could mean, that cognitive paths are either more stable than emotional paths (indicated also from the number of participants, who managed to switch to another market offer) or that the different path dimensions behave differently after a break.

After all, learning effects are factually not suspect to a change in the relationship between supplier and customer the same way that emotional bonds might be. Only after a considerable amount of time, the consumer would be out of touch with the supplier or product specific knowledge gained earlier.

For non-path dependent participants, there were no significant differences between cognitive and emotional path dependence over the experimental rounds, regardless of the version as illustrated in figures 18 and 19 (see appendix 13 for results). They also showed a parallel, almost horizontal development of the path dimensions. This is not surprising, as after the participants switch away from the incumbent market offer, they cease to engage in further positive feedback. The data show a slight decrease in the PDS, especially for the emotional dimension. Although not significant, that drop in the PDS illustrates nicely the switching from the incumbent offer to the better alternative, when the chance was given in round three.

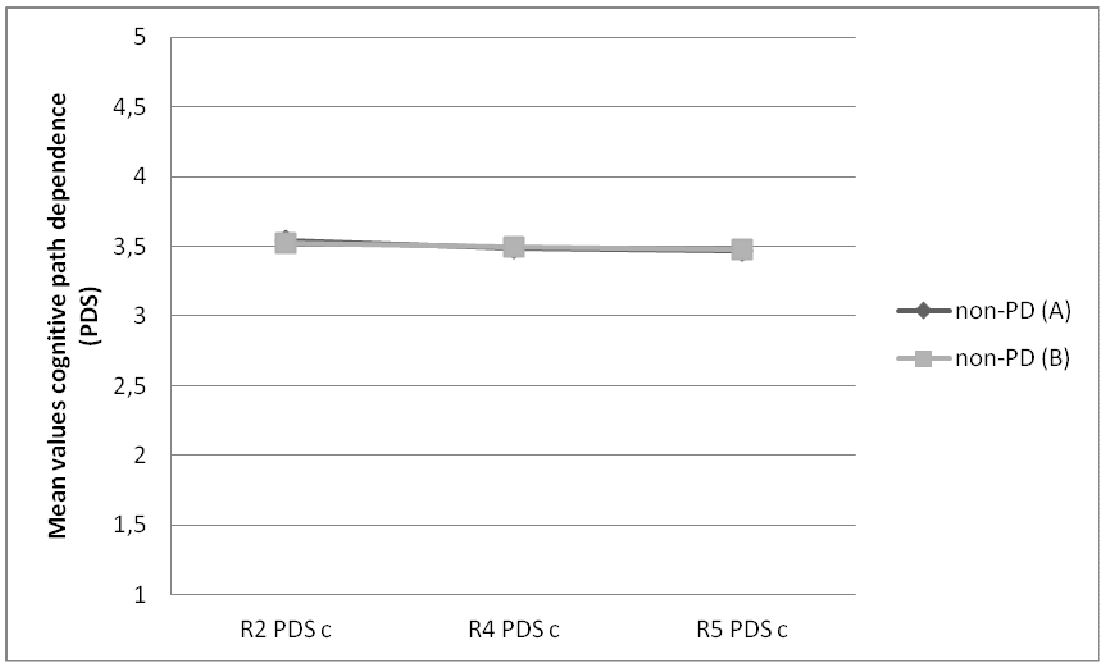

Figure 18: The development of cognitive path dependence of non-path dependent participants assigned to version A (cognitive path) versus B (emotional path)

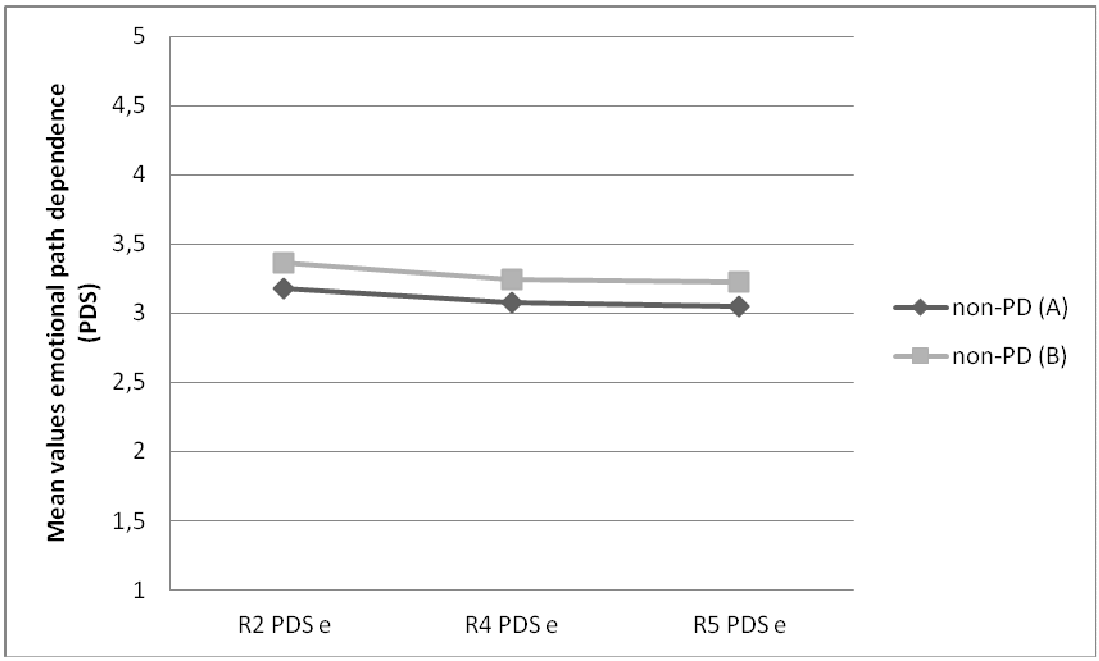

Figure 19: The development of emotional path dependence of non-path dependent participants assigned to version A (cognitive path) versus B (emotional path)

The difference in the values between the path dependent and non-path dependent participants would serve as a cut-off point (in this study at between 3.94 and 3.96 on the path dependent consumption scale) in identifying path dependent consumers if this study was designed to reflect a representative sample of a population of interest. As this is not the case, it can only be noted, that the non-path dependent participants did in fact show a response to the induced cognitive and emotional feedback mechanisms, as they have medium PDSs on average. They however showed a *significantly lower* PDS than path dependent respondents on both dimensions, which seems to make the difference when it comes to staying on the incumbent path.

Further, these results show that a distinction of path dimensions seems appropriate, as different path manipulations at least produce distinctive and significantly different bonds with the incumbent supplier. The path dependent consumption scale was able to illustrate this difference.

Development of Intention to Switch over Rounds

After looking at the path dependent consumption scores measured throughout the experiment, the next indicator of an individual's tendency to stay with the incumbent offer or to switch is the *intention to switch*. It was measured at the same points in the experiments as the PDSs, namely in round two, four, and five. Table 26 shows the respective mean values obtained from all participants during the experiment.

Table 26: Mean intention to switch for all participants over rounds

Group	Mean intention so switch over rounds		
	R2	R4	R5
All	4.91 (2.33)	5.54 (2.38)	5.67 (2.47)
All PD	4.34 (2.24)	4.25 (2.12)	4.58 (2.39)
Cognitive group PD	4.86 (2.45)	4.65 (2.30)	4.79 (2.59)
Emotional group PD	3.88 (1.95)	3.90 (1.89)	4.41 (2.21)
Non-PD all	5.52 (2.27)	6.92 (1.80)	6.84 (1.97)
Cognitive group non-PD	6.07 (2.21)	7.11 (1.72)	7.01 (1.98)
Emotional group non-PD	4.87 (2.18)	6.70 (1.87)	6.64 (1.95)

Note: Standard deviation in parentheses

Although the intention to switch does not equal the actual switching of the participant, it illustrates the readiness or ability and ease to switch. It therefore serves as an indicator to lock-in on the consumption path. Figure 20 shows the development

of the intention to switch of path and non-path dependent participants of version A and B of the experiment.

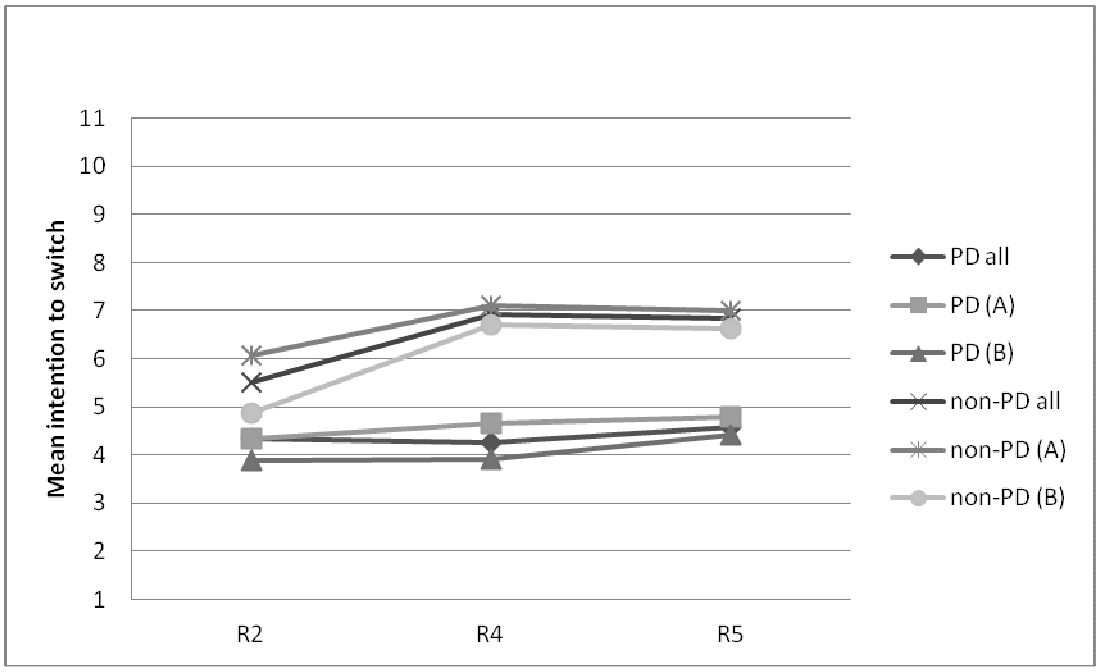

Figure 20: The development of intention to switch over all survey participants

The mean values for the intention to switch were higher for non-path dependent participants than for path dependent participants and higher for the cognitive than for the emotional path manipulation conditions of the experiment. This on the one hand supports the intended path manipulation and on the other hand hints at a connection between the *stronger intention* to stay with the incumbent offer and the *emotional bond* that comes with the respective relationship compared to a cognitive link. Hence, the intention to switch in round four was significantly lower for the path dependent participants in the emotional group (M = 3.90, SE = 1.89, than in the cognitive group (M = 4.65, SE = 2.30; $t(94) = 3.17$, $p = .002$, $r = .31$). That speaks for the emotional connection providing a higher *perceived* switching barrier.

Also, the comparison of the intention to switch in round four between path dependent and non-path dependent participants produced meaningful results. For version A, the intention to switch was significantly lower for path dependent participants (M = 4.65, SE = 2.30) compared to non-path dependent participants (M = 7.12, SE = 1.72)

producing very high effect sizes ($t(94) = -10.42$, $p = .000$, $r = .73$). The same was true for path dependent (M = 3.90, SE = 1.89) versus non-path dependent participants (M = 6.70, SE = 1.87) in version B ($t(108) = -15.42$, $p = .000$, $r = .83$). Therefore, the intention to switch might serve as a good proxy for the perception of being locked-in.

So while the path dependent consumption scores are able to *distinguish* between the specific path dimensions involved in the lock-in, insights from the intention to switch market offers illustrate how the participants *evaluate* a possible lock-in.

Lastly, the difference for the intention to switch *before* the path break manipulation (round four) of participants, that *broke the path* (M = 5.54, SE = 0.66) *versus those that did not break the path* (M = 4.44, SE = 2.13) in the cognitive condition ($t(17) = 1.66$, $p = .116$) and emotional condition (break: M = 3.75, SE = 1.30, no break: M = 3.94, SE = 2.02; $t(21) = -0.69$, $p = .497$) showed no significant results. After the path break manipulation however, the path dependent participants that broke the path had significantly higher intentions to switch (round five) in the cognitive condition (break: M = 7.35, SE = 1.81, no break: M = 4.19, SE = 2.37; $t(17) = 7.43$, $p = .000$, $r = .87$) as well as in the emotional condition (break: M = 6.72, SE = 1.36, no break: M = 3.82, SE = 1.99; $t(21) = 9.95$, $p = .000$, $r = .91$). That might not be surprising, but shows that that the measurement of the intention to switch goes along with the perception of being locked on a path, as the participants felt ‘unlocked’ after seeing the ad and the switch.

Before coming to the analyses regarding the hypotheses testing, two more comparisons shall be made. The first concerns the development of the *intention* to switch relative to the *actual* switches measured by the respondent’s decisions on bank offers for non-path dependent participants.[30] It must be noted before interpreting the results, that the intention to switch might be high even in cases, were the individual chooses to stay with the incumbent offer. Further, when looking at the actual switches, round four should display the majority of switches, as the non-path

[30] There was no separate analysis for path dependent participants, as they naturally made no switches in round three and four.

dependent participants largely chose the better, alternative market offer, which was available from round four on.

As can be seen in figure 21, the intention to switch shows a steady upwards trend over the experimental rounds and decreases slightly in round five. The number of actual switches mirrors this development, only with a sharper peak at round four. It can be concluded from this, that the intention to switch served as a good proxy for actual switches.

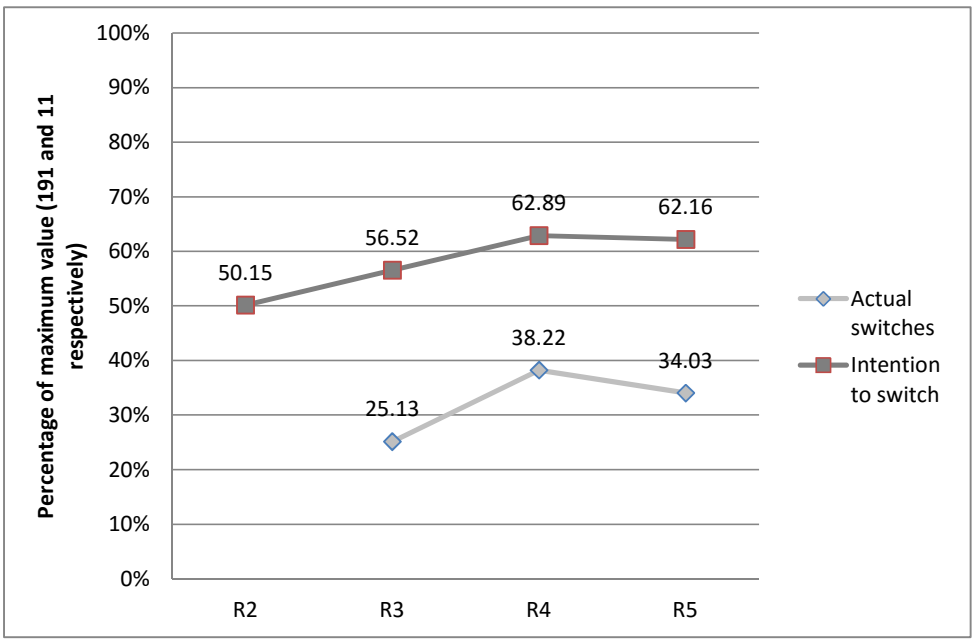

Figure 21: Comparison of number of switches and intention to switch (n=191)

Note: All values are expressed as percentages of the obtainable maximum value (11 for the intention to switch score and 191 for the number of participants making an actual switch). The value for the intention to switch in round three is calculated as the average from the respective values in round two and four for the purpose of illustration

The last comparison regards the joined development of the cognitive and emotional PDS and intention to switch for path dependent participants who broke the path in round four and five. The data show, that even though the intention to switch increased as people decided to break the path, the cognitive bond to the incumbent offer remained stable (see figure 22). In the emotional path condition however, the

consumers felt a weaker emotional bond to the Apusbank as they switched to another offer (see figure 23). This drop in the emotional PDS from round four (M = 4.42, SE = 0.14) to five (M = 4, SE = 0.15) is significant ($t(21) = 3.11$, $p = .005$). This difference between the experimental conditions might be explained by the nature of the path dimensions itself: The cognitive bond, fostered by learning effects, is not altered after a path break – the individual still holds all learned information about the incumbent product. Conversely, the emotions an individual holds towards the supplier might very well be affected by a switch. Reasons for that might be manifold, like guilt for switching and subsequent effort to legitimize the choice (e.g. respondents thinking 'Actually, I do not like the supplier as much, so I can switch away') or discounting the emotional bond due to the realization, that the incumbent offer in fact is worse than the one of a competitor.

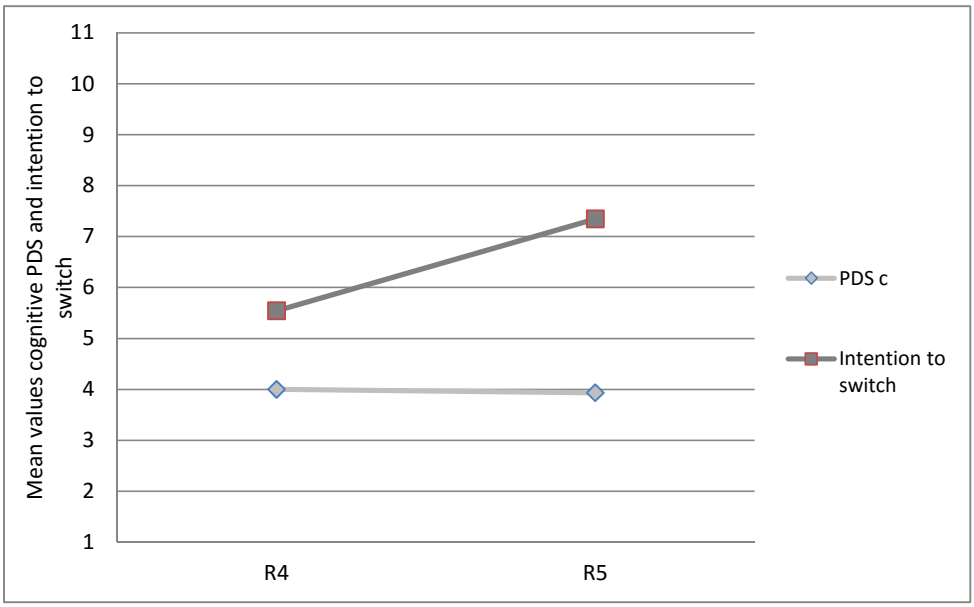

Figure 22: The cognitive PDS and intention to switch (round four and five) for path breaker in the cognitive condition (version A, n=18)

Note: PDS was measured on a five and intention to switch on an eleven point Likert scale.

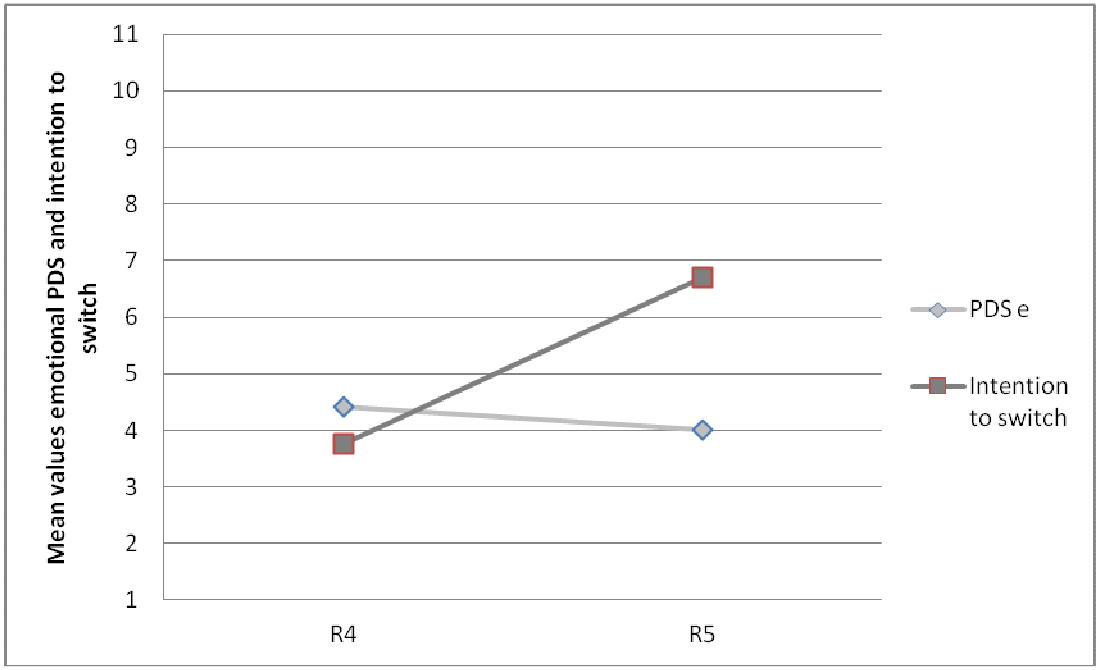

Figure 23: The emotional PDS and intention to switch (round four and five) for path breaker in the emotional condition (version B, n=22)

Note: PDS was measured on a five and intention to switch on an eleven point Likert scale.

Overall, the development of the path dependent consumption score, as well as the intention to switch over the experimental rounds turned out as expected and therefore supports the respective theoretical conceptualizations and the experimental design.

4.4.2.4 Hypotheses Testing

To recapitulate, here are the hypotheses deducted under 2.4 that are to be tested in study 2:

H1: Informative advertising is more effective than affective advertising in breaking path dependent consumption on a cognitive level.

H2: Affective advertising is more effective than informative advertising in breaking path dependent consumption on an emotional level.

First, a binary logistic regression analyses was conducted to test the hypotheses of matching ad kind and path dependent consumption dimension for advertising effectiveness indicated by a path break. The specific objective of the analyses was to find out, what influence the kind of advertisement, character traits, attitudes and experiences, as well as path dependence on different dimensions, and the intention to switch have on the ability to break a path.

Therefore, the data were filtered to include only path dependent participants, the dependent variable was path break (versus no path break), the independent variables consisted of the dummy variable ad kind (informational ad, affective ad, and no ad) and the covariates were character traits, attitudes and previous experience, the PDS on the cognitive and emotional level (round four), as well as the intention to switch (round four).

The results show that the general requirements for running a regression were met (linearity of logit, no multicollinearity). Overall, the model explains 89.7% as opposed to the 80.4% of the null model. Table 27 shows the main results of the analysis (see appendix 14 for the corresponding SPSS outputs).

As predicted, the kind of advertisement seen by the consumer had a significant influence in combination with the individual's path dependent scores on the cognitive and emotional level. Specifically, the interaction between ad kind and the cognitive PDS show, that there is a significant influence of seeing an informative ad (depicted ad kind 1 in table 27) in combination with cognitive path dependence when breaking the consumption path, but no significant interaction between affective advertisement (depicted ad kind 2 in table 27) and the cognitive path dependence. This supports H1, in that in order to break a cognitive path, the advertising appeal should be informative in nature.

On the other side, the interaction of affective advertisement and emotional path dependence was significant, while the interaction of informative advertisement and emotional path dependence had no significant effect on the path break decision. This supports H2, as also for the emotional path, the matching of the right, in this case affective, advertisement was most effective.

Table 27: Results binary logistic regression

		95% C.I. for odds ratio		
	B (SE)	**Lower**	**Odds ratio**	**Upper**
Included				
Constant	-7.32 (1.90)			
Its R4	0.35** (.13)	1.11	1.42	1.82
Ebbt	1.69** (.58)	1.75	5.41	16.75
Exbanks	-1.02** (.27)	0.21	0.36	0.62
Ad kind (1) * PDS c	0.73** (.30)	1.14	2.07	3.74
Ad kind (2) * PDS c	-0.56 (.41), n.s.	0.25	0.57	1.28
Ad kind (1)* PDS e	-0.03 (.28), n.s.	0.56	0.97	1.68
Ad kind (2)* PDS e	1.20** (.38)	1.58	3.33	7.06

Note: R^2 = .37 (Cox and Snell), .59 (Nagelkerke), Model $\chi^2(5) = 94.26$, $p = .000$

** $p = .000$

An advantage of this method of analysis was that no filter separated the cognitive and emotional path conditions – the actual path dependence scores measured on the two dimensions with the respective scale items were employed. Therefore, even possible *emotional bonds in the informative condition* and *cognitive bonds in the emotional condition* were accounted for.

Furthermore, the intention to switch and exploratory buying behavior, as well as the experience with banks had a significant influence on the likelihood of breaking the path. High intention to switch and high exploratory tendencies led to higher odds of changing market suppliers. This is in line with theoretical expectations of the relation between those variables. Counter-intuitively however, a high experience with banks leads here to a lower likelihood of changing banks, than a low level of experience.

An explanation might lie in the notion that experience goes hand in hand with learning effects, that might lead to a higher switching barrier and hence a lower path break probability. As a matter of fact, cognitive PDS and the experience with banks were highly correlated ($r = .34$, $p = .000$).

The variables not included in the model, due to their non-significant influence on the dependent variable, were the need for cognition, risk aversion, the satisfaction with the status quo, the attitude towards ads and banks, and the involvement with banks. Although some of these concepts played a role in path formation (need for cognition for cognitive PDS and risk aversion, attitude towards and involvement with banks for emotional PDS) they seem not to positively or negatively affect path break. This is surprising at first, but might be explained by keeping in mind the difference of path breaking efforts from the individual versus outside influences. Certain personal dispositions might aid in path *formation* while at the same time, they do not hinder *active* path break attempts from other individuals or firms to be successful – the individual would not break the path if it was not for the intervention of the alternative supplier. Further, of course the version (A or B), ad kind, and cognitive as well as emotional PDS on their own were not included. This was expected, for only the *interaction* between the kind of path dependence and advertising appeal should have an effect on breaking the path.

The results of the binary logistic regression could be supported by those of Chi²-tests as shown in table 28. These analyses (appendix 14) were conducted by setting different filters to look at specific groups of respondents (all path dependent, all path dependent in the cognitive condition – version A, and all path dependent in the emotional condition – version B).

Table 28: Results Chi²-tests of hypotheses testing

<table>
<tr><td colspan="3">Objective: Is there a difference for breaking a path between participants that either saw an informative, an affective, or no ad?
Variables: ad kind and path break</td></tr>
<tr><td>Results</td><td>Interpretation</td><td>Support for</td></tr>
<tr><td colspan="3">Filter: Only path dependent participants</td></tr>
<tr><td>$\chi^2(2) = 21.27$
$p = .000$
Odds of ad:
0.06 (no)
0.33 (informative)
0.49 (affective)</td><td>Odds for breaking path after seeing an :
Informative versus an affective ad 0.68 times lower (affective ad more effective)
Informative versus no ad 5.84 times higher
Affective versus no ad 8.55 times higher
Affective most effective, then informative ad, then no ad
Seemingly significant influence of ad kind on path break.</td><td>-</td></tr>
<tr><td colspan="3">Filter: Only path dependent participants version A (cognitive path)</td></tr>
<tr><td>$\chi^2(2) = 16.32$
$p = .000$
Odds of ad:
0.03 (no)
0.71 (informative)
0.23 (affective)</td><td>Odds for breaking path after seeing an:
Informative versus an affective ad 3.11 times higher
Informative versus no ad 26.84 times higher
Affective versus no ad 8.64 times higher
Informative ad most effective, then affective ad, then no ad.</td><td>H1</td></tr>
<tr><td colspan="3">Filter: Only path dependent participants version B (emotional path)</td></tr>
<tr><td>$\chi^2(2) = 19.55$
$p = .000$
Odds of ad:
0.03 (no)
0.15 (informative)
0.76 (affective)</td><td>Odds for breaking path after seeing an:
Affective versus an informative ad 5.18 times higher
Affective versus no ad 24.34 times higher
Informative versus no ad 4.70 times higher
Affective ad most effective, then informative ad, then no ad.</td><td>H2</td></tr>
</table>

The results for the separate analyses of versions A and B are in line with H1 and H2 respectively. Seemingly, there is a significant influence of the advertising approach on the path break decision due to a difference in experimental groups, and hence the path manipulation. The odds for breaking a cognitive path with informative advertising are 26.84 times higher than breaking it with no advertisement and 3.11 times higher than breaking it with an affective approach (supporting H1).

Furthermore, the odds for breaking the consumption path in the emotional condition are 24.34 times higher after an affective versus no advertisement, and 5.18 times higher after affective versus informative advertisement.

The same relationship was evident when checking for the possibility of respondents having *only* high cognitive PDS but low emotional PDS (and vice versa) versus those individuals, that showed high scores on *both* dimensions. While the matching of advertising was significant in effectively breaking consumption paths of respondents bound by a single dimension, having high PDSs on both dimensions made the *kind* of advertising appeal unimportant (see appendix 14). This supports the notion again that the path dimensions sort of dictate an advertising appeal's effectiveness and serves as a further check for the consistency of the results.

A further analysis was conducted to isolate the effect of advertisement in general, independent of the specific approach. The results of the Chi²-test indicated, that advertisement (versus no advertisement) did prove effective in general to break the consumption path (A: $\chi^2(1) = 11.56$, $p = .001$; B: $\chi^2(1) = 8.64$, $p = .003$).

Lastly, to include the effect of advertisement on the *intention* to switch of path dependent consumers, an oneway ANOVA was run for each version, A and B, of the survey (see appendix 14). The objective of the analysis was to find out, whether there is an influence of the kind of ad used to break the consumption path on the intention to switch. Therefore, the dependent variable here is the intention to switch measured in round five of the experiment, after the participants have been exposed to the independent variable being the informative, the affective, or no advertisement.

Figure 24 illustrates the estimated marginal means of the intention to switch in the six experimental conditions (cognitive and emotional path x informative, affective, and no advertisement).

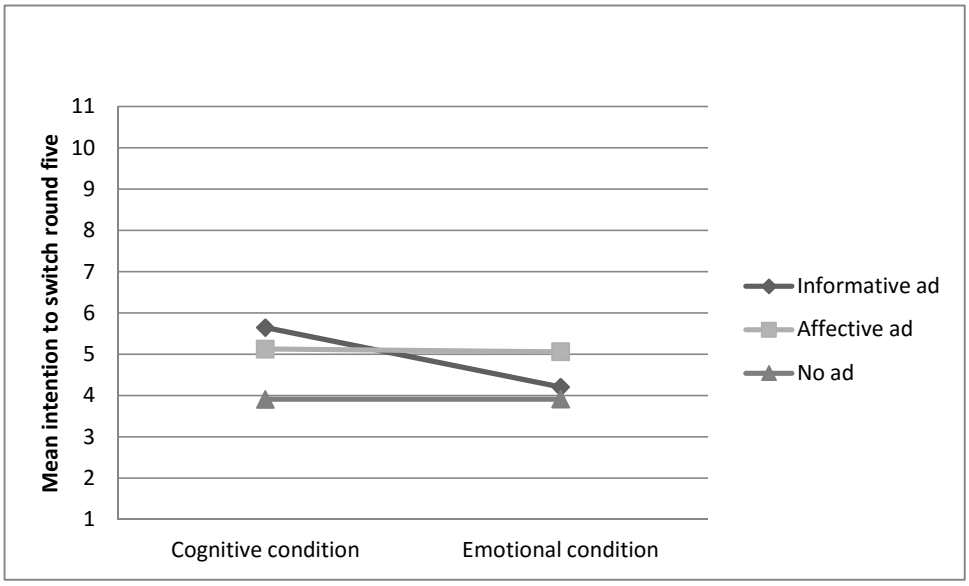

Figure 24: Mean intention to switch across experimental groups round five

In the cognitive condition, Levene's test did not yield significant results, so the assumption of homogeneity of variance was met. The mean for intention to switch was highest for the informative ad and lowest for no ad, just as would be expected for version A. There was a significant effect of ad kind on the intention to switch in round five (F (2, 92) = 4.37, p = .015, ω = .26). Further, planned contrasts revealed that seeing an ad (vs. no ad) had a significant (t(92) = 2.83, p = .003 (1-tailed), r = .28) influence on the intention to switch and more, that the difference between seeing an informative ad or an affective ad had no significant influence (t(92) = 0.77, p = .221 (1-tailed), r = .08).

Looking at the emotional condition, the assumption of homogeneity of variance was also met. The mean values for the intention to switch turned out as expected as well, with the mean highest for the affective ad and lowest for no ad. There was no significant effect of ad kind on the intention to switch (F(2, 106) = 2.68, p = .074). However, planned contrasts revealed, that there was a significant influence on the intention to switch for *affective ads compared to the no ad condition* (t(106) = -2.20, p = .030, r = .21) and no significant influence of no ad versus ad generally (t(106) = 1.58, p = .117), as was the case with version A. For the emotional condition, the kind of advertisement seems to be crucial. Lastly, no significant difference between the

influence of *informative* versus *affective* advertisement ($t(106) = -1.71$, $p = 0.090$, $r = .16$) was found.

Both analyses widely support the results of the regression and crosstabs above, although the intention to switch must be interpreted with caution, as it does not represent the actual act of path breaking. Nevertheless, the results indicate a difference in advertising effectiveness between different path dependence dimensions, with advertising in general being more effective than no advertising in influencing the intention to switch. Looking at the path dimensions separately, any kind of ad will increase the intention to switch on the cognitive path, no matter whether it is of informative or of affective nature. When faced with an emotional path dependence however, the framing of the ad (informative vs. affective) is crucial to effectively increase the intention to switch. Consequently, with the intention to switch as a proxy for lock-in, it can be reasoned, that the results of the analyses above support not H1 but H2 and further indicate the general effectiveness of using advertisement for increasing the intention to switch on cognitive paths.

4.5 Conclusion of Experiment

Above, the methodology, design, and pretesting, as well as the sampling and data analyses of the path break experiment were presented. Set in the banking industry, an online scenario experiment was conducted to firstly build path dependent consumption on two separate dimensions (cognitive and emotional) with randomly assigned participants and secondly, to test two different path breaking approaches in the form of informational and affective advertisement. Together with a control group without advertising in each path condition, this resulted in a 2 x 3 factorial between subjects design. The experiment's main aim was to test whether and in what form advertising is most effective when intending to break consumption paths on different path dimensions.

Overall, the experiment generated viable results. Two pretests and the analyses of manipulations in the main study showed, that the experiment's design and its measures were valid and yielded the intended effects. The same holds for the applied methods of analyses. A mix of discrete and continuous variables were measured and the path dependent consumption concept illuminated from different angles (e.g. with

the use of the path dependence scores on two dimensions, the screening of actual switches, and the measurement of the intention to switch). Furthermore, the results are in accordance with the hypotheses deducted under 2.4. There seems to be a connection of the specific path manifestation and effectiveness of path breaking approaches. Specifically, binary logistic regression (supported by contingency tables) was able to show that:

> For *cognitive* path dependence, it is more effective to see an *informative* than an affective advertisement (support for H1).
>
> For *emotional* path dependence, it is more effective to see an *affective* versus an informative advertisement (support for H2).

Further, for both dimensions of path dependent consumption tested, advertising proved more effective in triggering a path break than no advertisement.

Clearly, advertising in general had a significant positive influence on breaking consumption paths, as was shown via the control groups that were not targeted with any kind of path break manipulation. This certainly has relevant implications for practitioners, who want to entice consumers to switch away from a competitor's incumbent to their own market offers. Moreover, the kind of advertising approach should be contingent upon the kind of path dependence link. This knowledge can be instrumental in designing advertising messages that most effectively reach specific target groups.

Apart from its crucial part in the experimental design (in order to measure the path dependence kind and degree in the hypotheses testing of the analyses) employing the path dependence consumption scale for the cognitive and emotional dimension also yielded interesting results. The path dependence measured by the path dependence score on the *cognitive* dimension remained *stable directly after a break* occurred. This is likely owed to the fact that individuals do not quickly loose the knowledge acquired through the learning effects who led to the path dependence in the first place. Naturally, they still have a cognitive link with the incumbent product or

service. Therefore, it is advisable to employ a measure of intention to switch in addition to the path dependence score to enable statements about the likelihood of a future path break. Moreover, further research is needed to show, if, when, and to what extent the cognitive path dependence of the individual decreases after a path break. For individuals, who broke a path formed by an *emotional* bond, the path dependence score *dropped significantly directly after their switch*. A possible explanation for this might lie in the respondent's attempted legitimization of the choice to switch away. After all, leaving the beforehand affectionate consumer-supplier relationship could be justified by discounting the emotional bond. This would be in line with theory on cognitive dissonance reduction and self-perception. Cognitive dissonance theory claims that an individual desires to *avoid inconsistent cognitions* by adjusting or changing one of the latter (Bem 1972). Further, self-perception theory postulates, that individuals monitor themselves like outside observers (Bem 1972). In the case of switching the bank despite an emotional bond, according to those theories, the respondent might firstly observe this contradictory behavior and – as the switch was already made – will secondly change the evaluation of the relationship with the supplier to create consistency. Also, the realization that the incumbent supplier actually offers *inferior* conditions, when a competitor is able to deliver at lower costs and further conveys that with an affective advertising message (as most paths in the emotional condition were broke after exposure to an affective approach) might lead to a discounting of the emotional relation towards the former bank.

Additionally, the intention to switch was able to act as a proxy for actual switching between different banks. Indirectly, H2 could be supported in that the intention to switch was significantly higher for emotionally path dependent respondents after exposure to an affective than to an informative advertisement. H1 could not be supported in the same way, as while advertisement (versus none) was generally effective, there seemed to be no difference as to what *specific* approach was needed to heighten the intention to switch in the cognitive condition. However, this deviation from the results regarding actual decisions made by participants is most likely owed to the fact, that reported intentions do not completely mirror real behavior.

Overall, 51.65% of the respondents made path dependent decisions, which can lead to two connected assumptions. Firstly, this supports the theoretical claim that path dependence is indeed a rare disease. After all, the self-reinforcing mechanisms were aimed at all participants and yet about a half of the respondents did not stay with the incumbent supplier. An experimental setting that widely avoids unwanted outside influences might be expected to yield higher numbers of successful path manipulations, if that phenomenon occurred more frequently in real consumption contexts. Secondly, the *tendency* to become path dependent might be determined by individual dispositions and experiences. In the course of the experiment, several further exogenous variables were surveyed to gain insights on that specific question. The data revealed that, depending on the path dependence dimension, different traits influence the likelihood of becoming path dependent and further on breaking the path.

Regarding the former, the need for cognition and the experience with banks had a significant influence on forming a cognitive bond that led to path dependence. Likely, individuals who prefer to engage in cognitive efforts and have previous (learning) experiences with a specific product or service consequently trigger stronger learning effects that lead to the cognitive path. The emotional path was fostered by risk aversion, involvement, and the attitude towards banks. Possibly, individuals, who want to avoid risk, place a higher importance on the ability to trust in a supplier. And a positive attitude towards banks in general might have eased the formation of individual attachments. After all, if a consumer already has a favorable opinion towards banks, she will find it easier to start liking a bank. As for the involvement, a concept capturing the personal relevance of a product, service, or brand to a consumer, a higher involvement led to a higher emotional PDS. This is somewhat surprising given the fact that involvement is usually connected to a higher willingness and motivation to gather *information* about an offer, which would more likely increase learning and hence the cognitive path dependence score in the cognitive path condition. However, personal relevance might just as well increase an individual's willingness or even need to form a *positive emotional connection* towards the incumbent supplier in order to assure a stable relationship in the future. Therefore, it is less surprising, that involvement led to higher emotional path dependence score, but rather, that it did not lead to a higher *cognitive* one.

Indeed, these insights speak for the need to theoretically and further empirically separate dimensions of path dependent consumption. As the latter is conceptualized as an extreme form of consumer loyalty, this work supports the call for multi-dimensional approaches to research on this phenomenon.

When it comes to breaking the consumption path, exploratory buying behavior had an influence on the likelihood of switching to another bank. This is also supporting the expected connection between path dependent consumption and according marketing concepts within its nomological network.

Overall, the dimensionality of the path dependent consumption concept employed proved sensible (at least regarding the cognitive and emotional dimensions), as there are e.g. differences between the dimensions concerning:

- The influence of character traits on becoming path dependent
- The influence of character traits on breaking a path
- The influence of the advertising appeal kind on breaking a path

As it was not the focus of this study, no meaningful statements can be made about questions regarding the specific process or *possible phases of path formation* on the two dimensions manipulated in the experiment. The cognitive and emotional path dimensions were separately manipulated in order to test advertising effectiveness. Hence, there are no real insights as to whether consumption paths form according to an inherent, general sequence (e.g. cognition before emotion or vice versa). As illustrated under 2.2.2 however, that is rather unlikely from a theoretical point of view and certainly dependent on the consumption context. Nevertheless, what can be said about the progression of the two experimental path dimensions here is that they in fact showed fairly *similar* developments over the experimental rounds within the groups of path dependent versus non-path dependent participants (the only significant difference regarding the mentioned post-path break drop of the emotional path dependence score in the respective experimental condition). This speaks for an accurate experimental design or further, for simultaneous path formation on different path dimensions. This would be of interest for loyalty research as well, as was mentioned above, as there to this day is disunity about the way to approach this

concept's multi-dimensionality (two, three, or four dimensions), and on how to conduct research on the latter. In order to really explore the *process* of path formation and the interplay of the path dependent consumption dimensions, more extensive research has to be conducted, comparing various consumption contexts and target groups.

As could be shown by employing the two path dependence scores, respondents locked on the cognitive dimension showed some level of emotional path dependence and those on the emotional dimension similarly showed cognitive path dependence as well. This is mainly owed to the fact, that in order to design a realistic scenario, it cannot be omitted to foster a certain level of cognitive *and* emotional bond. The participants were exposed to learning, also in the emotional dimension, as they literally got to know the incumbent products and its offers on a basic level. On the other hand, in the cognitive dimension, positive emotions towards the bank cannot be avoided entirely. For instance, the mere exposure effect could have an influence, a phenomenon describing the case in which simply being confronted with some entity over and over, will increase an individual's liking towards it (Zajonc 1968). That alone could lead to positive emotional reactions towards the incumbent bank. Matter-of-factly though, this happenstance renders the experiment more realistic, because the dimensions of path dependence might be more or less dominant in a specific consumption situation, but most likely there is always *more than just one* dimension involved. An overlap seems inevitable. The manipulation checks ensured however, that among the path dependent respondents, the cognitive path dependence score was significantly higher than the emotional one and the emotional path dependence score significantly higher than the cognitive one in their respective experimental conditions.[31]

A further remark should be made on the informational value of the different statistical methods applied for hypotheses testing. Even if contingency tables cannot display causal relationships between the variables, it is reasonable to assume, that the significant relationship has a direction of influence, as the path break could definitely

[31] Further Chi²-analyses showed, that for individuals, who scored highly on both path dimensions, the kind of advertising appeal did not have an influence on advertising effectiveness, while for individuals with either only high cognitive *or* emotional path dependence scores, informational or affective advertising respectively was more effective (see appendix 14).

not influence the assignment to the experimental group. Additionally, just as was the case in the binary logistic regression above, the dependent variable was the *actual* decision to switch or to stay with the incumbent offer after seeing an advertisement, which yielded more realistic results than to look at a proxy for switching such as the intention to switch. Also, the path manipulation (cognitive versus emotional) could be included in the regression via the path dependence scores, without having to filter for the specific experimental version. Integrating the latter into one analysis made it possible to account for the actual path dependence scores on each dimension – and hence even tested the effectiveness of the advertising approach on respondents that scored highly on the 'wrong' path dimension (emotional paths in the cognitive dimension and vice versa).

Apart from the support for the hypotheses H1 and H2, the results of the analyses spoke for the notion of the multi-dimensionality of the path dependent consumption concept. The separation of path dimensions into cognitive and emotional ones makes sense, as they produce different results when it comes to advertising effectiveness. However, the results presented above must be seen in the light of the context in which they have been obtained. As mentioned before, a laboratory experiment supports internal consistency, while the insights might not be generalizable to other consumption situations. The data nevertheless generated significant results that enhance the understanding of path dependent consumption at the individual level.

5 General Discussion

5.1 Summary, Contributions, and Implications

The concept of consumer loyalty has been of great interest for scientists for many decades, as it not only offers one of the most complex and wide-ranging research topics, but further, because it has a remarkable impact on consumer decision making and the connected economic opportunities and challenges of the market. The dissertational research presented here combined theory from the fields of marketing, especially regarding consumer loyalty, with the concept of path dependence, which stems from economic history and has been adopted to various research areas. In that, it aimed at furthering the understanding of persistent consumption patterns that

hinder the consumer to freely choose from available market offers and create a sort of lock-in on past choices. Specifically, its main research objective was to *theoretically conceptualize the concept of individual path dependent consumption*, and moreover, to explore sensible and useful ways of firstly *measuring the kind and degree of path dependent consumption* and secondly, to test *how to effectively break said paths* by freeing the consumer from previously binding relationships with incumbent suppliers.

After a thorough review of the existing related literature, path dependent consumption was conceptualized as an extreme form of consumer loyalty that is formed under the influence of self-reinforcing mechanisms on a cognitive, emotional, habitual, and calculative dimension, which can be more or less dominant in generating a lock-in on an incumbent market offer, depending on the specific consumption context. Thereby, this work tapped into various gaps in marketing and path dependence theory. The latter, largely placed in organizational research, lacked an understanding of the individual level of path dependence. While organizations might experience the lock-in on a path due to mechanisms on the macro-level (such as network effects), individual consumers are influenced by *micro level feedback mechanisms* that relate to their cognitions, emotions, habits, and calculative rationale.

Further, limitations of the existing marketing literature called for more research. Foremost, previous loyalty studies are characterized by a clutter of conceptualizations that include varying numbers of loyalty dimensions. Although researchers have come up with all of the four loyalty dimensions applied in this work, a holistic theoretical understanding of consumer loyalty was still called for. This research provided a first step in that direction by integrating all four dimensions theoretically, and by backing these deductions with empirical investigations. That approach can explain why the focus on only single loyalty dimensions would cause the diversity in marketing research. Another limitation concerned the lack of a clear-cut conceptualization of consumer lock-in, previously a neglected concept with varying assumptions as to what actually constitutes such a lock-in. Instead of merely depicting it as a fixed state of a consumer, in this dissertation, consumer lock-in is conceptualized as the interplay of the mentioned path dimensions that cause a switching barrier high enough for the consumer not to engage in switching efforts.

In addition, the notion of self-reinforcing mechanisms from path dependence research was integrated as well, as their repeated influence on the four path dimensions eventually leads to the lock-in of consumers. Without being appreciated theoretically, their absence will lead to an insufficient explanation of the formation and stabilization of the loyalty bond, as has happened in the past.

Furthermore, the question of efficiency of consumer decision making was elaborated on. As recent path dependence literature suggests, the idea that inefficiency of the path is a necessary condition for path dependence to occur has largely been disbanded from present conceptualizations. In the consumer context, the problem of defining inefficiency, when individuals base their decisions on highly subjective grounds, placed a hindrance to the application of path dependence in the consumption context hardly to be overcome. This work aligned itself alongside recent debates against the inclusion of an inefficiency constraint by arguing that path dependence can indeed occur on any consumption path independently of other existing superior or inferior market offers.

An additional achievement of this dissertation is the placement of path dependent consumption in the nomological network of related marketing and path dependence concepts. For both fields, this places a valuable theoretical contribution. It could be illustrated, that path dependent consumption is indeed theoretically different from concepts such as inertia, satisficing, and involvement, even if these concepts partly overlap regarding their consequences for the consumer. Positioned at the extreme, high end of consumer loyalty, path dependent consumption should not be confused with seemingly identical concepts that are based on differing assumptions. Rather, in order to make scientific progress, research should offer clear cut conceptualizations that include the distinction of concerned concepts if needed. This would prevent confusing and diverting research results. The present work provided for that regarding the concept of path dependent consumption.

Concerning the theoretical appreciation of possible path breaks, a matching of path breaking approaches with the respective dominant path dimensions was suggested. Two hypotheses regarding the cognitive and emotional dimension of path dependence were formed, concluding the theoretical part of this dissertation. In consideration of previous studies on advertising effectiveness, it was proposed that

cognitive paths are most effectively approached by informational advertising, while emotional paths are best broken by affective appeals.

Subsequently, two studies were conducted to answer the research questions of how to measure and break consumption paths and test these hypotheses. In study 1, a scale was developed to measure each of the four path dependent consumption dimensions. While the cognitive, emotional, and habitual items formed separate dimensions that captured the respective kind and degree of path dependence, the inclusion of the calculative items resulted in a heavy shortening of the scale. As further research would be needed in order to explore a possible cause for these results (e.g. different target groups, consumption stimuli, and so forth), the scale development remained inconclusive in part. What became apparent though is that the conceptualization of path dependence as a multi-dimensional phenomenon is viable regarding three of the four dimensions and further, that the use of the cognitive and emotional scale items in the following empirical investigation was unproblematic. Hence, the theoretical deductions of this work were widely supported to this point. The fourth, calculative dimension was kept in the conceptualization of path dependent consumption because of its reasoned theoretical importance to this concept.

Study 2 was designed in form of a path break experiment in order to test the hypotheses of matching path dimensions with advertising appeals. The results could show that in fact the framing of an advertising message as informational or affective was instrumental in effectively breaking consumption paths of a cognitive and emotional nature respectively. Thus, both hypotheses could be supported. With path dependence as an extreme loyalty state, those insights are valuable for loyalty research in that the same connections between loyalty dimension and advertising approach are likely to hold. Future research could test this assumption.

Apart from the theoretical implications for future path dependent consumption and loyalty research regarding the dimensions of these concepts, these results are of value for marketing managers. The scale items proved useful by providing a segmentation tool to measure the kind and degree of a consumer's path dependence. And while advertising (versus none) is generally an effective way for approaching locked-in consumers, the specific framing of the advertising message should be derived from the target group's dominant path dimension. In a competitive market, where

incumbent suppliers retain a loyal customer base, this could be crucial to a firm's marketing efforts, especially given the fact that firms spend a lot on advertising.

Table 29 lists the contributions of the dissertation in short.

Table 29: Contributions and implications of the dissertation

Contributions	**Implications**
Theoretical	
• Conceptualization of individual path dependent consumption • Dimensionality of path dependence • Conceptual distinction from related concepts and placing in nomological framework • Path break research • Enriching loyalty research with path dependence	• Path dependence on the individual level as an extreme form of consumer loyalty manifesting itself on different dimensions • Holistic view can explain diversity in research results on consumer loyalty • Dimensions of path dependence respond differently to advertising appeals
Empirical/Practical	
• New methodology for path dependence research (scale development and path break experiment) • Items for separate path dimensions • Experiment path breaks	• Segmentation of consumers and matching advertising strategies according to the (dominant) kind of path dependence • Path break approaches • Insights on advertising effectiveness for marketing practitioners

5.2 Critical Acclaim and Prospective Research

Every research project, no matter the execution, has its limitations connected to its conceptualization and the choice of methodology involved. The concept of path dependence was firstly developed in the field of economic historians, who tried to explain how economic markets and systems become locked-in on a specific standard. The presented research extends that concept to marketing science, specifically to

consumer behavior. As of today, little is known about *individual* path dependence, let alone path dependent *consumption*, so assumptions had to be made – for instance regarding the dimensionality of consumer path dependence – and definitions formulated, that accurately capture the concept of consumer path dependence. Despite all efforts to firstly provide sound theoretical conceptualizations and secondly empirical support for them, further empirical investigations need to confirm the claims made by this work, especially due to the novelty of the field.

On the other hand, a great body of literature exists on the concept of consumer loyalty. While this offered means of orientation for this research, the choice to adopt all four loyalty dimensions and regard them as theoretical equals in forming the consumption path, has to be backed by future empirical research. Even if it is theoretically sound, the inclusion of the calculative dimension and the subsequent empirical results of the scale development especially, give rise to the question, whether sunk and switching costs actually qualify for a single, self-contained loyalty and thus path dimension, or whether they should rather be integrated with one or several of the other three dimensions. In another vein, they could also act as a mediator between for example cognitive bonds and switching efforts. There are certainly very different ways of how to include the calculative dimension presented here into the path dependent consumption framework. The choice to include it as a fourth dimension, in order to capture more of the lock-in phenomenon apart from cognitive, emotional, and habitual ties, naturally lends itself to criticism. On the other hand, one single investigation is not sufficient to reach a satisfying conclusion on that matter. A different consumption context might have yielded stronger results in favor of a four-dimension solution. So far, exploring the impact of the calculative dimension on the formation of consumption paths remains a research avenue for future studies.

Additionally, there is little previous knowledge about the individual *strength* of loyalty dimensions. While the results of the scale development implied a higher impact of the emotional dimension, followed by the calculative, habitual, and cognitive ties, there is still the question of how generalizable those insights are. In the context of the banking industry (study 2), the emotional dimension seemed more volatile, but otherwise equally strong in binding the respondents to a specific

consumption path. This research therefore can make no claims about the weighting of the individual path dimensions.

Connected to that line of thought is the question of the *potency of individual path dimensions*, to actually lock a consumer on a path, when other dimensions show very low to no loyalty ties. For instance, is a habitual path alone enough to form solid switching barriers? If so, which dimension generates the most severe lock-in? This research, in looking mainly at the cognitive and emotional dimension, does not answer these questions. In the path break experiment, both the cognitive and the emotional path could be broken through matching advertising appeals to a fairly equal extent (19 and 22 respondents respectively broke the path). Although this speaks for no difference between cognitive and emotional tie strength (as further supported by the cognitive and emotional path dependence scores), real life bonds apart from experimental conditions might yield different results.

Moreover, there was a certain amount of *overlap of the two dimensions* between the conditions of the experiment. The cognitively path dependent participants did also show emotional path dependence and vice versa. Although the 'unwanted' path scores were significantly lower, it cannot be stated with certainty, that they did not have any influence on the path break versus no break decisions. More research is needed on the possible connections of path dependent consumption dimensions.

Furthermore, the methodologies of the two empirical investigations itself come with certain limitations. First of all, the scale development aimed at supporting the multi-dimensionality of the path dependent consumption context and at generating valid and reliable items sets. It did not however yield to generate a single path dependent consumption score. In order to come up with such a score, the mentioned weighting of the individual path dimensions must be backed by more research results. As was the case across the first and second empirical investigation here, the cognitive and emotional dimensions alone were of differing importance in the path formation. In study 1, the emotional dimension accounted for roughly half of the variance explained. But granted that the experiment purposefully manipulated the path ties, it was not the case that emotionally bound respondents were less inclined to break their path compared to cognitively locked ones. Consequently, more research is needed to explore the interplay of path dimensions in forming an integrated, general path

dependent consumption score. Possibly, the dimension's individual scores are additive in nature, accounting for different weights of impact for specific consumption contexts.

In addition to that, there was no norm development phase integrated into study 1. The two pretests generated viable item sets, but no follow up study was conducted to explore at what *specific scores* on each dimension a consumer might be *locked* on a path. Although that was not intended in this first investigation into path dependent consumption, it would still be interesting to establish, at what (combination of) path dependence score(s) an individual becomes locked on a specific market offer. The experiment forwarded that effort, by providing a subsample of path dependent participants and measuring their cognitive and emotional path dependence scores (M = 3.96 and M = 3.94 respectively). Of course however, laboratory experiments generally have lower external consistency and despite random group assignments, the convenience sampling limits generalizability.

Turning further to the second study, while promoting practicability and internal consistency, the design of the experiment did not represent a longitudinal study, as might have been expected by a path investigation. After all, path dependence promotes the notion of 'history matters' and with that the idea is implied that a rather *lengthy* consumption history leads to lock-in. In order to manipulate paths on the two dimensions investigated here, that history had to be sort of mimicked. This was done by scenarios that altogether covered a fictional time horizon of two and a half years. In reality of course, if students had to renew contracts with banks every semester, months would lie in-between decisions and not merely minutes. Between searching for and engaging already path dependent consumers and manipulating the paths in order to increase comparability between subjects, the decision was made in favor of internal consistency, especially regarding this relatively new field of research. Future field experiments would nevertheless be of great value to path dependent consumption research.

Furthermore, the actual process of path development could only be measured via three data points (in round two, four and five) that provided snapshots on the path dependence scores on the two dimensions. These points were chosen as they marked important path development phases (pre-path, possible mid-path, possible post-path

break). Of course, it would have been interesting to measure the scores across all experimental rounds to generate a more elaborate picture of the path process. However, to avoid asking the respondents too many times how they evaluated the incumbent bank and risk too big an influence by that approach, the application of the path scale items was limited to the minimum necessary number of data points. Further research on the *procedural aspects of path formation*, including also more than just the two dimensions of study 2, would aid in gaining a better understanding of the individual path dimensions, their possible interaction, and potential differences in development speed and intensity. Moreover, it would be interesting to explore how the habitual and calculative path dimensions respond to path break appeals.

Additional remarks should be made on the stimuli employed in the experiment. First of all, the banking industry was chosen to be the setting of the consumption paths. The services they offer have strong search good characteristics, which might have influenced the outcome of the study. Consumers can gather most of the important information needed in order to make a consumption decision *before* they actually engage with a bank. For goods or services that can only be evaluated and compared after consumption, more trust in the supplier is needed pre-decision. This could alter the effectiveness of informational versus affective advertising appeals.

Secondly, the scenario was designed around giro accounts offered to *students*. However, only 51.1% of the respondents were in fact students. While the use of Mturk was highly practical and is an acknowledged way to gather research data in the marketing community, there was no possibility to filter the participants regarding their student status. Even if the tendency to become path dependent was not significantly influenced by student status in the experiment, it cannot be ruled out, that the sample population's ability to identify with their scenario persona had an influence on the research results regarding *non-students* who had to imagine responding to student offers. On the other hand, the inclusion of the student aspect was merely a way of justifying the repeated choice of giro accounts (every semester) and should have had no further impact on the individual's ability to judge account conditions and choose between offers.

Thirdly, the stimuli to break the consumption paths in the form of advertising appeals carry limitations as well. Advertising effectiveness has been found to be influenced

by the consumption *context*. For instance, affective appeals were found to be most efficient with search goods and credence services as opposed to experience goods and services (Liebermann and Flint-Goor 1996). That might have had an impact of this research's results. Further, informational and emotional elements of an advertisement are founded in two distinct, but *non-exclusive* dimensions (Jourdan 1999). So a certain amount of overlap of dimensions within each advertising appeal is to be expected. Regarding that point however, manipulation checks at least showed, that the advertisements were significantly more informative and affective respectively, just as intended. And moreover, Deighton et al. (1994) found that advertising is less effective, if the consumer had just bought the product before seeing an advertisement. As the respondents in the experiment are frequently confronted with choosing giro accounts and thus have to make a lot of market choices in a small amount of time, it might be the case that they do want to legitimize past decisions by staying the consumption course. Hence, real life decisions that are more timely separated might yield even *better* results in terms of overall advertising effectiveness – consumers might be more inclined to switch when more time has passed since their last choice in favor of the incumbent bank. However, here the difference *between* different advertising appeals was of interest. The lessening of advertising effectiveness likely affected both appeals in the same way.

Apart from validating this work's research results in different contexts, the field of path dependent consumption holds many interesting research avenues to be explored in the future. For example, more research is needed to explore how *individual dispositions* aid in path formation on the different dimensions and subsequently path break attempts. In the experiment above, a few results seemed surprising. Some personality traits did not have a significant influence on path concepts that theoretically were expected to and others had an impact in *forming* the path, but not in *breaking* it. It would be interesting to investigate how different personality traits influence loyalty and eventually path dependence to that regard. This would also aid in more sophisticated segmenting opportunities of marketing practitioners for targeting specific groups of consumers. Furthermore, influences on path formation on different dimensions, other than the individual disposition and internal processes, should be explored as well. It is known for instance that brand loyalty and switching

heavily rely on contextual factors, such as social influences, product availability, competitiveness of the market and so forth (Shuckla 2009).

Looking at the important role positive feedback plays in creating loyal bonds, exploring the interplay of increasing returns with *diminishing* returns could also be valuable. The more complex the consumption, the more feedback mechanisms are at work. This on the one hand further supports multi-dimensionality, but on the other, also implies both the influences working *towards* a path manifestation as well as *opposing* influences, that work towards the freedom of choice of the consumer. For reasons of simplicity, this research looked at mechanisms that foster the consumption path and those that break a path *after* its formation. Diminishing returns as such are left for future research.

Also, it would be very interesting to look into the *post-break consumption* of the individual. Specifically, how will the consumer value the incumbent supplier after the switch? Will it take a longer time to forge a bond with the new supplier? And will there always be a higher chance of the consumer switching back? Specifically the latter question might likely be connected to the trade-off between the confinement of a lock-in and the security of a loyal bond.

Lastly, future research on the role of path dependent consumption and lock-in could be of interest for various marketing fields. This regards *intentionally locking* consumers (e.g. online shoppers on specific web sites) and *de-locking consumers* with path break appeals other than advertising (e.g. word-of-mouth, social media, brand events).

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Short Summary English and German

English Short Summary:

This dissertation combined the concept of path dependence with marketing theory in order to address research gaps in both fields. Specifically, by investigating path dependent consumption on the individual level, the notion of self-reinforcement leading to path manifestation and eventually to lock-in was applied in the context of consumer loyalty. Previous research so far has neglected to explore what mechanisms foster different dimensions of lock-in, how individual path dependence can be measured on different levels, and further, how to address consumers, who are locked-in on a path and effectively persuade them to change their rigid consumption patterns. Consequently, this work investigated the following research question:

> *How can path dependent consumption, which was formed and stabilized under the influence of self-reinforcing mechanisms, be measured and the consumption path be broken effectively?*

Firstly, a detailed conceptualization of individual path dependent consumption was presented. After a thorough review of both management and marketing studies, the latter was defined as a rare and extreme case of consumer loyalty, which is created by self-reinforcing mechanisms on a cognitive, emotional, habitual, and calculative dimension, or on a combination of those four. Next, path dependent consumption was distinguished from related marketing phenomena (satisficing, inertia, involvement, character traits such as variety seeking, and switching costs), in order to provide clarity on similarities and differences regarding concepts that are repeatedly used interchangeably in the literature. That illustration is especially valuable, as the deficient delineation of concepts leads to differing research results and can hinder scientific progress. Concluding the conceptualization, two hypotheses regarding possible path breaks on the cognitive and emotional dimension with matching advertising appeals were deducted. The hypotheses state that:

H1: Informative advertising is more effective than affective advertising in breaking path dependent consumption on a cognitive level.

H2: Affective advertising is more effective than informative advertising in breaking path dependent consumption on an emotional level.

Secondly, two studies constituted the empiricism of this dissertation. In study 1, a scale was developed with four distinct sets of items to reflect each of the path dependent consumption dimensions. The results of a paper-based survey in the context of mobile phone brands showed, that three of the deduced path dimensions, namely the cognitive, emotional, and habitual dimension, represent separate levels of the consumer-supplier bond. Although the results regarding the calculative dimension were inconclusive, the latter was kept as part of the path dependent consumption framework, due to the assumed theoretical contribution it has to stimulating consumer lock-in. In study 2, an online scenario experiment set in the banking industry was conducted. A two (cognitive versus emotional path manipulation) times three (informative, affective, and no advertising) between subjects design aimed at testing the hypotheses on path breaks and matching advertising appeals. It was found, that in order to persuade locked respondents to switch market offers, informative advertising was more effective than affective advertising in cases of cognitive path dependence and conversely, affective advertising was more effective than informative advertising for emotionally locked individuals. Hence, the hypotheses were supported.

Overall, this work provided several theoretical and empirical contributions as well as implications for marketing practitioners. The conceptualization of path dependent consumption, with its multi-dimensionality, self-reinforcing mechanisms, and lock-in informs loyalty research and may explain some of the disparities of results previous studies showed. Furthermore, in the field of path dependence research, the development of a scale and the investigation of path breaks by means of an experiment have not yet been executed and hence represent methodological contributions. In addition to that, the findings concerning separate path dimensions and matching advertising appeals contribute to research on advertising effectiveness. Especially those insights are valuable from a practical point of view. For marketing

managers, the path dependent consumption scale can be useful in order to identify and segment locked consumers regarding their dominant path dimensions. Subsequently, advertising campaigns can be designed effectively and connected costs reduced when firms try to persuade consumers to switch from their incumbent products or services to their own offers.

Deutsche Kurzzusammenfassung:

Diese Dissertation vereint Pfadabhängigkeitsforschung mit Marketingtheorie, um pfadabhängigen Konsum auf der individuellen Ebene zu untersuchen. Das Konzept der Konsumentenloyalität wird dabei durch Parameter der Pfadtheorie, wie selbstverstärkende Prozesse, die einen Pfad generieren und schließlich im Lock-in enden, ergänzt. Dadurch werden Forschungslücken in beiden Bereichen adressiert. Insbesondere Fragen nach einzelnen, pfadfördernden Mechanismen auf verschiedenen Pfaddimensionen, nach der Messbarkeit und tatsächlichen Messung dieser Dimensionen und nach effektiven Pfadbruchmöglichkeiten, wurden bislang unzulänglich beantwortet. Diese Arbeit widmet sich diesem Umstand mit der folgenden Forschungsfrage:

> *Wie kann pfadabhängiger Konsum, welcher sich unter dem Einfluss von selbstverstärkenden Mechanismen bildet und stabilisiert, gemessen werden und der Konsumpfad effektiv gebrochen werden?*

Zunächst wurde dazu die Konzeptualisierung von pfadabhängigem Konsum auf der individuellen Ebene vorgenommen. Nach einer gründlichen Durchsicht und Besprechung der relevanten Management- und Marketingliteratur, wurde pfadabhängiger Konsum als eine extreme Form von Konsumentenloyalität, mit selbstverstärkenden Mechanismen auf einer kognitiven, emotionalen, habituellen und kalkulativen Ebene definiert. Anschließend wurde eine Abgrenzung von verwandten Marketingkonzepten (Satisficing, Inertia, Involvement, Persönlichkeitsvariablen wie Variety Seeking und Wechselkosten) vorgenommen um Klarheit bezüglich der theoretischen Gemeinsamkeiten und Unterschiede zu pfadabhängigem Konsum zu schaffen. Dies stellt einen relevanten wissenschaftlichen Beitrag dar, da oftmals Begriffe rund um diese Konzepte als austauschbar betrachtet werden. Die Ergebnisse von Studien zu den gleichen Phänomenen weichen aus diesem Grund häufig

voneinander ab und ein wissenschaftlicher Fortschritt und Erkenntnisgewinn werden erschwert. Die Konzeptualisierung schließt ab mit der Aufstellung von zwei Hypothesen zu Pfadbruch auf der kognitiven und emotionalen Ebene:

H1: Informative Werbung ist effektiver als affektive Werbung um Konsumpfade auf der kognitiven Ebene zu brechen.
H2: Affektive Werbung ist effektiver als informative Werbung um Konsumpfade auf der emotionalen Ebene zu brechen.

Die sich anschließende Empirie dieser Arbeit besteht aus zwei Studien. Studie 1 nimmt eine Skalenentwicklung zur Messung von pfadabhängigem Konsum auf den vier theoretisch abgeleiteten Dimensionen vor. Die Ergebnisse einer Umfrage im Kontext von Mobiltelefonmarken konnten bestätigen, dass die abgeleitete kognitive, emotionale und habituelle Dimension voneinander trennbare Ebenen der Bindung zwischen Anbieter und Kunde darstellen. Die Ergebnisse der kalkulativen Dimension waren jedoch nicht eindeutig im Bezug auf deren Rolle bei Konsumpfaden. Nichtsdestotrotz wurde die kalkulative Dimension aufgrund ihres theoretisch begründeten Beitrags zur Bildung von pfadabhängigem Konsum als vierte Ebene beibehalten. Studie 2, in Form eines Online-Szenarioexperiments im Kontext der Bankenindustrie, hatte das Ziel, die zwei abgeleiteten Hypothesen bezüglich der Effektivität von Werbemaßnahmen bei Pfadbruchappellen zu testen. Dies führte zu einem zwei (kognitive und emotionale Pfadmanipulation) mal drei (informative, affektive und keine Werbung) Between-Subjects-Design. Es konnte gezeigt werden, dass bei kognitiven Pfaden informative Werbung effektiver einen Pfadbruch stimuliert als affektive und auf der anderen Seite, dass bei emotionalen Pfaden affektive Werbung wirkungsvoller ist als informative. Die Hypothesen konnten daher bestätigt werden.

Insgesamt konnte diese Dissertation mehrere theoretische und empirische Forschungsbeiträge sowie Implikationen für die Marketingpraxis liefern. Die gründliche Konzeptualisierung von pfadabhängigem Konsum auf der individuellen Ebene, mit seiner Mehrdimensionalität und seinem Lock-in, informiert bisherige Pfad- und Loyalitätsforschung und kann einen Teil der bisherigen voneinander

abweichenden Untersuchungsergebnisse früherer Studien erklären. Zudem stellen die Entwicklung einer Pfadskala und die Durchführung eines Pfadbruchexperimentes Neuerungen für die Pfadabhängigkeitsforschung dar und bilden daher einen methodischen Beitrag. Darüber hinaus sind die Erkenntnisse bezüglich der Wirksamkeit von informativer und affektiver Werbung bei Kundenbindungen auf kognitiver und emotionaler Ebene wertvoll für die Forschung zu Werbemaßnahmen. Zusätzlich können Marketingmanager von diesen Erkenntnissen profitieren, indem sie Werbekampagnen zum Abwerben von anderweitig gebundenen Konsumenten effektiver und damit kostengünstiger gestalten können.

Appendix

Table of Content Appendix

Appendix 1: Items Entering Pretest 1

Note: The numbers in Parenthesis denote the position in the survey and the code in the statistical analyses of the respective item.

Cognitive dimension:

- Ich kenne die Funktionen der Produkte der Marke (2, CD01).
- Ich weiß nicht, wie ich mit Produkten der Marke umgehen muss (7, CD02).
- Ich habe gelernt, wie die Produkte dieser Marke funktionieren (10, CD03).
- Ich habe den Umgang mit den Produkten der Marke erlernt (13, CD04).
- Ich habe gelernt, die Produkte der Marke zu Benutzen (17, CD05).
- Ich kenne mich mit den Produkten der Marke eher nicht aus (19, CD06).
- Ich bin unsicher bei der Bedienung der Produkte der Marke (20, CD07).
- Ich weiß nicht besonders gut über den Umgang mit den Produkten der Marke Bescheid (25, CD08).
- Ich kenne mich mit der Bedienung der Produkte der Marke aus (28, CD09).
- Ich weiß nicht, wie die Produkte der Marke funktionieren (30, CD10).
- Ich weiß, was mich bei der Benutzung der Produkte der Marke erwartet (33, CD11).

Emotional dimension:

- Ich vertraue der Marke (1, ED01).
- Ich fühle mich der Marke emotional verbunden (4, ED02).
- Die Marke gehört zu mir (5, ED03).
- Ich vertraue den Eigenschaften der Markenprodukte nicht (8, ED04).
- Die Marke ist mir unsympathisch (12, ED05).
- Die Marke passt nicht gut zu mir (14, ED06).
- Die Marke gibt mir ein sicheres Gefühl (16, ED07).
- Es fühlt sich nicht richtig an, diese Marke zu benutzen (18, ED08).
- Ich fühle mich der Marke verbunden (21, ED09).
- Ich benutze die Marke, weil sie mein Selbstbild unterstützt (23, ED10).
- Ich habe die Marke gern (26, ED11).
- Die Marke ist mittlerweile ein Teil von mir (31, ED12).
- Ich mag die Marke nicht (34, ED13).

Habitual dimension:

- Ich würde diese Marke nicht erneut kaufen ohne mich lange mit der Kaufentscheidung zu befassen (3, BD01).
- Vor dem nächsten Kauf so eines Produktes würde ich viel über alternative Marken nachdenken (6, BD02).
- Der Umgang mit den Produkten der Marke läuft eher automatisch ab (9, BD03).

- Bei der nächsten Kaufentscheidung würde ich intuitiv zur selben Marke greifen (11, BD04).
- Ich würde beim nächsten Mal wieder dieselbe Marke kaufen, ohne mich viel über alternative Marken zu informieren (15, BD05).
- Ich würde beim nächsten Mal fast automatisch dieselbe Marke kaufen (22, BD06).
- Ich benutze die Produkte der Marke nicht besonders routiniert (24, BD07).
- Die Marke wiederholt zu kaufen, ist mir zur Gewohnheit geworden (27, BD08).
- Die Nutzung der Produkte der Marke läuft für mich nicht sehr intuitiv ab (29, BD09).
- Würde ich mich heute für einen Kauf entscheiden müssen, würde ich ganz automatisch dieselbe Marke wählen (32, BD10).
- Die Nutzung dieser Marke ist für mich nicht zur Gewohnheit geworden (35, BD11).

Loyalty:

- Ich bin der Marke gegenüber loyal.
- Ich würde die Marke immer wieder kaufen.
- Ich bin kein treuer Kunde der Marke.
- Ich würde mich gegenüber der Marke als loyal bezeichnen.
- Ich würde diese Marke kaufen, auch wenn andere Marken etwas günstigere Angebote machen würden.
- Ich würde bei dieser Marke bleiben, selbst wenn ich mal was Schlechtes über ihre Produkte hörte.

Intensity:

- Ich nutze die Produkte der Marke sehr häufig.
- Ich nutze die Produkte der Marke intensiv.

Feeling of lock-in:

- Die Marke zu wechseln, erscheint mir beinahe unmöglich.
- Ich habe das Gefühl, keine alternativen Marken nutzen zu können.
- Auf Produkte dieser Marke zu verzichten würde mir schwerfallen.

Appendix 2: Survey Pretest 1

Freie Universität Berlin

Guten Tag!

Im Rahmen meiner Dissertation an der Freien Universität Berlin beschäftige ich mich mit Verhaltensweisen von Konsumenten in spezifischen Konsumsituationen. Dazu habe ich den Fragebogen erstellt, der Ihnen vorliegt.

Ich freue mich sehr, dass Sie sich bereit erklärt haben, an der folgenden Befragung teilzunehmen. Bitte lassen Sie **keine Frage aus** und beantworten Sie alle Fragen aufrichtig! Selbstverständlich sichere ich Ihnen zu, dass Ihre Daten **vollkommen vertraulich** behandelt werden. Ihr Fragebogen wird **anonym** ausgewertet.

Wenn Sie Ihren ausgefüllten Fragebogen zurückgeben, erklären Sie sich mit der Speicherung und Verarbeitung dieser anonymen Daten einverstanden.

Herzlichen Dank für Ihre Teilnahme!

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I. Haben Sie schon einmal an einer Marktforschungsstudie teilgenommen?

O Ja O Nein O Weiß nicht

Nun geht es um Ihr Konsumverhalten in bestimmten Situationen.

Wichtiger Hinweis:

Bitte denken Sie bei der Beantwortung der Fragen an Ihr aktuelles Mobiltelephon. Jedes Mal, wenn von einer „Marke" die Rede ist, stellen Sie sich bitte Ihre Mobiltelephonmarke vor.

II. Bitte kreuzen Sie jeweils an, inwieweit Sie den folgenden Aussagen zustimmen oder nicht zustimmen!

	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkommen zu
1. „Ich vertraue der Marke."	O (1)	O (2)	O (3)	O (4)	O (5)
2. „Ich kenne die Funktionen der Produkte der Marke."	O (1)	O (2)	O (3)	O (4)	O (5)
3. „Ich würde diese Marke nicht erneut kaufen ohne mich lange mit der Kaufentscheidung zu befassen."	O (1)	O (2)	O (3)	O (4)	O (5)
4. „Ich fühle mich der Marke emotional verbunden."	O (1)	O (2)	O (3)	O (4)	O (5)
5. „Die Marke gehört zu mir."	O (1)	O (2)	O (3)	O (4)	O (5)
6. „Vor dem nächsten Kauf so eines Produktes würde ich viel über alternative Marken nachdenken."	O (1)	O (2)	O (3)	O (4)	O (5)
7. „Ich weiß nicht, wie ich mit Produkten der Marke umgehen muss."	O (1)	O (2)	O (3)	O (4)	O (5)
8. „Ich vertraue den Eigenschaften der Markenprodukte nicht."	O (1)	O (2)	O (3)	O (4)	O (5)
9. „Der Umgang mit den Produkten der Marke läuft eher automatisch ab."	O (1)	O (2)	O (3)	O (4)	O (5)
10. „Ich habe gelernt, wie die Produkte dieser Marke funktionieren."	O (1)	O (2)	O (3)	O (4)	O (5)
11. „Bei der nächsten Kaufentscheidung würde ich intuitiv zur selben Marke greifen."	O (1)	O (2)	O (3)	O (4)	O (5)
12. „Die Marke ist mir unsympathisch."	O (1)	O (2)	O (3)	O (4)	O (5)
	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkommen zu

	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkommen zu
13. „Ich habe den Umgang mit den Produkten der Marke erlernt.“	O (1)	O (2)	O (3)	O (4)	O (5)
14. „Die Marke passt nicht gut zu mir.“	O (1)	O (2)	O (3)	O (4)	O (5)
15. „Ich würde beim nächsten Mal wieder dieselbe Marke kaufen, ohne mich viel über alternative Marken zu informieren.“	O (1)	O (2)	O (3)	O (4)	O (5)
16. „Die Marke gibt mir ein sicheres Gefühl.“	O (1)	O (2)	O (3)	O (4)	O (5)
17. „Ich habe gelernt, die Produkte der Marke zu Benutzen.“	O (1)	O (2)	O (3)	O (4)	O (5)
18. „Es fühlt sich nicht richtig an, diese Marke zu benutzen.“	O (1)	O (2)	O (3)	O (4)	O (5)
19. „Ich kenne mich mit den Produkten der Marke eher nicht aus.“	O (1)	O (2)	O (3)	O (4)	O (5)
20. „Ich bin unsicher bei der Bedienung der Produkte der Marke.“	O (1)	O (2)	O (3)	O (4)	O (5)
21. „Ich fühle mich der Marke verbunden.“	O (1)	O (2)	O (3)	O (4)	O (5)
22. „Ich würde beim nächsten Mal fast automatisch dieselbe Marke kaufen.“	O (1)	O (2)	O (3)	O (4)	O (5)
23. „Ich benutze die Marke, weil sie mein Selbstbild unterstützt.“	O (1)	O (2)	O (3)	O (4)	O (5)
24. „Ich benutze die Produkte der Marke nicht besonders routiniert.“	O (1)	O (2)	O (3)	O (4)	O (5)
25. „Ich weiß nicht besonders gut über den Umgang mit den Produkten der Marke Bescheid.“	O (1)	O (2)	O (3)	O (4)	O (5)
	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkommen zu

	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkom-men zu
26. „Ich habe die Marke gern.“	O (1)	O (2)	O (3)	O (4)	O (5)
27. „Die Marke wiederholt zu kaufen, ist mir zur Gewohnheit geworden.“	O (1)	O (2)	O (3)	O (4)	O (5)
28. „Ich kenne mich mit der Bedienung der Produkte der Marke aus.“	O (1)	O (2)	O (3)	O (4)	O (5)
29. „Die Nutzung der Produkte der Marke läuft für mich nicht sehr intuitiv ab.“	O (1)	O (2)	O (3)	O (4)	O (5)
30. „Ich weiß nicht, wie die Produkte der Marke funktionieren.“	O (1)	O (2)	O (3)	O (4)	O (5)
31. „Die Marke ist mittlerweile ein Teil von mir.“	O (1)	O (2)	O (3)	O (4)	O (5)
32. „Würde ich mich heute für einen Kauf entscheiden müssen, würde ich ganz automatisch dieselbe Marke wählen.“	O (1)	O (2)	O (3)	O (4)	O (5)
33. „Ich weiß, was mich bei der Benutzung der Produkte der Marke erwartet.“	O (1)	O (2)	O (3)	O (4)	O (5)
34. „Ich mag die Marke nicht.“	O (1)	O (2)	O (3)	O (4)	O (5)
35. „Die Nutzung dieser Marke ist für mich nicht zur Gewohnheit geworden.“	O (1)	O (2)	O (3)	O (4)	O (5)
	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkom-men zu

Schätzen Sie sich nun bitte selbst ein:

III. Bitte kreuzen Sie jeweils an, inwieweit Sie den folgenden Aussagen zustimmen oder nicht zustimmen!

	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkommen zu
1. „Ich bin der Marke gegenüber loyal."	O (1)	O (2)	O (3)	O (4)	O (5)
2. „Ich würde die Marke immer wieder kaufen."	O (1)	O (2)	O (3)	O (4)	O (5)
3. „Ich nutze die Produkte der Marke sehr häufig."	O (1)	O (2)	O (3)	O (4)	O (5)
4. „Ich bin kein treuer Kunde der Marke."	O (1)	O (2)	O (3)	O (4)	O (5)
5. „Je länger ich die Produkte der Marke benutze, desto besser kann ich mit ihnen umgehen."	O (1)	O (2)	O (3)	O (4)	O (5)
6. „Die Marke zu wechseln, erscheint mir beinahe unmöglich."	O (1)	O (2)	O (3)	O (4)	O (5)
7. „Ich nutze die Produkte der Marke intensiv."	O (1)	O (2)	O (3)	O (4)	O (5)
8. „Ich habe das Gefühl, keine alternativen Marken nutzen zu können."	O (1)	O (2)	O (3)	O (4)	O (5)
9. „Je länger ich die Produkte der Marke benutze, desto mehr vertraue ich ihr."	O (1)	O (2)	O (3)	O (4)	O (5)
10. „Ich würde mich gegenüber der Marke als loyal bezeichnen."	O (1)	O (2)	O (3)	O (4)	O (5)
11. „Je länger ich die Produkte der Marke benutze, desto weniger denke ich über alternative Marken nach."	O (1)	O (2)	O (3)	O (4)	O (5)
12. „Auf Produkte dieser Marke zu verzichten würde mir schwerfallen."	O (1)	O (2)	O (3)	O (4)	O (5)
13. „Ich würde diese Marke kaufen, auch wenn andere Marken etwas günstigere Angebote machen würden."	O (1)	O (2)	O (3)	O (4)	O (5)
14. „Ich würde bei dieser Marke bleiben, selbst wenn ich mal was schlechtes über ihre Produkte hörte."	O (1)	O (2)	O (3)	O (4)	O (5)
	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkommen zu

6/7

IX. Machen Sie nun bitte folgende Angaben zu Ihrer Person!

1. Ich besitze ein Mobiltelephon dieser Marke ungefähr seid: _____ (Bitte in Jahren und Monaten)

2. Ich besaß bisher Produkte von etwa _____ verschiedenen Mobiltelephonmarken.

3. Geschlecht: O Weiblich

O Männlich

4. Alter: _____

VIELEN DANK FÜR IHRE MITARBEIT!

7/7

Da der obige Fragebogen einen ersten Entwurf darstellt und sich folglich noch in einer Test-phase befindet, würde ich mich sehr über offene Kritik und Anregungen zur Verbesserung freuen. Hier einige Beispiele:

— Verständnis und Eindeutigkeit der einzelnen Fragen?
— Übersichtlichkeit und Anordnung der Fragen?
— Schwierigkeit bei der Beantwortung?

Kritikpunkte und Anregungen zur Verbesserung des Fragebogens verhelfen mir sehr zum Fortschritt und Erfolg meiner Arbeit. VIELEN DANK!

Appendix 3: SPSS Output Pretest 1

Reliability Statistics

Cronbach's Alpha	N of Items
,813	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CD04	11,4074	5,174	,622	,771
CD06	11,7778	3,872	,569	,852
CD07	11,0370	4,652	,781	,699
CD09	11,3333	5,615	,738	,754

Reliability Statistics

Cronbach's Alpha	N of Items
,922	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ED01	8,7407	12,738	,808	,904
ED02	9,4815	11,644	,760	,925
ED07	9,1852	12,234	,846	,891
ED11	9,0370	11,806	,885	,877

Reliability Statistics

Cronbach's Alpha	N of Items
,878	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BD01	8,2593	11,584	,761	,835
BD02	8,4815	13,028	,582	,902
BD06	8,6667	11,462	,808	,817
BD10	8,8148	11,157	,809	,815

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,670
Bartlett's Test of Sphericity	Approx. Chi-Square	259,813
	df	66
	Sig.	,000

Correlation Matrix

		CD04	CD06	CD07	CD09	ED01	ED02	ED07	ED11	BD01	BD02	BD06	BD10
Correlation	CD04	1,000	,373	,639	,728	,018	,068	-,048	-,243	-,040	-,053	-,021	,092
	CD06	,373	1,000	,632	,506	,440	,573	,372	,399	,248	,117	,242	,295
	CD07	,639	,632	1,000	,671	,015	,211	,044	-,092	-,021	-,098	,038	,057
	CD09	,728	,506	,671	1,000	,034	,301	,149	-,131	,077	,084	,048	,066
	ED01	,018	,440	,015	,034	1,000	,635	,833	,773	,328	,095	,525	,545
	ED02	,068	,573	,211	,301	,635	1,000	,681	,805	,563	,468	,668	,698
	ED07	-,048	,372	,044	,149	,833	,681	1,000	,807	,527	,216	,603	,578
	ED11	-,243	,399	-,092	-,131	,773	,805	,807	1,000	,548	,266	,711	,718
	BD01	-,040	,248	-,021	,077	,328	,563	,527	,548	1,000	,634	,678	,666
	BD02	-,053	,117	-,098	,084	,095	,468	,216	,266	,634	1,000	,471	,491
	BD06	-,021	,242	,038	,048	,525	,668	,603	,711	,678	,471	1,000	,918
	BD10	,092	,295	,057	,066	,545	,698	,578	,718	,666	,491	,918	1,000
Sig. (1-tailed)	CD04		,028	,000	,000	,464	,368	,406	,111	,421	,396	,459	,324
	CD06	,028		,000	,004	,011	,001	,028	,020	,106	,280	,112	,068
	CD07	,000	,000		,000	,471	,146	,414	,324	,458	,314	,426	,388
	CD09	,000	,004	,000		,433	,063	,229	,258	,351	,339	,406	,373
	ED01	,464	,011	,471	,433		,000	,000	,000	,047	,318	,002	,002
	ED02	,368	,001	,146	,063	,000		,000	,000	,001	,007	,000	,000
	ED07	,406	,028	,414	,229	,000	,000		,000	,002	,140	,000	,001
	ED11	,111	,020	,324	,258	,000	,000	,000		,002	,090	,000	,000
	BD01	,421	,106	,458	,351	,047	,001	,002	,002		,000	,000	,000
	BD02	,396	,280	,314	,339	,318	,007	,140	,090	,000		,007	,005
	BD06	,459	,112	,426	,406	,002	,000	,000	,000	,000	,007		,000
	BD10	,324	,068	,388	,373	,002	,000	,001	,000	,000	,005	,000	

Anti-image Matrices

		CD04	CD06	CD07	CD09	ED01	ED02	ED07	ED11	BD01	BD02	BD06	BD10
Anti-image Covariance	CD04	,258	,030	-,081	-,109	-,078	,028	,045	,008	-,031	,023	,055	-,072
	CD06	,030	,249	-,163	-,074	-,085	,022	,075	-,051	-,059	-,055	,039	,009
	CD07	-,081	-,163	,277	,018	,072	-,039	-,049	,036	,040	,091	-,041	,005
	CD09	-,109	-,074	,018	,165	,063	-,081	-,081	,055	,022	,041	-,028	,017
	ED01	-,078	-,085	,072	,063	,166	-,027	-,096	,010	,079	,032	-,014	-,004
	ED02	,028	,022	-,039	-,081	-,027	,112	,040	-,057	,007	-,101	,011	-,004
	ED07	,045	,075	-,049	-,081	-,096	,040	,118	-,045	-,067	-,028	,005	,014
	ED11	,008	-,051	,036	,055	,010	-,057	-,045	,056	-,002	,066	-,008	-,017
	BD01	-,031	-,059	,040	,022	,079	,007	-,067	-,002	,329	-,134	-,036	-,011
	BD02	,023	-,055	,091	,041	,032	-,101	-,028	,066	-,134	,371	-,004	-,036
	BD06	,055	,039	-,041	-,028	-,014	,011	,005	-,008	-,036	-,004	,123	-,086
	BD10	-,072	,009	,005	,017	-,004	-,004	,014	-,017	-,011	-,036	-,086	,104
Anti-image Correlation	CD04	,554[a]	,120	-,305	-,530	-,375	,165	,256	,069	-,108	,073	,310	-,438
	CD06	,120	,599[a]	-,620	-,364	-,420	,133	,439	-,431	-,206	-,180	,221	,054
	CD07	-,305	-,620	,582[a]	,084	,336	-,222	-,273	,291	,133	,284	-,224	,031
	CD09	-,530	-,364	,084	,453[a]	,383	-,595	-,580	,568	,093	,167	-,198	,131
	ED01	-,375	-,420	,336	,383	,675[a]	-,202	-,688	,101	,337	,129	-,097	-,029
	ED02	,165	,133	-,222	-,595	-,202	,713[a]	,350	-,723	,035	-,494	,094	-,033
	ED07	,256	,439	-,273	-,580	-,688	,350	,635[a]	-,554	-,338	-,133	,039	,128
	ED11	,069	-,431	,291	,568	,101	-,723	-,554	,674[a]	-,013	,456	-,100	-,220
	BD01	-,108	-,206	,133	,093	,337	,035	-,338	-,013	,828[a]	-,385	-,178	-,061
	BD02	,073	-,180	,284	,167	,129	-,494	-,133	,456	-,385	,604[a]	-,018	-,184
	BD06	,310	,221	-,224	-,198	-,097	,094	,039	-,100	-,178	-,018	,785[a]	-,758
	BD10	-,438	,054	,031	,131	-,029	-,033	,128	-,220	-,061	-,184	-,758	,785[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
CD04	1,000	,738
CD06	1,000	,704
CD07	1,000	,790
CD09	1,000	,805
ED01	1,000	,851
ED02	1,000	,809
ED07	1,000	,810
ED11	1,000	,934
BD01	1,000	,763
BD02	1,000	,782
BD06	1,000	,793
BD10	1,000	,803

Extraction Method: Principal Component Analysis.

Rotated Component Matrix[a]

	Component		
	1	2	3
CD04	-,116	,851	,006
CD06	,501	,671	,055
CD07	,054	,884	-,072
CD09	-,011	,891	,098
ED01	,920	,036	,052
ED02	,709	,255	,491
ED07	,869	,044	,232
ED11	,896	-,148	,331
BD01	,324	,008	,811
BD02	-,021	-,009	,884
BD06	,558	,005	,694
BD10	,558	,066	,698

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Component Matrix[a]

	Component		
	1	2	3
CD04	,063	,846	,136
CD06	,545	,601	-,215
CD07	,156	,875	-,026
CD09	,208	,860	,148
ED01	,760	-,063	-,519
ED02	,893	,101	-,027
ED07	,828	-,079	-,344
ED11	,874	-,287	-,297
BD01	,737	-,157	,443
BD02	,506	-,152	,709
BD06	,850	-,164	,206
BD10	,864	-,104	,215

Extraction Method: Principal Component Analysis.

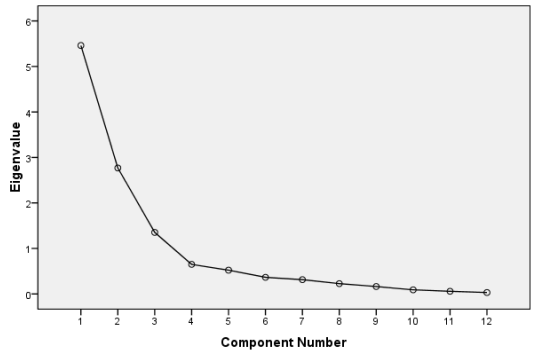
a. 3 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,460	45,503	45,503	5,460	45,503	45,503	3,902	32,514	32,514
2	2,769	23,074	68,577	2,769	23,074	68,577	2,846	23,718	56,232
3	1,353	11,271	79,848	1,353	11,271	79,848	2,834	23,616	79,848
4	,650	5,414	85,261						
5	,522	4,349	89,611						
6	,365	3,044	92,654						
7	,314	2,615	95,269						
8	,227	1,889	97,159						
9	,162	1,354	98,513						
10	,090	,752	99,265						
11	,057	,479	99,744						
12	,031	,256	100,000						

Extraction Method: Principal Component Analysis.

Scree Plot



Appendix 4: Items Entering Pretest 2

Note: The numbers in Parenthesis denote the position in the survey and the code in the statistical analyses of the respective item.

Cognitive dimension:

- Ich habe den Umgang mit den Produkten der Marke erlernt (2, CoD1).
- Ich kenne mich mit den Produkten der Marke eher nicht aus (6, CoD2).
- Ich bin unsicher bei der Handhabung der Produkte der Marke (11, CoD3).
- Ich kenne mich mit der Handhabung der Produkte der Marke aus (15, CoD4).

Emotional dimension:

- Ich vertraue der Marke (1, EmD1).
- Ich bin der Marke emotional verbunden (4, EmD2).
- Die Marke gibt mir ein sicheres Gefühl (8, EmD3).
- Ich habe die Marke gern (13, EmD4).

Habitual dimension:

- Bevor ich diese Marke erneut kaufe, würde ich mir das gut überlegen (3, HaD1).
- Vor dem nächsten Kauf so eines Produktes würde ich viel über alternative Marken nachdenken (7, HaD2).
- Ich habe mich daran gewöhnt, Produkte dieser Marke zu benutzen (10, HaD3).
- Würde ich mich heute für einen Kauf entscheiden müssen, würde ich ganz automatisch dieselbe Marke wählen (14, HaD4).
- Es ist für mich zur Gewohnheit geworden, Produkte dieser Marke zu kaufen (17, HaD5).

Calculative dimension:

- Der Aufwand, die Marke zu wechseln, ist mir zu hoch (5, CaD1).
- Ich habe viel Zeit in Produkte dieser Marke investiert (9, CaD2).
- Die Marke zu wechseln ist mir mit zu hohen Kosten verbunden (12, CaD3).
- Ich habe viel Geld in den Kauf von Produkten dieser Marke investiert (16, CaD4).

Loyalty:

- Ich würde mich gegenüber der Marke als loyal bezeichnen.
- Ich bin ein treuer Kunde der Marke.
- Ich würde diese Marke kaufen, auch wenn andere Marken etwas günstigere Angebote machen würden.
- Auf Produkte dieser Marke zu verzichten würde mir schwerfallen.

Intensity:

- Bei der Nutzung der Markenprodukte setze ich mich gründlich mit dem Produkt auseinander.
- Ich nutze die Marke sehr häufig (täglich).

Feeling of lock-in:

- Ich habe den Eindruck, die Marke nicht wechseln zu können.
- Ich habe den Eindruck, keine alternativen Marken nutzen zu können.

Appendix 5: Survey Pretest 2

Freie Universität Berlin

Guten Tag!

Im Rahmen meiner Dissertation an der Freien Universität Berlin beschäftige ich mich mit Verhaltensweisen von Konsumenten in spezifischen Konsumsituationen. Dazu habe ich den Fragebogen erstellt, der Ihnen vorliegt.

Ich freue mich sehr, dass Sie sich bereit erklärt haben, an der folgenden Befragung teilzunehmen. Bitte lassen Sie keine Frage aus und beantworten Sie alle Fragen aufrichtig! Selbstverständlich sichere ich Ihnen zu, dass Ihre Daten **vollkommen vertraulich** behandelt werden. Ihr Fragebogen wird **anonym** ausgewertet.

Wenn Sie Ihren ausgefüllten Fragebogen zurückgeben, erklären Sie sich mit der Speicherung und Verarbeitung dieser anonymen Daten im Rahmen meiner Dissertation einverstanden.

Herzlichen Dank für Ihre Teilnahme!

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Freie Universität Berlin
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I. Haben Sie schon einmal an einer Marktforschungsstudie teilgenommen?

O Ja O Nein O Weiß nicht

2/5

Nun geht es um Ihr Konsumverhalten in bestimmten Situationen. Wichtiger Hinweis:

Bitte denken Sie bei der Beantwortung der Fragen an Ihr aktuelles Mobiltelefon. Jedes Mal, wenn von einer „Marke" die Rede ist, stellen Sie sich bitte Ihre Mobiltelefonmarke vor (z.B. Samsung, Nokia, etc.). Es geht *nicht* um Mobilfunkanbieter wie Vodaphone oder O2, sondern um Mobiltelefonmarken.

II. Bitte kreuzen Sie jeweils an, inwieweit Sie den folgenden Aussagen zustimmen oder nicht zustimmen!

	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkommen zu
1. „Ich vertraue der Marke."	O (1)	O (2)	O (3)	O (4)	O (5)
2. „Ich habe den Umgang mit den Produkten der Marke erlernt."	O (1)	O (2)	O (3)	O (4)	O (5)
3. „Bevor ich diese Marke erneut kaufe, würde ich mir das gut überlegen."	O (1)	O (2)	O (3)	O (4)	O (5)
4. „Ich bin der Marke emotional verbunden."	O (1)	O (2)	O (3)	O (4)	O (5)
5. „Der Aufwand, die Marke zu wechseln, ist mir zu hoch."	O (1)	O (2)	O (3)	O (4)	O (5)
6. „Ich kenne mich mit den Produkten der Marke eher nicht aus."	O (1)	O (2)	O (3)	O (4)	O (5)
7. „Vor dem nächsten Kauf so eines Produktes würde ich viel über alternative Marken nachdenken."	O (1)	O (2)	O (3)	O (4)	O (5)
8. „Die Marke gibt mir ein sicheres Gefühl."	O (1)	O (2)	O (3)	O (4)	O (5)
9. „Ich habe viel Zeit in Produkte dieser Marke investiert."	O (1)	O (2)	O (3)	O (4)	O (5)
10. „Ich habe mich daran gewöhnt, Produkte dieser Marke zu benutzen."	O (1)	O (2)	O (3)	O (4)	O (5)
11. „Ich bin unsicher bei der Handhabung der Produkte der Marke."	O (1)	O (2)	O (3)	O (4)	O (5)
12. „Die Marke zu wechseln ist mir mit zu hohen Kosten verbunden."	O (1)	O (2)	O (3)	O (4)	O (5)
	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkommen zu

3/5

	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkommen zu
13. „Ich habe die Marke gern."	O (1)	O (2)	O (3)	O (4)	O (5)
14. „Würde ich mich heute für einen Kauf entscheiden müssen, würde ich ganz automatisch dieselbe Marke wählen."	O (1)	O (2)	O (3)	O (4)	O (5)
15. „Ich kenne mich mit der Handhabung der Produkte der Marke aus."	O (1)	O (2)	O (3)	O (4)	O (5)
16. „Ich habe viel Geld in den Kauf von Produkten dieser Marke investiert."	O (1)	O (2)	O (3)	O (4)	O (5)
17. „Es ist für mich zur Gewohnheit geworden, Produkte dieser Marke zu kaufen."	O (1)	O (2)	O (3)	O (4)	O (5)
	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkommen zu

Schätzen Sie sich nun bitte selbst ein:

III. Bitte kreuzen Sie jeweils an, inwieweit Sie den folgenden Aussagen zustimmen oder nicht zustimmen!

	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkommen zu
1. „Ich würde mich gegenüber der Marke als loyal bezeichnen."	O (1)	O (2)	O (3)	O (4)	O (5)
2. „Ich habe den Eindruck, die Marke nicht wechseln zu können."	O (1)	O (2)	O (3)	O (4)	O (5)
3. „Bei der Nutzung der Markenprodukte setze ich mich gründlich mit dem Produkt auseinander."	O (1)	O (2)	O (3)	O (4)	O (5)
4. „Je länger ich die Produkte der Marke benutze, desto weniger denke ich über alternative Marken nach."	O (1)	O (2)	O (3)	O (4)	O (5)
5. „Je länger ich die Produkte der Marke benutze, desto besser kann ich mit ihnen umgehen."	O (1)	O (2)	O (3)	O (4)	O (5)

	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkommen zu
6. „Ich bin ein treuer Kunde der Marke."	O (1)	O (2)	O (3)	O (4)	O (5)
7. „Je länger ich die Produkte der Marke benutze, desto mehr habe ich in die Marke investiert."	O (1)	O (2)	O (3)	O (4)	O (5)
8. „Ich habe den Eindruck, keine alternativen Marken nutzen zu können."	O (1)	O (2)	O (3)	O (4)	O (5)
9. „Je länger ich die Produkte der Marke benutze, desto mehr fühle ich mich ihr emotional verbunden."	O (1)	O (2)	O (3)	O (4)	O (5)
10. „Ich nutze die Marke sehr häufig (täglich)."	O (1)	O (2)	O (3)	O (4)	O (5)
11. „Ich würde diese Marke kaufen, auch wenn andere Marken etwas günstigere Angebote machen würden."	O (1)	O (2)	O (3)	O (4)	O (5)
12. „Auf Produkte dieser Marke zu verzichten würde mir schwerfallen."	O (1)	O (2)	O (3)	O (4)	O (5)
	stimme gar nicht zu	stimme eher nicht zu	teils/teils	stimme eher zu	stimme vollkommen zu

IX. Machen Sie nun bitte folgende Angaben zu Ihrer Person!

1. Ich besitze ein Mobiltelephon dieser Marke ungefähr seit: _____ (Bitte in Jahren und Monaten)

2. Ich besaß bisher Produkte von etwa _____ verschiedenen Mobiltelefonmarken.

3. Geschlecht: O Weiblich

O Männlich

4. Alter: _____

5/5

VIELEN DANK FÜR IHRE MITARBEIT!

Da der obige Fragebogen einen vorläufigen Entwurf darstellt und sich folglich noch in einer Testphase befindet, würde ich mich sehr über offene Kritik und Anregungen zur Verbesserung freuen. Hier einige Beispiele:

— Verständnis und Eindeutigkeit der einzelnen Fragen?
— Übersichtlichkeit und Anordnung der Fragen?
— Schwierigkeiten bei der Beantwortung?

Kritikpunkte und Anregungen zur Verbesserung des Fragebogens verhelfen mir sehr zum Fortschritt und Erfolg meiner Arbeit. VIELEN DANK!

Appendix 6: SPSS Output Pretest 2 EFA 1

Reliability Statistics

Cronbach's Alpha	N of Items
,738	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CoD01	11,9786	4,597	,531	,678
CoD02	12,6000	3,911	,537	,689
CoD03	11,8000	5,542	,439	,728
CoD04	12,2000	4,391	,657	,609

Reliability Statistics

Cronbach's Alpha	N of Items
,816	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
EmD01	10,2357	8,066	,589	,793
EmD02	11,2857	6,277	,557	,832
EmD03	10,5929	6,862	,716	,732
EmD04	10,3357	6,901	,752	,718

Reliability Statistics

Cronbach's Alpha	N of Items
,627	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
HaD01	13,0500	31,199	,487	,561
HaD02	13,1929	16,675	,304	,844
HaD03	13,0429	30,876	,486	,558
HaD04	13,3214	29,054	,622	,511
HaD05	13,9929	29,158	,632	,511

Reliability Statistics

Cronbach's Alpha	N of Items
,706	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CaD01	7,9643	7,402	,582	,585
CaD02	7,8429	7,802	,548	,609
CaD03	8,2643	9,117	,368	,710
CaD04	7,1929	7,178	,485	,653

Correlation Matrix

		CoD01	CoD02	CoD03	CoD04	EmD01	EmD02	EmD03	EmD04	HaD01	HaD02	HaD03	HaD04	HaD05	CaD01	CaD02	CaD03	CaD04
Correlation	CoD01	1,000	,386	,341	,533	,389	,359	,322	,354	,294	,182	,413	,273	,298	,323	,245	,066	,247
	CoD02	,386	1,000	,336	,537	,434	,499	,400	,466	,372	,201	,380	,436	,501	,380	,456	,082	,480
	CoD03	,341	,336	1,000	,397	,271	,207	,160	,257	,243	,035	,239	,118	,088	,081	,062	-,134	,183
	CoD04	,533	,537	,397	1,000	,311	,391	,400	,460	,301	,202	,563	,388	,438	,268	,450	-,067	,500
	EmD01	,389	,434	,271	,311	1,000	,316	,628	,613	,515	,214	,246	,388	,330	,292	,189	,074	,192
	EmD02	,359	,499	,207	,391	,316	1,000	,524	,589	,529	,220	,488	,569	,652	,614	,457	,301	,493
	EmD03	,322	,400	,160	,400	,628	,524	1,000	,636	,527	,160	,313	,500	,400	,370	,335	,120	,322
	EmD04	,354	,466	,257	,460	,613	,589	,636	1,000	,692	,245	,520	,654	,524	,484	,406	,214	,455
	HaD01	,294	,372	,243	,301	,515	,529	,527	,692	1,000	,203	,449	,609	,522	,466	,392	,196	,459
	HaD02	,182	,201	,035	,202	,214	,220	,160	,245	,203	1,000	,193	,303	,303	,183	,091	,090	,208
	HaD03	,413	,380	,239	,563	,246	,488	,313	,520	,449	,193	1,000	,525	,639	,456	,538	,199	,595
	HaD04	,273	,436	,118	,388	,388	,569	,500	,654	,609	,303	,525	1,000	,696	,540	,468	,305	,511
	HaD05	,298	,501	,088	,438	,330	,652	,400	,524	,522	,303	,639	,696	1,000	,590	,594	,284	,624
	CaD01	,323	,380	,081	,268	,292	,614	,370	,484	,466	,183	,456	,540	,590	1,000	,408	,517	,386
	CaD02	,245	,456	,062	,450	,189	,457	,335	,406	,392	,091	,538	,468	,594	,408	1,000	,226	,562
	CaD03	,066	,082	-,134	-,067	,074	,301	,120	,214	,196	,090	,199	,305	,284	,517	,226	1,000	,155
	CaD04	,247	,480	,183	,500	,192	,493	,322	,455	,459	,208	,595	,511	,624	,386	,562	,155	1,000
Sig. (1-tailed)	CoD01		,000	,000	,000	,000	,000	,000	,000	,000	,016	,000	,001	,000	,000	,002	,218	,002
	CoD02	,000		,000	,000	,000	,000	,000	,000	,000	,009	,000	,000	,000	,000	,000	,168	,000
	CoD03	,000	,000		,000	,001	,007	,030	,001	,002	,340	,002	,082	,151	,170	,235	,057	,015
	CoD04	,000	,000	,000		,000	,000	,000	,000	,000	,008	,000	,000	,000	,001	,000	,216	,000
	EmD01	,000	,000	,001	,000		,000	,000	,000	,000	,006	,002	,000	,000	,000	,013	,192	,011
	EmD02	,000	,000	,007	,000	,000		,000	,000	,000	,005	,000	,000	,000	,000	,000	,000	,000
	EmD03	,000	,000	,030	,000	,000	,000		,000	,000	,030	,000	,000	,000	,000	,000	,079	,000
	EmD04	,000	,000	,001	,000	,000	,000	,000		,000	,002	,000	,000	,000	,000	,000	,006	,000
	HaD01	,000	,000	,002	,000	,000	,000	,000	,000		,008	,000	,000	,000	,000	,000	,010	,000
	HaD02	,016	,009	,340	,008	,006	,005	,030	,002	,008		,011	,000	,000	,015	,143	,146	,007
	HaD03	,000	,000	,002	,000	,002	,000	,000	,000	,000	,011		,000	,000	,000	,000	,009	,000
	HaD04	,001	,000	,082	,000	,000	,000	,000	,000	,000	,000	,000		,000	,000	,000	,000	,000
	HaD05	,000	,000	,151	,000	,000	,000	,000	,000	,000	,000	,000	,000		,000	,000	,000	,000
	CaD01	,000	,000	,170	,001	,000	,000	,000	,000	,000	,015	,000	,000	,000		,000	,000	,000
	CaD02	,002	,000	,235	,000	,013	,000	,000	,000	,000	,143	,000	,000	,000	,000		,004	,000
	CaD03	,218	,168	,057	,216	,192	,000	,079	,006	,010	,146	,009	,000	,000	,000	,004		,033
	CaD04	,002	,000	,015	,000	,011	,000	,000	,000	,000	,007	,000	,000	,000	,000	,000	,033	

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,894
Bartlett's Test of Sphericity	Approx. Chi-Square	1220,256
	df	136
	Sig.	,000

Anti-image Matrices

		CoD01	CoD02	CoD03	CoD04	EmD01	EmD02	EmD03	EmD04	HaD01	HaD02	HaD03	HaD04	HaD05	CaD01	CaD02	CaD03	CaD04
Anti-image Covariance	CoD01	,592	-,019	-,061	-,157	-,103	-,054	,015	,043	-,015	-,042	-,081	,016	,033	-,059	,016	-,016	,053
	CoD02	-,019	,496	-,097	-,092	-,105	-,068	,029	-,002	,043	-,009	,076	-,017	-,031	-,027	-,087	,024	-,074
	CoD03	-,061	-,097	,694	-,109	-,060	-,061	,074	,001	-,078	,059	-,049	,013	,068	,015	,085	,066	-,010
	CoD04	-,157	-,092	-,109	,398	,044	,032	-,073	-,046	,075	-,042	-,090	-,006	-,005	,010	-,064	,104	-,062
	EmD01	-,103	-,105	-,060	,044	,404	,104	-,173	-,108	-,064	-,048	,029	,038	-,054	,000	,041	-,001	,061
	EmD02	-,054	-,068	-,061	,032	,104	,376	-,114	-,063	-,023	-,011	,014	,020	-,092	-,096	,005	-,023	-,012
	EmD03	,015	,029	,074	-,073	-,173	-,114	,422	-,048	-,024	,044	,041	-,049	,037	,004	-,033	,023	-,004
	EmD04	,043	-,002	,001	-,046	-,108	-,063	-,048	,299	-,103	-,012	-,062	-,083	,046	-,009	,004	-,018	-,005
	HaD01	-,015	,043	-,078	,075	-,064	-,023	-,024	-,103	,415	,006	-,007	-,068	-,010	-,032	-,035	,035	-,068
	HaD02	-,042	-,009	,059	-,042	-,048	-,011	,044	-,012	,006	,848	,021	-,062	-,061	,021	,095	-,016	-,027
	HaD03	-,081	,076	-,049	-,090	,029	,014	,041	-,062	-,007	,021	,404	-,005	-,089	-,022	-,061	-,023	-,082
	HaD04	,016	-,017	,013	-,006	,038	,020	-,049	-,083	-,068	-,062	-,005	,366	-,108	-,024	,004	-,048	-,006
	HaD05	,033	-,031	,068	-,005	-,054	-,092	,037	,046	-,010	-,061	-,089	-,108	,284	-,056	-,070	,023	-,064
	CaD01	-,059	-,027	,015	,010	,000	-,096	,004	-,009	-,032	,021	-,022	-,024	-,056	,433	,002	-,214	,023
	CaD02	,016	-,087	,085	-,064	,041	,005	-,033	,004	-,035	,095	-,061	,004	-,070	,002	,508	-,056	-,076
	CaD03	-,016	,024	,066	,104	-,001	-,023	,023	-,018	,035	-,016	-,023	-,048	,023	-,214	-,056	,651	-,005
	CaD04	,053	-,074	-,010	-,062	,061	-,012	-,004	-,005	-,068	-,027	-,082	-,006	-,064	,023	-,076	-,005	,456
Anti-image Correlation	CoD01	,875[a]	-,035	-,095	-,324	-,210	-,115	,029	,102	-,030	-,059	-,165	,034	,081	-,116	,029	-,026	,103
	CoD02	-,035	,912[a]	-,165	-,207	-,234	-,158	,064	-,004	,095	-,014	,170	-,039	-,082	-,058	-,174	,042	-,157
	CoD03	-,095	-,165	,786[a]	-,208	-,114	-,119	,137	,002	-,145	,076	-,093	,026	,153	,027	,144	,098	-,019
	CoD04	-,324	-,207	-,208	,860[a]	,109	,082	-,177	-,135	,185	-,072	-,225	-,017	-,014	,025	-,143	,204	-,146
	EmD01	-,210	-,234	-,114	,109	,793[a]	,266	-,420	-,312	-,156	-,083	,072	,099	-,160	,001	,090	-,002	,143
	EmD02	-,115	-,158	-,119	,082	,266	,900[a]	-,286	-,188	-,059	-,020	,035	,053	-,281	-,237	,012	-,046	-,029
	EmD03	,029	,064	,137	-,177	-,420	-,286	,875[a]	-,134	-,058	,073	,099	-,126	,106	,009	-,070	,044	-,009
	EmD04	,102	-,004	,002	-,135	-,312	-,188	-,134	,910[a]	-,292	-,024	-,178	-,250	,158	-,026	,010	-,041	-,014
	HaD01	-,030	,095	-,145	,185	-,156	-,059	-,058	-,292	,926[a]	,010	-,018	-,175	-,028	-,076	-,076	,067	-,155
	HaD02	-,059	-,014	,076	-,072	-,083	-,020	,073	-,024	,010	,888[a]	,035	-,112	-,123	,035	,145	-,021	-,043
	HaD03	-,165	,170	-,093	-,225	,072	,035	,099	-,178	-,018	,035	,915[a]	-,012	-,263	-,052	-,135	-,045	-,191
	HaD04	,034	-,039	,026	-,017	,099	,053	-,126	-,250	-,175	-,112	-,012	,933[a]	-,337	-,060	,008	-,098	-,014
	HaD05	,081	-,082	,153	-,014	-,160	-,281	,106	,158	-,028	-,123	-,263	-,337	,893[a]	-,159	-,184	,053	-,179
	CaD01	-,116	-,058	,027	,025	,001	-,237	,009	-,026	-,076	,035	-,052	-,060	-,159	,911[a]	,003	-,403	,052
	CaD02	,029	-,174	,144	-,143	,090	,012	-,070	,010	-,076	,145	-,135	,008	-,184	,003	,928[a]	-,097	-,159
	CaD03	-,026	,042	,098	,204	-,002	-,046	,044	-,041	,067	-,021	-,045	-,098	,053	-,403	-,097	,759[a]	-,009
	CaD04	,103	-,157	-,019	-,146	,143	-,029	-,009	-,014	-,155	-,043	-,191	-,014	-,179	,052	-,159	-,009	,936[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
CoD01	1,000	,446
CoD02	1,000	,535
CoD03	1,000	,512
CoD04	1,000	,739
EmD01	1,000	,763
EmD02	1,000	,622
EmD03	1,000	,660
EmD04	1,000	,749
HaD01	1,000	,624
HaD02	1,000	,124
HaD03	1,000	,663
HaD04	1,000	,670
HaD05	1,000	,752
CaD01	1,000	,626
CaD02	1,000	,605
CaD03	1,000	,559
CaD04	1,000	,655

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component		
	1	2	3
CoD01	,535	,394	-,066
CoD02	,679	,237	-,134
CoD03	,323	,632	-,091
CoD04	,652	,425	-,366
EmD01	,583	,338	,556
EmD02	,772	-,157	,030
EmD03	,668	,157	,436
EmD04	,805	,074	,309
HaD01	,731	-,017	,298
HaD02	,338	-,022	,095
HaD03	,728	-,038	-,363
HaD04	,783	-,216	,100
HaD05	,805	-,268	-,180
CaD01	,682	-,392	,088
CaD02	,653	-,195	-,375
CaD03	,310	-,659	,170
CaD04	,697	-,090	-,401

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Rotated Component Matrix[a]

	Component		
	1	2	3
HaD05	,786	,367	-,019
CaD04	,774	,145	,187
CaD02	,764	,127	,072
HaD03	,755	,198	,231
EmD02	,599	,512	,015
HaD04	,586	,568	-,057
CaD01	,583	,478	-,240
CoD02	,487	,361	,410
EmD01	-,024	,827	,280
EmD03	,172	,777	,166
EmD04	,375	,764	,156
HaD01	,361	,700	,058
HaD02	,197	,290	,026
CoD03	,063	,194	,686
CoD04	,537	,185	,646
CaD03	,360	,275	-,594
CoD01	,287	,331	,504

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

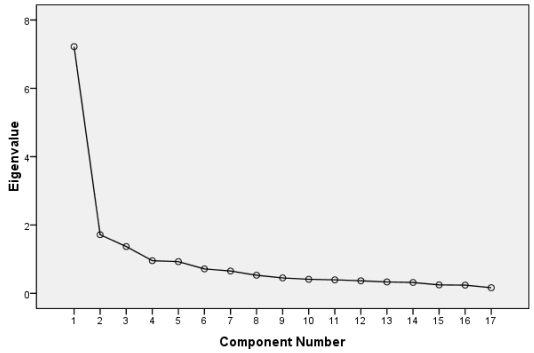
a. Rotation converged in 7 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7,220	42,471	42,471	7,220	42,471	42,471	4,494	26,438	26,438
2	1,714	10,084	52,555	1,714	10,084	52,555	3,857	22,688	49,125
3	1,369	8,055	60,611	1,369	8,055	60,611	1,953	11,485	60,611
4	,955	5,617	66,227						
5	,927	5,452	71,680						
6	,714	4,202	75,881						
7	,652	3,838	79,720						
8	,528	3,107	82,827						
9	,450	2,646	85,473						
10	,411	2,415	87,888						
11	,394	2,315	90,204						
12	,367	2,159	92,362						
13	,332	1,952	94,314						
14	,317	1,866	96,180						
15	,246	1,445	97,625						
16	,240	1,412	99,037						
17	,164	,963	100,000						

Extraction Method: Principal Component Analysis.

Scree Plot



Appendix 7: SPSS Output Pretest 2 EFA 2

Reliability Statistics

Cronbach's Alpha	N of Items
,695	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CoD01	3,9929	,755	,533	.[a]
CoD04	4,2143	,846	,533	.[a]

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Reliability Statistics

Cronbach's Alpha	N of Items
,832	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
EmD01	7,3714	3,314	,687	,777
EmD03	7,7286	2,803	,704	,757
EmD04	7,4714	2,956	,693	,766

Reliability Statistics

Cronbach's Alpha	N of Items
,820	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
HaD04	2,6571	1,536	,696	.[a]
HaD05	3,3286	1,603	,696	.[a]

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Reliability Statistics

Cronbach's Alpha	N of Items
,712	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CaD02	3,2286	1,947	,562	.[a]
CaD04	2,5786	1,368	,562	.[a]

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Correlation Matrix

		CoD01	CoD04	EmD01	EmD03	EmD04	HaD04	HaD05	CaD02	CaD04
Correlation	CoD01	1,000	,533	,389	,322	,354	,273	,298	,245	,247
	CoD04	,533	1,000	,311	,400	,460	,388	,438	,450	,500
	EmD01	,389	,311	1,000	,628	,613	,388	,330	,189	,192
	EmD03	,322	,400	,628	1,000	,636	,500	,400	,335	,322
	EmD04	,354	,460	,613	,636	1,000	,654	,524	,406	,455
	HaD04	,273	,388	,388	,500	,654	1,000	,696	,468	,511
	HaD05	,298	,438	,330	,400	,524	,696	1,000	,594	,624
	CaD02	,245	,450	,189	,335	,406	,468	,594	1,000	,562
	CaD04	,247	,500	,192	,322	,455	,511	,624	,562	1,000
Sig. (1-tailed)	CoD01		,000	,000	,000	,000	,001	,000	,002	,002
	CoD04	,000		,000	,000	,000	,000	,000	,000	,000
	EmD01	,000	,000		,000	,000	,000	,000	,013	,011
	EmD03	,000	,000	,000		,000	,000	,000	,000	,000
	EmD04	,000	,000	,000	,000		,000	,000	,000	,000
	HaD04	,001	,000	,000	,000	,000		,000	,000	,000
	HaD05	,000	,000	,000	,000	,000	,000		,000	,000
	CaD02	,002	,000	,013	,000	,000	,000	,000		,000
	CaD04	,002	,000	,011	,000	,000	,000	,000	,000	

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,851
Bartlett's Test of Sphericity	Approx. Chi-Square	594,316
	df	36
	Sig.	,000

Anti-image Matrices

		CoD01	CoD04	EmD01	EmD03	EmD04	HaD04	HaD05	CaD02	CaD04
Anti-image Covariance	CoD01	,658	-,250	-,122	,012	,001	,002	-,025	,004	,031
	CoD04	-,250	,527	,026	-,053	-,051	,019	-,007	-,082	-,124
	EmD01	-,122	,026	,481	-,189	-,148	,030	-,041	,052	,057
	EmD03	,012	-,053	-,189	,478	-,093	-,057	,018	-,044	,002
	EmD04	,001	-,051	-,148	-,093	,367	-,136	,008	-,018	-,051
	HaD04	,002	,019	,030	-,057	-,136	,392	-,172	-,006	-,022
	HaD05	-,025	-,007	-,041	,018	,008	-,172	,376	-,131	-,128
	CaD02	,004	-,082	,052	-,044	-,018	-,006	-,131	,559	-,115
	CaD04	,031	-,124	,057	,002	-,051	-,022	-,128	-,115	,498
Anti-image Correlation	CoD01	,803[a]	-,424	-,216	,021	,003	,004	-,050	,007	,054
	CoD04	-,424	,842[a]	,052	-,106	-,116	,042	-,015	-,150	-,242
	EmD01	-,216	,052	,786[a]	-,395	-,352	,070	-,095	,101	,116
	EmD03	,021	-,106	-,395	,874[a]	-,223	-,131	,042	-,085	,004
	EmD04	,003	-,116	-,352	-,223	,868[a]	-,359	,023	-,039	-,120
	HaD04	,004	,042	,070	-,131	-,359	,850[a]	-,449	-,012	-,049
	HaD05	-,050	-,015	-,095	,042	,023	-,449	,842[a]	-,286	-,297
	CaD02	,007	-,150	,101	-,085	-,039	-,012	-,286	,895[a]	-,218
	CaD04	,054	-,242	,116	,004	-,120	-,049	-,297	-,218	,877[a]

Communalities

	Initial	Extraction
CoD01	1,000	,915
CoD04	1,000	,797
EmD01	1,000	,801
EmD03	1,000	,818
EmD04	1,000	,769
HaD04	1,000	,860
HaD05	1,000	,824
CaD02	1,000	,762
CaD04	1,000	,725

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component			
	1	2	3	4
EmD04	,814	,245	-,213	-,017
HaD04	,786	-,112	-,313	-,363
HaD05	,786	-,339	-,154	-,260
EmD03	,716	,422	-,199	,297
CaD04	,702	-,471	,023	,103
CoD04	,695	-,064	,522	,194
CaD02	,671	-,461	,020	,314
EmD01	,625	,626	-,125	,056
CoD01	,545	,266	,678	-,297

Extraction Method: Principal Component Analysis.

a. 4 components extracted.

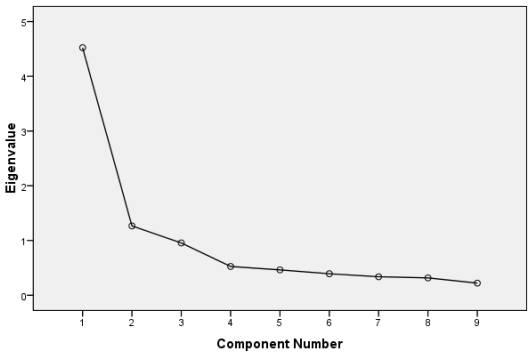
Rotated Component Matrix[a]

	Component			
	1	2	3	4
EmD03	,852	,260	,132	,084
EmD01	,846	-,037	,166	,236
EmD04	,688	,242	,458	,164
CaD02	,145	,820	,255	,051
CaD04	,087	,724	,421	,127
HaD04	,343	,237	,823	,094
HaD05	,167	,457	,752	,147
CoD01	,195	,059	,153	,922
CoD04	,248	,596	,043	,615

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Scree Plot



Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,523	50,259	50,259	4,523	50,259	50,259	2,189	24,319	24,319
2	1,266	14,068	64,327	1,266	14,068	64,327	1,948	21,648	45,967
3	,955	10,611	74,938	,955	10,611	74,938	1,766	19,620	65,587
4	,526	5,842	80,779	,526	5,842	80,779	1,367	15,193	80,779
5	,463	5,142	85,922						
6	,392	4,359	90,281						
7	,337	3,748	94,028						
8	,316	3,516	97,544						
9	,221	2,456	100,000						

Extraction Method: Principal Component Analysis.

Appendix 8: SPSS Output Pretest 2 EFA 3

Reliability Statistics

Cronbach's Alpha	N of Items
,738	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CoD01	11,9786	4,597	,531	,678
CoD02	12,6000	3,911	,537	,689
CoD03	11,8000	5,542	,439	,728
CoD04	12,2000	4,391	,657	,609

Reliability Statistics

Cronbach's Alpha	N of Items
,832	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
EmD01	7,3714	3,314	,687	,777
EmD03	7,7286	2,803	,704	,757
EmD04	7,4714	2,956	,693	,766

Reliability Statistics

Cronbach's Alpha	N of Items
,561	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
HaD02	9,5929	10,502	,308	,830
HaD03	9,4429	24,263	,439	,478
HaD04	9,7214	22,951	,548	,423
HaD05	10,3929	22,758	,584	,410

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,850
Bartlett's Test of Sphericity	Approx. Chi-Square	668,324
	df	55
	Sig.	,000

Correlation Matrix

		CoD01	CoD02	CoD03	CoD04	EmD01	EmD03	EmD04	HaD02	HaD03	HaD04	HaD05
Correlation	CoD01	1,000	,386	,341	,533	,389	,322	,354	,182	,413	,273	,298
	CoD02	,386	1,000	,336	,537	,434	,400	,466	,201	,380	,436	,501
	CoD03	,341	,336	1,000	,397	,271	,160	,257	,035	,239	,118	,088
	CoD04	,533	,537	,397	1,000	,311	,400	,460	,202	,563	,388	,438
	EmD01	,389	,434	,271	,311	1,000	,628	,613	,214	,246	,388	,330
	EmD03	,322	,400	,160	,400	,628	1,000	,636	,160	,313	,500	,400
	EmD04	,354	,466	,257	,460	,613	,636	1,000	,245	,520	,654	,524
	HaD02	,182	,201	,035	,202	,214	,160	,245	1,000	,193	,303	,303
	HaD03	,413	,380	,239	,563	,246	,313	,520	,193	1,000	,525	,639
	HaD04	,273	,436	,118	,388	,388	,500	,654	,303	,525	1,000	,696
	HaD05	,298	,501	,088	,438	,330	,400	,524	,303	,639	,696	1,000
Sig. (1-tailed)	CoD01		,000	,000	,000	,000	,000	,000	,016	,000	,001	,000
	CoD02	,000		,000	,000	,000	,000	,000	,009	,000	,000	,000
	CoD03	,000	,000		,000	,001	,030	,001	,340	,002	,082	,151
	CoD04	,000	,000	,000		,000	,000	,000	,008	,000	,000	,000
	EmD01	,000	,000	,001	,000		,000	,000	,006	,002	,000	,000
	EmD03	,000	,000	,030	,000	,000		,000	,030	,000	,000	,000
	EmD04	,000	,000	,001	,000	,000	,000		,002	,000	,000	,000
	HaD02	,016	,009	,340	,008	,006	,030	,002		,011	,000	,000
	HaD03	,000	,000	,002	,000	,002	,000	,000	,011		,000	,000
	HaD04	,001	,000	,082	,000	,000	,000	,000	,000	,000		,000
	HaD05	,000	,000	,151	,000	,000	,000	,000	,000	,000	,000	

Anti-image Matrices

		CoD01	CoD02	CoD03	CoD04	EmD01	EmD03	EmD04	HaD02	HaD03	HaD04	HaD05
Anti-image Covariance	CoD01	,630	-,028	-,077	-,153	-,111	-,006	,028	-,044	-,085	,008	,018
	CoD02	-,028	,551	-,106	-,140	-,077	-6,697E-5	-,017	,004	,059	-,017	-,117
	CoD03	-,077	-,106	,747	-,119	-,075	,064	-,034	,047	-,043	,011	,086
	CoD04	-,153	-,140	-,119	,462	,068	-,080	-,022	-,041	-,127	,018	-,002
	EmD01	-,111	-,077	-,075	,068	,460	-,177	-,132	-,059	,055	,036	-,014
	EmD03	-,006	-6,697E-5	,064	-,080	-,177	,468	-,103	,055	,042	-,060	-,008
	EmD04	,028	-,017	-,034	-,022	-,132	-,103	,352	-,013	-,091	-,128	,019
	HaD02	-,044	,004	,047	-,041	-,059	,055	-,013	,868	,035	-,064	-,064
	HaD03	-,085	,059	-,043	-,127	,055	,042	-,091	,035	,438	-,017	-,165
	HaD04	,008	-,017	,011	,018	,036	-,060	-,128	-,064	-,017	,387	-,161
	HaD05	,018	-,117	,086	-,002	-,014	-,008	,019	-,064	-,165	-,161	,368
Anti-image Correlation	CoD01	,882[a]	-,047	-,113	-,284	-,207	-,011	,059	-,060	-,161	,017	,037
	CoD02	-,047	,890[a]	-,165	-,278	-,152	,000	-,038	,006	,119	-,036	-,261
	CoD03	-,113	-,165	,808[a]	-,203	-,128	,109	-,066	,058	-,075	,021	,164
	CoD04	-,284	-,278	-,203	,849[a]	,148	-,171	-,055	-,065	-,282	,043	-,005
	EmD01	-,207	-,152	-,128	,148	,808[a]	-,382	-,329	-,093	,122	,085	-,034
	EmD03	-,011	,000	,109	-,171	-,382	,861[a]	-,253	,086	,094	-,141	-,020
	EmD04	,059	-,038	-,066	-,055	-,329	-,253	,871[a]	-,023	-,231	-,347	,053
	HaD02	-,060	,006	,058	-,065	-,093	,086	-,023	,893[a]	,057	-,111	-,113
	HaD03	-,161	,119	-,075	-,282	,122	,094	-,231	,057	,830[a]	-,042	-,412
	HaD04	,017	-,036	,021	,043	,085	-,141	-,347	-,111	-,042	,858[a]	-,428
	HaD05	,037	-,261	,164	-,005	-,034	-,020	,053	-,113	-,412	-,428	,816[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
CoD01	1,000	,559
CoD02	1,000	,526
CoD03	1,000	,661
CoD04	1,000	,709
EmD01	1,000	,799
EmD03	1,000	,757
EmD04	1,000	,746
HaD02	1,000	,265
HaD03	1,000	,714
HaD04	1,000	,741
HaD05	1,000	,783

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component		
	1	2	3
EmD04	,814	-,149	-,249
HaD04	,754	-,409	,067
HaD05	,744	-,368	,307
CoD04	,721	,335	,277
HaD03	,710	-,050	,456
CoD02	,705	,168	,037
EmD03	,698	-,112	-,508
EmD01	,667	,049	-,593
CoD01	,603	,429	,103
HaD02	,373	-,316	,159
CoD03	,402	,707	,008

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Rotated Component Matrix[a]

	Component		
	1	2	3
HaD05	,840	,209	,181
HaD04	,748	,416	,092
HaD03	,710	,033	,457
HaD02	,501	,115	-,014
EmD01	,087	,856	,243
EmD03	,244	,822	,151
EmD04	,472	,679	,250
CoD03	-,156	,141	,786
CoD04	,401	,143	,726
CoD01	,183	,208	,695
CoD02	,364	,349	,521

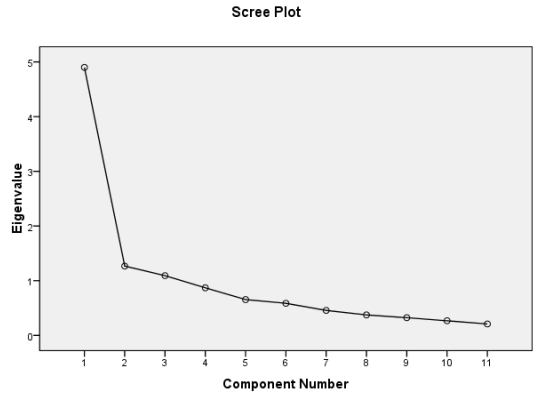
Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,901	44,554	44,554	4,901	44,554	44,554	2,661	24,192	24,192
2	1,267	11,517	56,072	1,267	11,517	56,072	2,305	20,953	45,145
3	1,092	9,928	66,000	1,092	9,928	66,000	2,294	20,855	66,000
4	,870	7,905	73,905						
5	,655	5,953	79,858						
6	,587	5,335	85,193						
7	,456	4,147	89,340						
8	,374	3,400	92,741						
9	,323	2,939	95,680						
10	,267	2,427	98,106						
11	,208	1,894	100,000						

Extraction Method: Principal Component Analysis.



Appendix 9: Convergent and Discriminant Validity Pretest 2

Convergence validity		
Dimension(s)	**Factor loadings**	**Variance extracted**
Cognitive	.7635	.5829
Emotional	.8150	.6642
Habitual	.8155	.6650
Calculative	.8005	.6408
Discriminant validity		
Dimension(s)	**Variance extracted between**	**Squared correlations**
Cognitive & emotional	.6236	.1989
Cognitive & habitual	.6240	.0812
Cognitive & calculative	.6119	.1697
Emotional & habitual	.6646	.2591
Emotional & calculative	.6525	.1467
Habitual & calculative	.6529	.3014

Appendix 10: Scenario Texts and Advertisements Experiment

Cognitive scenario text:

Freie Universität Berlin

Ihre Bank ist nun seit einem Semester die Apusbank. Als deren Kunde kennen Sie sich mittlerweile gut mit dem Angebot und Service der Bank aus und sind über die Leistungen der Apusbank gut informiert. Sie wissen beispielsweise, dass alles was Sie für einen Vertragsabschluss brauchen, Ihr Studentenausweis sowie Ihr Personalausweis sind.

Sie profitieren von speziellen Konditionen, da Sie noch Student sind. Sie zahlen weder eine Kontoführungsgebühr noch eine Gebühr für Ihre EC-Karte. Lediglich Ihre Kreditkarte, mit der Sie auch im Ausland kostenlos Geld abheben können, kostet Sie 10 € im Semester. Sie haben auch recherchiert und wissen, dass der Dispozins* von 8,51% sowie das Ausbleiben von einem Guthabenzins im Studentenangebot besonders im Vergleich zu anderen Banken ein gutes Angebot ist.

Sie haben die Erfahrung gemacht, dass im Online-Banking alles reibungslos funktioniert und es gibt seit neuestem eine App für Mobile-Banking, auf die Sie als Kunde kostenlos zugreifen können.

Die Apusbank hat insgesamt 441 Filialen deutschlandweit und mit 13.000 Geldautomaten ein dichtes Netz an Möglichkeiten Geld abzuheben.

*Der Dispozins stellt die Zinsen dar, die Sie bei Überziehung Ihres Kontos zahlen müssen.

Zurück Weiter

Emotional scenario text:

Freie Universität Berlin

Ihre Bank ist nun seit einem Semester die Apusbank. Bereits seit frühester Kindheit kennen Sie die Bank, da Ihre Eltern hier ein Konto hatten und Ihnen die Apusank daher stets vertraut war. Sie haben sich also nicht nur wegen des Angebots für diese Bank entschieden. Vor allem mögen Sie die Bank und fühlen sich bei der Kundenbetreuung stets gut aufgehoben.

Da die Apusbank auf die finanzielle Situation von Studenten Rücksicht nimmt, zahlen Sie keinerlei Kontoführungsgebühren und bekommen Ihre EC-Karte kostenlos. Lediglich Ihre Kreditkarte, mit der Sie auch im Ausland kostenlos Geld abheben können, kostet Sie 10 € im Semester. Der Dispozins* von 8,51% sowie das Ausbleiben von einem Guthabenzins im Studentenangebot empfinden Sie besonders im Vergleich zu anderen Banken als fair.

Sie haben die Erfahrung gemacht, dass im Online-Banking alles reibungslos funktioniert und es gibt seit neuestem eine App für Mobile-Banking, auf die Sie als Kunde kostenlos zugreifen können.

Die Apusbank hat insgesamt 441 Filialen deutschlandweit und mit 13.000 Geldautomaten ein dichtes Netz an Möglichkeiten Geld abzuheben.

*Der Dispozins stellt die Zinsen dar, die Sie bei Überziehung Ihres Kontos zahlen müssen.

Da Sie Ihre Bank noch kennenlernen, haben Sie sich für das nächste Semester erneut für die Apusbank entschieden. Bitte klicken Sie auf "weiter".

Zurück Weiter

Informative and affective advertisement:

Velabank

Das kostenlose Girokonto der Velabank – jetzt Studentenangebot holen!

- ✓ Kostenloses Online und Mobile Banking
- ✓ Attraktiver Dispozins von nur 8,49%
- ✓ Kreditkarte für 8,90 Euro im Semester
- ✓ Laufzeit von einem Semester mit problemloser Verlängerung

Bei uns steht der Kunde im Fokus! Faire Angebote speziell für Studenten

Appendix 11: Main Items Experiment

Cognitive dimension:

- Ich bin unsicher, wie ich das Angebot der Bank handhaben soll.
- Ich weiß, was mich bei dem Angebot der Bank erwartet.
- Ich habe gelernt, wie ich mit dem Angebot der Bank umgehen soll.
- Ich könnte die Angebote der Bank jemand anderem gut erklären.
- Ich kenne mich mit den Angeboten der Bank eher nicht aus.

Emotional dimension:

- Die Bank gibt mir ein sicheres Gefühl.
- Ich bin der Bank emotional verbunden.
- Ich habe die Bank gern.
- Ich vertraue der Bank.

Intention to switch:

- Ich denke ernsthaft darüber nach die Bank zu wechseln.
- Ein Wechsel der Bank würde mir schwerfallen.
- Ich könnte mir gut vorstellen die Bank zu wechseln.
- Ich würde sofort die Bank wechseln.

Exploratory buying behavior:

- Ich würde mich als treu gegenüber bestimmten Marken bezeichnen.
- Ich informiere mich gern über neueste Trends.
- Ich rede gerne mit Freunden über neue Produkte.
- Ich bleibe lieber bei Marken, die ich kenne, als neue auszuprobieren.

Need for cognition:

- Mir reicht es, wenn eine Aufgabe erledigt ist; warum und wie es funktioniert, interessiert mich nicht wirklich.
- Ich ziehe komplexe Aufgaben einfachen Aufgaben vor.
- Ich finde es toll, neue Lösungswege für Probleme zu suchen.

Risk aversion:

- Wenn es darum geht etwas zu wagen, bin ich lieber vorsichtig.
- Ich mag Leute, die auch mal überraschen.
- Ich riskiere gern mal etwas.

Satisfaction with status quo:

- Ich halte nichts von Herumexperimentieren.
- Wenn ich ein neues Produkt sehe, kaufe ich es oft, um es auszuprobieren.
- Ich lasse die Dinge gern wie sie sind.

Involvement:

- Banken sind von Bedeutung für mich.
- Banken sind nützlich.
- Banken sind langweilig.
- Banken sind interessant.
- Banken sind mir wichtig.

Attitude towards banks:

- Banken haben einen schlechteren Ruf, als sie verdienen.
- Banken sind ein notwendiges Übel.
- Ich bin Banken gegenüber eher positiv eingestellt.

Attitude towards advertisement:

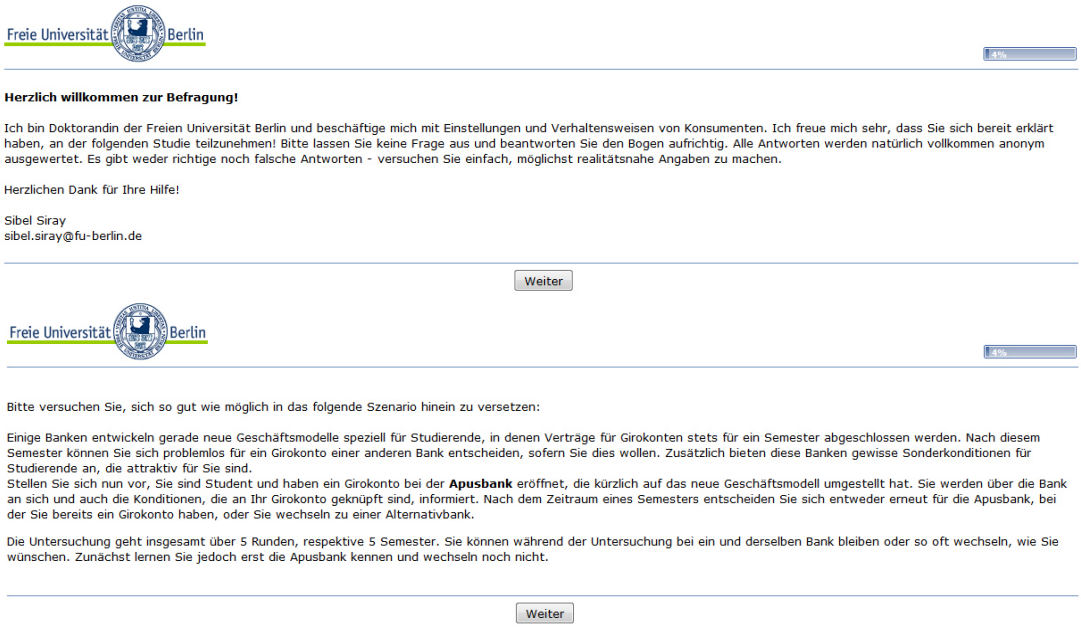
- Werbung will einen doch nur überreden, Dinge zu kaufen, die man nicht braucht.
- Ich schaue mir gern Werbung an.
- Ich bin von Werbung schnell genervt.
- Werbung ist für den Verbraucher nützlich.

Experience with Banks:

- Ich kenne mich mit verschiedenen Bankangeboten aus.
- Ich habe bereits einige Erfahrung als Bankkunde gesammelt.

Appendix 12: Survey Experiment

Introduction:



Freie Universität Berlin

Herzlich willkommen zur Befragung!

Ich bin Doktorandin der Freien Universität Berlin und beschäftige mich mit Einstellungen und Verhaltensweisen von Konsumenten. Ich freue mich sehr, dass Sie sich bereit erklärt haben, an der folgenden Studie teilzunehmen! Bitte lassen Sie keine Frage aus und beantworten Sie den Bogen aufrichtig. Alle Antworten werden natürlich vollkommen anonym ausgewertet. Es gibt weder richtige noch falsche Antworten - versuchen Sie einfach, möglichst realitätsnahe Angaben zu machen.

Herzlichen Dank für Ihre Hilfe!

Sibel Siray
sibel.siray@fu-berlin.de

Weiter

Freie Universität Berlin

Bitte versuchen Sie, sich so gut wie möglich in das folgende Szenario hinein zu versetzen:

Einige Banken entwickeln gerade neue Geschäftsmodelle speziell für Studierende, in denen Verträge für Girokonten stets für ein Semester abgeschlossen werden. Nach diesem Semester können Sie sich problemlos für ein Girokonto einer anderen Bank entscheiden, sofern Sie dies wollen. Zusätzlich bieten diese Banken gewisse Sonderkonditionen für Studierende an, die attraktiv für Sie sind.
Stellen Sie sich nun vor, Sie sind Student und haben ein Girokonto bei der **Apusbank** eröffnet, die kürzlich auf das neue Geschäftsmodell umgestellt hat. Sie werden über die Bank an sich und auch die Konditionen, die an Ihr Girokonto geknüpft sind, informiert. Nach dem Zeitraum eines Semesters entscheiden Sie sich entweder erneut für die Apusbank, bei der Sie bereits ein Girokonto haben, oder Sie wechseln zu einer Alternativbank.

Die Untersuchung geht insgesamt über 5 Runden, respektive 5 Semester. Sie können während der Untersuchung bei ein und derselben Bank bleiben oder so oft wechseln, wie Sie wünschen. Zunächst lernen Sie jedoch erst die Apusbank kennen und wechseln noch nicht.

Weiter

Cognitive condition (version A) first three rounds:

Ihre Bank ist nun seit einem Semester die Apusbank. Als deren Kunde kennen Sie sich mittlerweile gut mit dem Angebot und Service der Bank aus und sind über die Leistungen der Apusbank gut informiert. Sie wissen beispielsweise, dass alles was Sie für einen Vertragsabschluss brauchen, Ihr Studentenausweis sowie Ihr Personalausweis sind.

Sie profitieren von speziellen Konditionen, da Sie noch Student sind. Sie zahlen weder eine Kontoführungsgebühr noch eine Gebühr für Ihre EC-Karte. Lediglich Ihre Kreditkarte, mit der Sie auch im Ausland kostenlos Geld abheben können, kostet Sie 10 € im Semester. Sie haben auch recherchiert und wissen, dass der Dispozins* von 8,51% sowie das Ausbleiben von einem Guthabenzins im Studentenangebot besonders im Vergleich zu anderen Banken ein gutes Angebot ist.

Sie haben die Erfahrung gemacht, dass im Online-Banking alles reibungslos funktioniert und es gibt seit neuestem eine App für Mobile-Banking, auf die Sie als Kunde kostenlos zugreifen können.

Die Apusbank hat insgesamt 441 Filialen deutschlandweit und mit 13.000 Geldautomaten ein dichtes Netz an Möglichkeiten Geld abzuheben.

*Der Dispozins stellt die Zinsen dar, die Sie bei Überziehung Ihres Kontos zahlen müssen.

Zurück Weiter

Bitte beantworten Sie nun einige Fragen zum Angebot Ihrer aktuellen Bank. Welche Aussagen treffen zu?

Sie können mehrere Felder anklicken.

- ☐ Sie benötigen für einen Vertragsabschluss Ihre Krankenkassenkarte.
- ☐ Der Dispozins beträgt 8,51% im Monat.
- ☐ Eine Kreditkarte kostet 100 Euro im Semester.
- ☐ Das Angebot umfasst sowohl Online- als auch Mobile-Banking.
- ☐ Die Kontoführungsgebühr beträgt 5 Euro im Monat.
- ☐ Sie benötigen für einen Vertragsabschluss Ihren Studentenausweis.

Da Sie Ihre Bank noch kennenlernen, haben Sie sich für das nächste Semester erneut für die Apusbank entschieden. Bitte klicken Sie auf "weiter".

Zurück Weiter

Sie haben Ihren Vertrag bei der Apusbank um ein weiteres Semester verlängert und denken, sich richtig entschieden zu haben. Sie fühlen sich gut über deren Angebot informiert und wissen immer besser über die speziellen Konditionen für das Studentenangebot Bescheid.

Auch in diesem Semester entstehen für Sie keine Kontoführungsgebühren und Sie bekommen Ihre EC-Karte kostenlos. Lediglich Ihre Kreditkarte, mit der Sie auch im Ausland kostenlos Geld abheben können, kostet Sie 10 € im Semester. Der Dispozins ist mit 8,51% unverändert und es gibt weiterhin keinen Guthabenzins im Studentenangebot.

Sie nutzen das Online-Banking schnell und problemlos und haben auch schon die App für Mobile-Banking erfolgreich genutzt.

Die Apusbank unterhält noch immer 441 Filialen deutschlandweit sowie ca. 13.000 Geldautomaten.

Zurück Weiter

Bitte beantworten Sie nun einige Fragen zum Angebot Ihrer aktuellen Bank. Welche Aussagen treffen zu?

Sie können mehrere Felder anklicken.

- ☐ Eine Kreditkarte kostet 100 Euro im Semester.
- ☐ Sie benötigen für einen Vertragsabschluss Ihren Studentenausweis.
- ☐ Die Kontoführungsgebühr beträgt 5 Euro im Monat.
- ☐ Sie benötigen für einen Vertragsabschluss Ihre Krankenkassenkarte.
- ☐ Das Angebot umfasst sowohl Online- als auch Mobile-Banking.
- ☐ Der Dispozins beträgt 8,51% im Monat.

Auch jetzt lernen Sie die Apusbank noch kennen und bleiben bei deren Angeboten. Bitte klicken Sie auf "weiter".

Zurück Weiter

Freie Universität Berlin

21%

Hier nun einige Aussagen zur Apusbank und deren Angeboten.
Bitte verschieben Sie den Regler gemäß des Grades Ihrer Zustimmung.

	Stimme gar nicht zu	Teils/teils	Stimme vollkommen zu
Ein Wechsel der Bank würde mir schwerfallen.			
Ich würde sofort die Bank wechseln.			
Ich denke ernsthaft darüber nach, die Bank zu wechseln.			
Ich könnte mir gut vorstellen, die Bank zu wechseln.			

Hier nun weitere Aussagen zur Apusbank und deren Angeboten.
Bitte markieren Sie, inwieweit Sie den Aussagen zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
Ich habe die Bank gern.	○	○	○	○	○
Ich habe gelernt, wie ich mit dem Angebot der Bank umgehen soll.	○	○	○	○	○
Ich weiß, was mich bei dem Angebot der Bank erwartet.	○	○	○	○	○
Ich bin unsicher, wie ich das Angebot der Bank handhaben soll.	○	○	○	○	○
Die Bank gibt mir ein sicheres Gefühl.	○	○	○	○	○
Ich kenne mich mit den Angeboten der Bank eher nicht aus.	○	○	○	○	○
Ich vertraue der Bank.	○	○	○	○	○
Ich bin der Bank emotional verbunden.	○	○	○	○	○
Ich könnte die Angebote der Bank jemand anderem gut erklären.	○	○	○	○	○

Zurück Weiter

Freie Universität Berlin

25%

Sie sind nun seit einem ganzen Jahr Kunde der Apusbank und kennen sich gut mit deren Angeboten aus. Sie denken, sich richtig entschieden zu haben. Es gibt nur kleine Änderungen in deren Angebot für das nächste Semester. So gibt es nach wie vor keine Kontoführungsgebühr und keinen Guthabenzins für Studenten und auch Ihre EC-Karte ist weiterhin kostenlos. Jedoch liegt der neue Dispozins bei 8,83% und die Kosten für eine Kreditkarte belaufen sich auf 15 Euro im Semester. Weiterhin besteht die Möglichkeit sowohl Online- als auch Mobile-Banking kostenlos zu nutzen.
Die Apusbank hat ihr Filialnetz etwas ausgebaut mit nun 452 Filialen und 13.200 Geldautomaten deutschlandweit und bietet so noch mehr Möglichkeiten Geld abzuheben.

Zurück Weiter

Freie Universität Berlin

29%

Bitte beantworten Sie nun einige Fragen zum Angebot Ihrer aktuellen Bank. Welche Aussagen treffen zu?

Sie können mehrere Felder anklicken.

- ☐ Der Dispozins beträgt 8,83% im Monat.
- ☐ Das Angebot umfasst sowohl Online- als auch Mobile-Banking.
- ☐ Sie benötigen für einen Vertragsabschluss Ihre Krankenkassenkarte.
- ☐ Eine Kreditkarte kostet 100 Euro im Semester.
- ☐ Sie benötigen für einen Vertragsabschluss Ihren Studentenausweis.
- ☐ Die Kontoführungsgebühr beträgt 5 Euro im Monat.

Zurück Weiter

Freie Universität Berlin

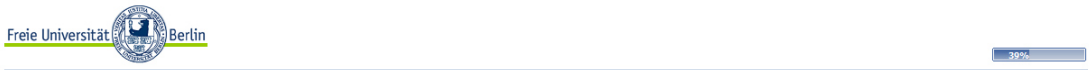
32%

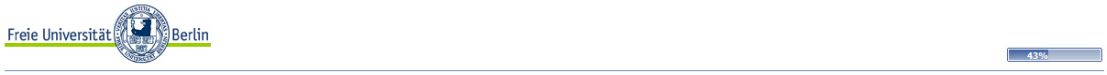
Sie lesen, dass auch andere Banken Werbung für Studentenangebote machen.

Velabank

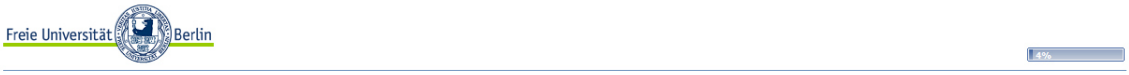
So lesen Sie über die Velabank, dass in deren Studentenangebot keine Kontoführungsgebühren und kein Guthabenzins entstehen. Der Dispozins liegt bei 9,75% und eine Kreditkarte kostet Sie 15 € im Semester. Die EC-Karte ist dagegen kostenlos. Die Velabank hat insgesamt 383 Filialen in Deutschland und 9.000 Geldautomaten. Online-Banking ist möglich, allerdings gibt es noch keine App für Mobile-Banking.

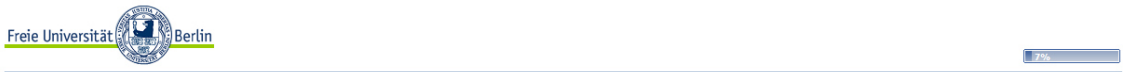
Zurück Weiter





Emotional condition (version B) first three rounds:





Freie Universität Berlin

11%

Sie sind nun ein weiteres Semester bei der Apusbank Kunde und haben sich bisher hier gut aufgehoben gefühlt. Die Bankmitarbeiter waren bei Fragen immer für Sie da und Sie fühlen sich mit Ihrer Entscheidung für die Apusbank sicher.

Wie zuvor zahlen Sie keinerlei Kontoführungsgebühren und bekommen Ihre EC-Karte kostenlos. Eine Kreditkarte kostet auch dieses Semester 10 € und der Dispozins liegt bei 8,51%. Das Studentenangebot umfasst nach wie vor keinen Guthabenzins, aber kostenloses Online- und Mobile-Banking.

Die Apusbank hat immernoch 441 Filialen und 13.000 Geldautomaten deutschlandweit.

Auch jetzt lernen Sie die Apusbank noch kennen und bleiben bei deren Angeboten. Bitte klicken Sie auf "weiter".

Zurück Weiter

Freie Universität Berlin

14%

Hier nun einige Aussagen zur Apusbank.
Bitte verschieben Sie den Regler gemäß des Grades Ihrer Zustimmung.

	Stimme gar nicht zu	Teils/teils	Stimme vollkommen zu
Ich denke ernsthaft darüber nach, die Bank zu wechseln.			
Ein Wechsel der Bank würde mir schwerfallen.			
Ich könnte mir gut vorstellen, die Bank zu wechseln.			
Ich würde sofort die Bank wechseln.			

Hier nun weitere Aussagen zur Apusbank und deren Angeboten.
Bitte markieren Sie, inwieweit Sie den Aussagen zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
Ich bin unsicher, wie ich das Angebot der Bank handhaben soll.	○	○	○	○	○
Ich weiß, was mich bei dem Angebot der Bank erwartet.	○	○	○	○	○
Ich habe gelernt, wie ich mit dem Angebot der Bank umgehen soll.	○	○	○	○	○
Ich könnte die Angebote der Bank jemand anderem gut erklären.	○	○	○	○	○
Die Bank gibt mir ein sicheres Gefühl.	○	○	○	○	○
Ich bin der Bank emotional verbunden.	○	○	○	○	○
Ich habe die Bank gern.	○	○	○	○	○
Ich kenne mich mit den Angeboten der Bank eher nicht aus.	○	○	○	○	○
Ich vertraue der Bank.	○	○	○	○	○

Zurück Weiter

Freie Universität Berlin

18%

Sie sind nun seit einem ganzen Jahr Kunde der Apusbank und fühlen sich wohl mit Ihren bisherigen Entscheidungen. Sie haben das Gefühl, sich richtig entschieden zu haben. Es gibt nur kleine Änderungen in deren Angebot für das nächste Semester. So gibt es nach wie vor keine Kontoführungsgebühr und keinen Guthabenzins für Studenten und auch Ihre EC-Karte ist weiter kostenlos. Jedoch liegt der neue Dispozins bei 8,83% und die Kosten für eine Kreditkarte belaufen sich auf 15 Euro im Semester. Weiterhin besteht die Möglichkeit sowohl Online- als auch Mobile-Banking kostenlos zu nutzen.
Die Apusbank hat ihr Filialnetz etwas ausgebaut mit nun 452 Filialen und 13.200 Geldautomaten deutschlandweit und bietet so noch mehr Möglichkeiten Geld abzuheben.

Zurück Weiter

Freie Universität Berlin

21%

Sie lesen, dass auch andere Banken Werbung für Studentenangebote machen.

Velabank

So lesen Sie über die Velabank, dass in deren Studentenangebot keine Kontoführungsgebühren und kein Guthabenzins entstehen. Der Dispozins liegt bei 9,75% und eine Kreditkarte kostet Sie 15 € im Semester. Die EC-Karte ist dagegen kostenlos. Die Velabank hat insgesamt 383 Filialen in Deutschland und 9.000 Geldautomaten. Online-Banking ist möglich, allerdings gibt es noch keine App für Mobile-Banking.

Zurück Weiter

Freie Universität Berlin

25%

Lynbank

Auch eine dritte Bank, die Lynbank, bietet Studentenkonten an mit einer Kontoführungsgebühr von 15 € und Kreditkartengebühren von 10 € im Semester. Dafür gibt es keinen Guthabenzins und der Dispozins liegt bei 9,27%. Eine EC-Karte bekommen Sie kostenlos und es gibt sowohl Möglichkeiten für Online- als auch Mobile-Banking. Die Lynbank unterhält deutschlandweit 511 Filialen und 12.000 Geldautomaten.

Zurück Weiter

Freie Universität Berlin

29%

Nun können Sie erneut das Angebot der Apusbank für das kommende Semester annehmen oder Sie wechseln zur Velabank oder Lynbank.
Bitte wählen Sie eine der Banken aus und klicken dann auf "weiter".

○ Lynbank ○ Velabank ○ Apusbank

Zurück Weiter

Freie Universität Berlin

32%

Die ersten drei Semester Ihres Studiums liegen hinter Ihnen!
Bitte wählen Sie die Farbe "Gelb" aus und klicken dann auf "weiter".

○ Blau ○ Rot ○ Gelb

Zurück Weiter

Round four until end of experiment (same for version A and B):

Freie Universität Berlin

36%

Sie haben sich für eine der drei Banken entschieden und deren Angebot ein Semester lang genutzt. Nun steht die Entscheidung für ein Angebot wieder an und Sie informieren sich über die Konditionen.

Apusbank

Die Apusbank strahlt für Sie nach wie vor Vertrauen aus, Sie waren lange Zeit geschätzter Kunde dort. Das Angebot für das nächste Semester umfasst erneut keine Kontoführungsgebühren, bietet kostenloses Mobile- und Online-Banking und eine kostenlose EC-Karte. Es gibt jedoch keinen Guthabenzins und eine Kreditkarte kostet einmalig 15 € im Semester. Der Dispozins liegt bei 9,51%. Die Apusbank hat deutschlandweit 452 Filialen und 13.200 Geldautomaten.

Zurück Weiter

Freie Universität Berlin

39%

Velabank

Die Velabank hat keine Kontoführungsgebühr und eine kostenlose EC-Karte. Es gibt aber auch keinen Guthabenzins und der Dispozins liegt bei 8,49%. Eine Kreditkarte kostet Studenten 8,90 € im Semester. Online- und Mobile-Banking sind möglich und die Velabank hat 483 Filialen und 13.000 Geldautomaten in Deutschland.

Zurück Weiter

Freie Universität Berlin

43%

Lynbank

Die Lynbank hat nach wie vor eine Kontoführungsgebühr von 15 € im Semester und eine Kreditkarte kostet 10 €. Guthabenzins gibt es keinen und wer sein Konto überzieht muss mit 9,27% Dispozins rechnen. Die Lynbank hat nun sowohl Mobile- als auch Online-Banking und insgesamt 511 Filialen und 12.000 Geldautomaten.

Zurück Weiter

Freie Universität Berlin

46%

Nun können Sie für das kommende Semester erneut zwischen der Apusbank, der Velabank und der Lynbank wählen.
Bitte wählen Sie eine der Banken aus und klicken dann auf "weiter".

○ Velabank ○ Apusbank ○ Lynbank

Zurück Weiter

50%

Bitte denken Sie nun an die Apusbank und deren Angebote, unabhängig davon, ob Sie mittlerweile die Bank gewechselt haben.
Bitte verschieben Sie den Regler gemäß des Grades Ihrer Zustimmung.

	Stimme gar nicht zu	Teils/teils	Stimme vollkommen zu
Ich denke / dachte ernsthaft darüber nach, die Bank zu wechseln.			
Ich könnte mir gut vorstellen, die Bank zu wechseln.			
Ein Wechsel der Bank würde mir schwerfallen / Der Wechsel der Bank ist mir schwer gefallen.			
Ich würde sofort die Bank wechseln.			

Hier nun weitere Aussagen zur Apusbank und deren Angeboten.
Bitte markieren Sie, inwieweit Sie den Aussagen zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
Ich kenne mich mit den Angeboten der Bank eher nicht aus.	○	○	○	○	○
Ich könnte die Angebote der Bank jemand anderem gut erklären.	○	○	○	○	○
Ich bin der Bank emotional verbunden.	○	○	○	○	○
Ich habe gelernt, wie ich mit dem Angebot der Bank umgehen soll.	○	○	○	○	○
Ich weiß, was mich bei dem Angebot der Bank erwartet.	○	○	○	○	○
Die Bank gibt mir ein sicheres Gefühl.	○	○	○	○	○
Ich bin unsicher, wie ich das Angebot der Bank handhaben soll.	○	○	○	○	○
Ich vertraue der Bank.	○	○	○	○	○
Ich habe die Bank gern.	○	○	○	○	○

Zurück Weiter

54%

Ein kurzer Test für Ihre Aufmerksamkeit:
Bitte wählen Sie **B** aus und klicken dann auf "weiter".

○ A ○ C ○ B

Zurück Weiter

57%

Ihr Studium neigt sich dem Ende entgegen und ein letztes Mal können Sie zwischen verschiedenen Studentenangeboten von Banken wählen.

Apusbank

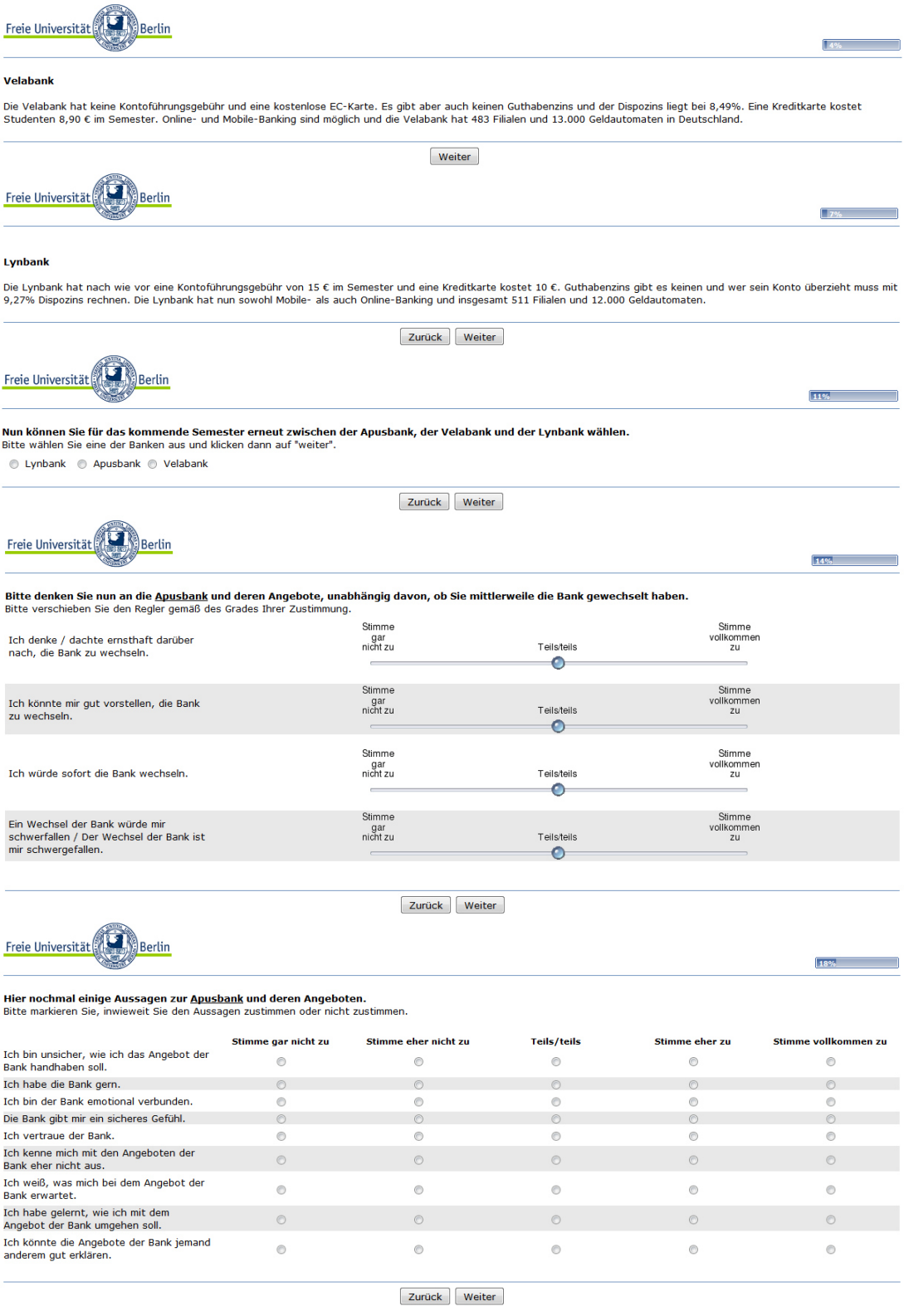
Die Apusbank hat nach wie vor keine Kontoführungsgebühren, bietet kostenloses Mobile- und Online-Banking und eine kostenlose EC-Karte. Es gibt jedoch keinen Guthabenzins und eine Kreditkarte kostet einmalig 15 € im Semester. Der Dispozins liegt bei 9,51%. Die Apusbank hat deutschlandweit 452 Filialen und 13.200 Geldautomaten.

Zurück Weiter

Either informative advertisement:

Or affective advertisement:

Or no advertisement:



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Velabank

Die Velabank hat keine Kontoführungsgebühr und eine kostenlose EC-Karte. Es gibt aber auch keinen Guthabenzins und der Dispozins liegt bei 8,49%. Eine Kreditkarte kostet Studenten 8,90 € im Semester. Online- und Mobile-Banking sind möglich und die Velabank hat 483 Filialen und 13.000 Geldautomaten in Deutschland.

Weiter

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Lynbank

Die Lynbank hat nach wie vor eine Kontoführungsgebühr von 15 € im Semester und eine Kreditkarte kostet 10 €. Guthabenzins gibt es keinen und wer sein Konto überzieht muss mit 9,27% Dispozins rechnen. Die Lynbank hat nun sowohl Mobile- als auch Online-Banking und insgesamt 511 Filialen und 12.000 Geldautomaten.

Zurück Weiter

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Nun können Sie für das kommende Semester erneut zwischen der Apusbank, der Velabank und der Lynbank wählen.
Bitte wählen Sie eine der Banken aus und klicken dann auf "weiter".

Lynbank Apusbank Velabank

Zurück Weiter

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Bitte denken Sie nun an die Apusbank und deren Angebote, unabhängig davon, ob Sie mittlerweile die Bank gewechselt haben.
Bitte verschieben Sie den Regler gemäß des Grades Ihrer Zustimmung.

	Stimme gar nicht zu	Teils/teils	Stimme vollkommen zu
Ich denke / dachte ernsthaft darüber nach, die Bank zu wechseln.			
Ich könnte mir gut vorstellen, die Bank zu wechseln.			
Ich würde sofort die Bank wechseln.			
Ein Wechsel der Bank würde mir schwerfallen / Der Wechsel der Bank ist mir schwergefallen.			

Zurück Weiter

Freie Universität Berlin

Hier nochmal einige Aussagen zur Apusbank und deren Angeboten.
Bitte markieren Sie, inwieweit Sie den Aussagen zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
Ich bin unsicher, wie ich das Angebot der Bank handhaben soll.					
Ich habe die Bank gern.					
Ich bin der Bank emotional verbunden.					
Die Bank gibt mir ein sicheres Gefühl.					
Ich vertraue der Bank.					
Ich kenne mich mit den Angeboten der Bank eher nicht aus.					
Ich weiß, was mich bei dem Angebot der Bank erwartet.					
Ich habe gelernt, wie ich mit dem Angebot der Bank umgehen soll.					
Ich könnte die Angebote der Bank jemand anderem gut erklären.					

Zurück Weiter

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76%

Gleich ist es geschafft! Nun noch einige Fragen zu Ihren persönlichen Einstellungen und Ihrem Verhalten.

Bitte markieren Sie, inwieweit Sie den Aussagen zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
Mir reicht es, wenn eine Aufgabe erledigt ist; warum und wie es funktioniert, interessiert mich nicht wirklich.	○	○	○	○	○
Ich ziehe komplexe Aufgaben einfachen Aufgaben vor.	○	○	○	○	○
Ich finde es toll, neue Lösungswege für Probleme zu suchen.	○	○	○	○	○

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
Wenn es darum geht, etwas zu wagen, bin ich lieber vorsichtig.	○	○	○	○	○
Ich mag Leute, die auch mal überraschen.	○	○	○	○	○
Ich riskiere gern mal etwas.	○	○	○	○	○

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
Ich halte nichts von Herumexperimentieren.	○	○	○	○	○
Wenn ich ein neues Produkt sehe, kaufe ich es oft, um es auszuprobieren.	○	○	○	○	○
Ich lass die Dinge gern wie sie sind.	○	○	○	○	○

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
Werbung will einen doch nur überreden, Dinge zu kaufen, die man nicht braucht.	○	○	○	○	○
Ich schaue mir gern Werbung an.	○	○	○	○	○
Ich bin von Werbung schnell genervt.	○	○	○	○	○
Werbung ist für den Verbraucher nützlich.	○	○	○	○	○

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
Ich würde mich als treu gegenüber bestimmten Marken bezeichnen.	○	○	○	○	○
Ich informiere mich gern über neueste Trends.	○	○	○	○	○
Ich rede gerne mit Freunden über neue Produkte.	○	○	○	○	○
Ich bleibe lieber bei Marken, die ich kenne, als neue auszuprobieren.	○	○	○	○	○

Zurück Weiter

Freie Universität Berlin

34%

Bitte markieren Sie, inwieweit Sie den Aussagen zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
Banken haben einen schlechteren Ruf, als sie verdienen.	○	○	○	○	○
Banken sind ein notwendiges Übel.	○	○	○	○	○
Ich bin Banken gegenüber eher positiv eingestellt.	○	○	○	○	○

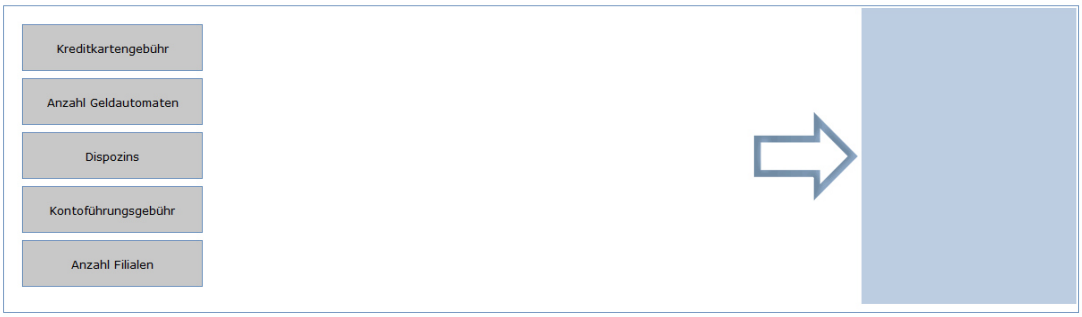
	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
Ich kenne mich mit verschiedenen Bankangeboten aus.	○	○	○	○	○
Ich habe bereits einige Erfahrungen als Bankkunde gesammelt.	○	○	○	○	○

Banken...

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
... sind von Bedeutung für mich.	○	○	○	○	○
... sind nützlich.	○	○	○	○	○
... sind langweilig.	○	○	○	○	○
... sind interessant.	○	○	○	○	○
... sind mir wichtig.	○	○	○	○	○

Wie oft haben Sie im echten Leben schonmal die Bank gewechselt?
Bitte tragen Sie die Zahl ihrer bisherigen Bankwechsel in das Feld ein.

Welche dieser Konditionen sind Ihnen bei der Wahl eines Girokontos wichtig?
Bitte sortieren Sie die Konditionen nach Wichtigkeit und beginnen Sie mit der wichtigsten.



Zurück Weiter

Freie Universität Berlin

43%

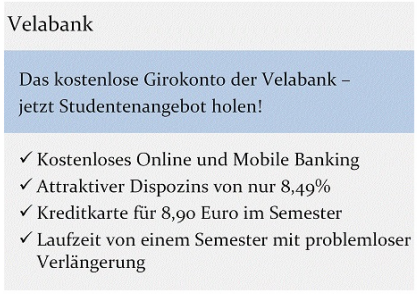
Was meinen Sie, worum ging es in dieser Untersuchung?
Bitte geben Sie Ihre Vermutung in das Feld ein.

Zurück Weiter

Freie Universität Berlin

51%

Bitte bewerten Sie nun die folgende Werbung der Velabank.



Bitte markieren Sie, inwieweit Sie den Aussagen zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
Diese Werbung zeigt mir diejenigen Konditionen, die mir bei der Entscheidung für ein Girokonto wichtig sind.	○	○	○	○	○
Durch diese Werbung kann ich dieses Girokonto besser mit Girokonten anderer Banken vergleichen.	○	○	○	○	○
Das Ziel dieser Werbung ist es, einen schönen Moment zu zeigen.	○	○	○	○	○
Die Atmosphäre der Werbung zielt darauf ab, mich der Bank näher zu bringen.	○	○	○	○	○
Diese Werbung strahlt Freude aus.	○	○	○	○	○
Durch diese Werbung habe ich etwas über die genauen Konditionen des Bankangebots erfahren.	○	○	○	○	○
Die Atmosphäre der Werbung zielt darauf ab, dass ich die Bank mag.	○	○	○	○	○
Durch diese Werbung weiß ich, worauf es bei einem Girokonto ankommt.	○	○	○	○	○

Zurück Weiter

Freie Universität Berlin

59%

Bitte bewerten Sie nun die folgende Werbung der Velabank.

Bei uns steht der Kunde im Fokus! Faire Angebote speziell für Studenten

Bitte markieren Sie, inwieweit Sie den Aussagen zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
Durch diese Werbung habe ich etwas über die genauen Konditionen des Bankangebots erfahren.	○	○	○	○	○
Diese Werbung strahlt Freude aus.	○	○	○	○	○
Durch diese Werbung weiß ich, worauf es bei einem Girokonto ankommt.	○	○	○	○	○
Die Atmosphäre der Werbung zielt darauf ab, mich der Bank näher zu bringen.	○	○	○	○	○
Das Ziel dieser Werbung ist es, einen schönen Moment zu zeigen.	○	○	○	○	○
Durch diese Werbung kann ich dieses Girokonto besser mit Girokonten anderer Banken vergleichen.	○	○	○	○	○
Diese Werbung zeigt mir die Konditionen, die mir bei der Entscheidung für ein Girokonto wichtig sind.	○	○	○	○	○
Die Atmosphäre der Werbung zielt darauf ab, dass ich die Bank mag.	○	○	○	○	○

Zurück Weiter

Freie Universität Berlin

67%

Bitte markieren Sie, inwieweit Sie den Aussagen zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme vollkommen zu
Die hier vorgestellten Dispozinsen von 8,51% - 9,75% kommen mir realistisch vor.	○	○	○	○	○
Eine Kreditkarte für 10 Euro im Semester kommt mir realistisch vor.	○	○	○	○	○
Keine Kontoführungsgebühren für Studenten im Angebot der Banken kommt mir realistisch vor.	○	○	○	○	○

Zurück Weiter

75%

Zuletzt einige Fragen zu Ihrer Person. Diese Angaben sind optional.

Geschlecht

- Männlich
- Weiblich

Sind Sie oder waren Sie in den letzten zwei Jahren noch Student?

- Ja
- Nein

An welcher Universität sind/waren Sie Student?

Alter

Jahre

Zurück Weiter

100%

Herzlichen Dank für Ihre Teilnahme!

Die Umfrage ist beendet und Sie können das Browserfenster nun schließen!

Vielen Dank, hier ist Ihr Crowdflower-Code:

qwerty89kl3g4j5

Appendix 13: Complementary T-Tests PDS Experiment

T-tests results: Difference version A and B on cognitive path dependence score (non-path dependent participants)		
Round	**Mean and SE**	***t*-values, df, and *p*-values**
R2	A: M = 3.54, SE = 0.67 B: M = 3.52, SE = 0.70	*t*(189) = 0.19 *p* = .846
R4	A: M = 3.49, SE = 0.66 B: M = 3.49, SE = 0.70	*t*(189) = -0.08 *p*= .937
R5	A: M = 3.47, SE = 0.67 B: M = 3.48, SE = 0.70	*t*(189) = -0.52 *p* = .959
T-tests results: Difference version A and B on emotional path dependence score (non-path dependent participants)		
R2	A: M = 3.17, SE = 0.79 B: M = 3.37, SE = 0.83	*t*(189) = -1.64 *p* = .103
R4	A: M = 3.08, SE = 0.77 B: M = 3.25, SE= 0.81	*t*(189) = -1.50 *p*= .135
R5	A: M = 3.05, SE = 0.76 B: M = 3.05, SE = 3.22	*t*(189) = 1.49 *p* = .139

Appendix 14: SPSS Output Hypotheses Testing Experiment

Binary logistic regression:

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	204	100,0
	Missing Cases	0	,0
	Total	204	100,0
Unselected Cases		0	,0
Total		204	100,0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
no break	0
path break	1

Block 0: Beginning Block

Iteration History[a,b,c]

Iteration		-2 Log likelihood	Coefficients: Constant
Step 0	1	203,202	-1,216
	2	201,930	-1,401
	3	201,926	-1,411
	4	201,926	-1,411

a. Constant is included in the model.

b. Initial -2 Log Likelihood: 201,926

c. Estimation terminated at iteration number 4 because parameter estimates changed by less than ,001.

Categorical Variables Codings

		Frequency	Parameter coding (1)	Parameter coding (2)
Informative or affective or no ad	no ad	72	,000	,000
	inf ad	68	1,000	,000
	aff ad	64	,000	1,000
Version A or B of survey	A	95	,000	
	B	109	1,000	

Classification Table[a,b]

Observed			Predicted: Path break in R5 = no break	Predicted: Path break in R5 = path break	Percentage Correct
Step 0	Path break in R5	no break	164	0	100,0
		path break	40	0	,0
	Overall Percentage				80,4

a. Constant is included in the model.

b. The cut value is ,500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-1,411	,176	64,021	1	,000	,244

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	Version(1)	,049	1	,824
		Ad_kind	21,271	2	,000
		Ad_kind(1)	1,881	1	,170
		Ad_kind(2)	10,316	1	,001
		Its_4_overall	1,037	1	,309
		PDS_4c_overall	4,009	1	,045
		PDS_4e_overall	1,335	1	,248
		NfC	1,900	1	,168
		RA	4,318	1	,038
		Satisquo	13,825	1	,000
		Attad	9,636	1	,002
		EBBT	39,772	1	,000
		Attbanks	1,038	1	,308
		Exbanks	15,392	1	,000
		Involvebanks	1,837	1	,175
		Ad_kind * PDS_4c_overall	11,372	2	,003
		Ad_kind(1) by PDS_4c_overall	4,105	1	,043
		Ad_kind(2) by PDS_4c_overall	2,355	1	,125
		Ad_kind * PDS_4e_overall	24,824	2	,000
		Ad_kind(1) by PDS_4e_overall	,048	1	,827
		Ad_kind(2) by PDS_4e_overall	19,727	1	,000
		Ad_kind * Version	16,095	2	,000
		Ad_kind(1) by Version(1)	1,409	1	,235
		Ad_kind(2) by Version(1)	16,018	1	,000
	Overall Statistics		97,196	20	,000

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	99,675	20	,000
	Block	99,675	20	,000
	Model	99,675	20	,000
Step 13[a]	Step	-2,375	2	,305
	Block	94,263	7	,000
	Model	94,263	5	,000

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	102,252[a]	,387	,615
13	107,664[a]	,370	,589

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than ,001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	4,918	8	,766
13	9,090	8	,335

Contingency Table for Hosmer and Lemeshow Test

		Path break in R5 = no break		Path break in R5 = path break		
		Observed	Expected	Observed	Expected	Total
Step 1	1	20	19,944	0	,056	20
	2	20	19,829	0	,171	20
	3	19	19,705	1	,295	20
	4	20	20,402	1	,598	21
	5	18	19,083	2	,917	20
	6	19	18,435	1	1,565	20
	7	18	17,670	2	2,330	20
	8	17	15,631	3	4,369	20
	9	12	11,403	8	8,597	20
	10	1	1,899	22	21,101	23
Step 13	1	20	19,927	0	,073	20
	2	19	19,793	1	,207	20
	3	20	19,617	0	,383	20
	4	18	19,436	2	,564	20
	5	19	19,211	1	,789	20
	6	19	18,414	1	1,586	20
	7	19	17,394	1	2,606	20
	8	16	15,246	4	4,754	20
	9	12	12,285	8	7,715	20
	10	2	2,677	22	21,323	24

Classification Table[a]

			Predicted		
			Path break in R5		
	Observed		no break	path break	Percentage Correct
Step 1	Path break in R5	no break	162	2	98,8
		path break	16	24	60,0
	Overall Percentage				91,2
Step 13	Path break in R5	no break	161	3	98,2
		path break	18	22	55,0
	Overall Percentage				89,7

a. The cut value is ,500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	Version(1)	,784	1,649	,226	1	,634	2,191	,087	55,482
	Ad_kind			1,272	2	,530			
	Ad_kind(1)	-1,028	5,684	,033	1	,857	,358	,000	24642,839
	Ad_kind(2)	3,746	5,819	,414	1	,520	42,359	,000	3805362,434
	Its_4_overall	,405	,156	6,735	1	,009	1,499	1,104	2,035
	PDS_4c_overall	,247	,902	,075	1	,784	1,280	,219	7,496
	PDS_4e_overall	,143	,738	,038	1	,846	1,154	,272	4,904
	NfC	-,156	,442	,124	1	,725	,856	,360	2,037
	RA	,399	,554	,518	1	,471	1,490	,503	4,409
	Satisquo	,139	,532	,069	1	,793	1,149	,405	3,259
	Attad	-,069	,428	,026	1	,872	,934	,403	2,161
	EBBT	2,056	,753	7,454	1	,006	7,817	1,786	34,211
	Attbanks	-,285	,413	,477	1	,490	,752	,334	1,689
	Exbanks	-,883	,369	5,729	1	,017	,414	,201	,852
	Involvebanks	-,191	,532	,129	1	,720	,826	,292	2,342
	Ad_kind * PDS_4c_overall			6,807	2	,033			
	Ad_kind(1) by PDS_4c_overall	1,084	1,053	1,061	1	,303	2,958	,376	23,277
	Ad_kind(2) by PDS_4c_overall	-1,260	1,111	1,286	1	,257	,284	,032	2,503
	Ad_kind * PDS_4e_overall			2,118	2	,347			
	Ad_kind(1) by PDS_4e_overall	,072	,841	,007	1	,932	1,075	,207	5,589
	Ad_kind(2) by PDS_4e_overall	1,071	,901	1,414	1	,234	2,919	,499	17,061
	Ad_kind * Version			,787	2	,675			
	Ad_kind(1) by Version(1)	-1,533	1,795	,730	1	,393	,216	,006	7,275
	Ad_kind(2) by Version(1)	-,982	1,901	,267	1	,606	,375	,009	15,560
	Constant	-10,327	6,196	2,778	1	,096	,000		
Step 13[a]	Its_4_overall	,350	,127	7,566	1	,006	1,419	1,106	1,820
	EBBT	1,688	,577	8,570	1	,003	5,409	1,747	16,750
	Exbanks	-1,015	,273	13,858	1	,000	,362	,212	,618
	Ad_kind * PDS_4c_overall			8,557	2	,014			
	Ad_kind(1) by PDS_4c_overall	,727	,302	5,788	1	,016	2,068	1,144	3,738
	Ad_kind(2) by PDS_4c_overall	-,562	,413	1,853	1	,173	,570	,254	1,280
	Ad_kind * PDS_4e_overall			9,936	2	,007			
	Ad_kind(1) by PDS_4e_overall	-,028	,280	,010	1	,921	,973	,562	1,683
	Ad_kind(2) by PDS_4e_overall	1,204	,383	9,903	1	,002	3,334	1,575	7,058
	Constant	-7,321	1,903	14,796	1	,000	,001		

a. Variable(s) entered on step 1: Version, Ad_kind, Its_4_overall, PDS_4c_overall, PDS_4e_overall, NfC, RA, Satisquo, Attad, EBBT, Attbanks, Exbanks, Involvebanks, Ad_kind * PDS_4c_overall , Ad_kind * PDS_4e_overall , Ad_kind * Version .

Variables not in the Equation

			Score	df	Sig.
Step 13[a]	Variables	Version(1)	,512	1	,474
		Ad_kind	2,326	2	,312
		Ad_kind(1)	1,356	1	,244
		Ad_kind(2)	1,381	1	,240
		PDS_4c_overall	,064	1	,800
		PDS_4e_overall	,047	1	,829
		NfC	,369	1	,544
		RA	,979	1	,322
		Satisquo	,539	1	,463
		Attad	,432	1	,511
		Attbanks	,976	1	,323
		Involvebanks	,013	1	,910
		Ad_kind * Version	1,184	2	,553
		Ad_kind(1) by Version(1)	1,170	1	,279
		Ad_kind(2) by Version(1)	,006	1	,940
	Overall Statistics		5,125	13	,972

a. Variable(s) removed on step 12: Ad_kind.

```
              Step number: 13

              Observed Groups and Predicted Probabilities

      32 +                                                                                                    +
         |                                                                                                    |
         |n                                                                                                   |
F        |n                                                                                                   |
R     24 +npp                                                                                                 +
E        |nnn                                                                                                 |
Q        |nnn                                                                                                 |
U        |nnnp                                                                                                |
E     16 +nnnn                                                                                                +
N        |nnnn                                                                                                |
C        |nnnn                                                                                                |
Y        |nnnn                                                                                                |
       8 +nnnnn                                                                                               +
         |nnnnn n   nn                                                                                        |
         |nnnnnpnnnnnn pnn        n     p                                                                   pp|
         |nnnnnnnnnnnnnnnnnnnnnp  nnnnnnn nnnpp nn pnp npn   nn                     n    p     pppp pp ppp  pp|
Predicted ---------+---------+---------+---------+---------+---------+---------+---------+---------+----------
  Prob:   0       ,1        ,2        ,3        ,4        ,5        ,6        ,7        ,8        ,9         1
  Group:  nnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnpppppppppppppppppppppppppppppppppppppppppppppppppp

          Predicted Probability is of Membership for path break
          The Cut Value is ,50
          Symbols: n - no break
                   p - path break
          Each Symbol Represents 2 Cases.
```

Contingency tables:

Ad kind and path break (n=204):

Informative or affective or no ad * Path break in R5 Crosstabulation

			Path break in R5		Total
			no break	path break	
Informative or affective or no ad	no ad	Count	70	2	72
		Expected Count	57,9	14,1	72,0
		% within Informative or affective or no ad	97,2%	2,8%	100,0%
		% within Path break in R5	42,7%	5,0%	35,3%
		% of Total	34,3%	1,0%	35,3%
		Std. Residual	1,6	-3,2	
	inf ad	Count	51	17	68
		Expected Count	54,7	13,3	68,0
		% within Informative or affective or no ad	75,0%	25,0%	100,0%
		% within Path break in R5	31,1%	42,5%	33,3%
		% of Total	25,0%	8,3%	33,3%
		Std. Residual	-,5	1,0	
	aff ad	Count	43	21	64
		Expected Count	51,5	12,5	64,0
		% within Informative or affective or no ad	67,2%	32,8%	100,0%
		% within Path break in R5	26,2%	52,5%	31,4%
		% of Total	21,1%	10,3%	31,4%
		Std. Residual	-1,2	2,4	
Total		Count	164	40	204
		Expected Count	164,0	40,0	204,0
		% within Informative or affective or no ad	80,4%	19,6%	100,0%
		% within Path break in R5	100,0%	100,0%	100,0%
		% of Total	80,4%	19,6%	100,0%

Ad kind and path break (n=95, only cognitive condition):

Informative or affective or no ad * Path break in R5 Crosstabulation

			Path break in R5		
			no break	path break	Total
Informative or affective or no ad	no ad	Count	38	1	39
		Expected Count	31,6	7,4	39,0
		% within Informative or affective or no ad	97,4%	2,6%	100,0%
		% within Path break in R5	49,4%	5,6%	41,1%
		% of Total	40,0%	1,1%	41,1%
		Std. Residual	1,1	-2,4	
	inf ad	Count	17	12	29
		Expected Count	23,5	5,5	29,0
		% within Informative or affective or no ad	58,6%	41,4%	100,0%
		% within Path break in R5	22,1%	66,7%	30,5%
		% of Total	17,9%	12,6%	30,5%
		Std. Residual	-1,3	2,8	
	aff ad	Count	22	5	27
		Expected Count	21,9	5,1	27,0
		% within Informative or affective or no ad	81,5%	18,5%	100,0%
		% within Path break in R5	28,6%	27,8%	28,4%
		% of Total	23,2%	5,3%	28,4%
		Std. Residual	,0	-,1	
Total		Count	77	18	95
		Expected Count	77,0	18,0	95,0
		% within Informative or affective or no ad	81,1%	18,9%	100,0%
		% within Path break in R5	100,0%	100,0%	100,0%
		% of Total	81,1%	18,9%	100,0%

Ad kind and path break (n=109, only emotional condition):

Informative or affective or no ad * Path break in R5 Crosstabulation

			Path break in R5		
			no break	path break	Total
Informative or affective or no ad	no ad	Count	32	1	33
		Expected Count	26,3	6,7	33,0
		% within Informative or affective or no ad	97,0%	3,0%	100,0%
		% within Path break in R5	36,8%	4,5%	30,3%
		% of Total	29,4%	,9%	30,3%
		Std. Residual	1,1	-2,2	
	inf ad	Count	34	5	39
		Expected Count	31,1	7,9	39,0
		% within Informative or affective or no ad	87,2%	12,8%	100,0%
		% within Path break in R5	39,1%	22,7%	35,8%
		% of Total	31,2%	4,6%	35,8%
		Std. Residual	,5	-1,0	
	aff ad	Count	21	16	37
		Expected Count	29,5	7,5	37,0
		% within Informative or affective or no ad	56,8%	43,2%	100,0%
		% within Path break in R5	24,1%	72,7%	33,9%
		% of Total	19,3%	14,7%	33,9%
		Std. Residual	-1,6	3,1	
Total		Count	87	22	109
		Expected Count	87,0	22,0	109,0
		% within Informative or affective or no ad	79,8%	20,2%	100,0%
		% within Path break in R5	100,0%	100,0%	100,0%
		% of Total	79,8%	20,2%	100,0%

Ad kind and oath break (n=56, only cognitive condition and no control group without ad):

Informative or affective or no ad * Path break in R5 Crosstabulation

			Path break in R5		
			no break	path break	Total
Informative or affective or no ad	inf ad	Count	17	12	29
		Expected Count	20,2	8,8	29,0
		% within Informative or affective or no ad	58,6%	41,4%	100,0%
		% within Path break in R5	43,6%	70,6%	51,8%
		% of Total	30,4%	21,4%	51,8%
		Std. Residual	-,7	1,1	
	aff ad	Count	22	5	27
		Expected Count	18,8	8,2	27,0
		% within Informative or affective or no ad	81,5%	18,5%	100,0%
		% within Path break in R5	56,4%	29,4%	48,2%
		% of Total	39,3%	8,9%	48,2%
		Std. Residual	,7	-1,1	
Total		Count	39	17	56
		Expected Count	39,0	17,0	56,0
		% within Informative or affective or no ad	69,6%	30,4%	100,0%
		% within Path break in R5	100,0%	100,0%	100,0%
		% of Total	69,6%	30,4%	100,0%

Ad kind and path break (n=76, only emotional condition and no control group without ad):

Informative or affective or no ad * Path break in R5 Crosstabulation

			Path break in R5		
			no break	path break	Total
Informative or affective or no ad	inf ad	Count	34	5	39
		Expected Count	28,2	10,8	39,0
		% within Informative or affective or no ad	87,2%	12,8%	100,0%
		% within Path break in R5	61,8%	23,8%	51,3%
		% of Total	44,7%	6,6%	51,3%
		Std. Residual	1,1	-1,8	
	aff ad	Count	21	16	37
		Expected Count	26,8	10,2	37,0
		% within Informative or affective or no ad	56,8%	43,2%	100,0%
		% within Path break in R5	38,2%	76,2%	48,7%
		% of Total	27,6%	21,1%	48,7%
		Std. Residual	-1,1	1,8	
Total		Count	55	21	76
		Expected Count	55,0	21,0	76,0
		% within Informative or affective or no ad	72,4%	27,6%	100,0%
		% within Path break in R5	100,0%	100,0%	100,0%
		% of Total	72,4%	27,6%	100,0%

Ad (or no ad) and path break (n=204):

Ad versus no ad * Path break in R5 Crosstabulation

			Path break in R5		
			no break	path break	Total
Ad versus no ad	no ad	Count	70	2	72
		Expected Count	57,9	14,1	72,0
		% within Ad versus no ad	97,2%	2,8%	100,0%
		% within Path break in R5	42,7%	5,0%	35,3%
		% of Total	34,3%	1,0%	35,3%
		Std. Residual	1,6	-3,2	
	ad	Count	94	38	132
		Expected Count	106,1	25,9	132,0
		% within Ad versus no ad	71,2%	28,8%	100,0%
		% within Path break in R5	57,3%	95,0%	64,7%
		% of Total	46,1%	18,6%	64,7%
		Std. Residual	-1,2	2,4	
Total		Count	164	40	204
		Expected Count	164,0	40,0	204,0
		% within Ad versus no ad	80,4%	19,6%	100,0%
		% within Path break in R5	100,0%	100,0%	100,0%
		% of Total	80,4%	19,6%	100,0%

Ad versus no ad and path break (n=95, only cognitive condition):

Ad versus no ad * Path break in R5 Crosstabulation

			Path break in R5		
			no break	path break	Total
Ad versus no ad	no ad	Count	38	1	39
		Expected Count	31,6	7,4	39,0
		% within Ad versus no ad	97,4%	2,6%	100,0%
		% within Path break in R5	49,4%	5,6%	41,1%
		% of Total	40,0%	1,1%	41,1%
		Std. Residual	1,1	-2,4	
	ad	Count	39	17	56
		Expected Count	45,4	10,6	56,0
		% within Ad versus no ad	69,6%	30,4%	100,0%
		% within Path break in R5	50,6%	94,4%	58,9%
		% of Total	41,1%	17,9%	58,9%
		Std. Residual	-,9	2,0	
Total		Count	77	18	95
		Expected Count	77,0	18,0	95,0
		% within Ad versus no ad	81,1%	18,9%	100,0%
		% within Path break in R5	100,0%	100,0%	100,0%
		% of Total	81,1%	18,9%	100,0%

Ad versus no ad and path break (n=109, only emotional condition):

Ad versus no ad * Path break in R5 Crosstabulation

			Path break in R5		
			no break	path break	Total
Ad versus no ad	no ad	Count	32	1	33
		Expected Count	26,3	6,7	33,0
		% within Ad versus no ad	97,0%	3,0%	100,0%
		% within Path break in R5	36,8%	4,5%	30,3%
		% of Total	29,4%	,9%	30,3%
		Std. Residual	1,1	-2,2	
	ad	Count	55	21	76
		Expected Count	60,7	15,3	76,0
		% within Ad versus no ad	72,4%	27,6%	100,0%
		% within Path break in R5	63,2%	95,5%	69,7%
		% of Total	50,5%	19,3%	69,7%
		Std. Residual	-,7	1,4	
Total		Count	87	22	109
		Expected Count	87,0	22,0	109,0
		% within Ad versus no ad	79,8%	20,2%	100,0%
		% within Path break in R5	100,0%	100,0%	100,0%
		% of Total	79,8%	20,2%	100,0%

Comparing high versus low PDS:

Cognitive PDS > 3 and emotional PDS < 3 (n=43, only cognitive condition):

Decisions R5 all participants * Informative or affective or no ad Crosstabulation

			Informative or affective or no ad			
			no ad	inf ad	aff ad	Total
Decisions R5 all participants	Apusbank	Count	16	6	11	33
		% within Decisions R5 all participants	48,5%	18,2%	33,3%	100,0%
		% within Informative or affective or no ad	100,0%	40,0%	91,7%	76,7%
	Velabank	Count	0	9	1	10
		% within Decisions R5 all participants	,0%	90,0%	10,0%	100,0%
		% within Informative or affective or no ad	,0%	60,0%	8,3%	23,3%
Total		Count	16	15	12	43
		% within Decisions R5 all participants	37,2%	34,9%	27,9%	100,0%
		% within Informative or affective or no ad	100,0%	100,0%	100,0%	100,0%

Cognitive PDS > 3 and emotional PDS > 3 (n=53, only cognitive condition):

Decisions R5 all participants * Informative or affective or no ad Crosstabulation

			Informative or affective or no ad			
			no ad	inf ad	aff ad	Total
Decisions R5 all participants	Apusbank	Count	19	11	13	43
		% within Decisions R5 all participants	44,2%	25,6%	30,2%	100,0%
		% within Informative or affective or no ad	95,0%	73,3%	72,2%	81,1%
	Velabank	Count	0	4	4	8
		% within Decisions R5 all participants	,0%	50,0%	50,0%	100,0%
		% within Informative or affective or no ad	,0%	26,7%	22,2%	15,1%
	Lynbank	Count	1	0	1	2
		% within Decisions R5 all participants	50,0%	,0%	50,0%	100,0%
		% within Informative or affective or no ad	5,0%	,0%	5,6%	3,8%
Total		Count	20	15	18	53
		% within Decisions R5 all participants	37,7%	28,3%	34,0%	100,0%
		% within Informative or affective or no ad	100,0%	100,0%	100,0%	100,0%

Emotional PDS > 3 and cognitive PDS < 3 (n=34, only emotional condition):

Decisions R5 all participants * Informative or affective or no ad Crosstabulation

			Informative or affective or no ad			
			no ad	inf ad	aff ad	Total
Decisions R5 all participants	Apusbank	Count	10	9	1	20
		% within Decisions R5 all participants	50,0%	45,0%	5,0%	100,0%
		% within Informative or affective or no ad	100,0%	90,0%	7,1%	58,8%
	Velabank	Count	0	1	13	14
		% within Decisions R5 all participants	,0%	7,1%	92,9%	100,0%
		% within Informative or affective or no ad	,0%	10,0%	92,9%	41,2%
Total		Count	10	10	14	34
		% within Decisions R5 all participants	29,4%	29,4%	41,2%	100,0%
		% within Informative or affective or no ad	100,0%	100,0%	100,0%	100,0%

Emotional PDS > 3 and cognitive PDS > 3 (n=69, only emotional condition):

Decisions R5 all participants * Informative or affective or no ad Crosstabulation

			Informative or affective or no ad			
			no ad	inf ad	aff ad	Total
Decisions R5 all participants	Apusbank	Count	21	20	19	60
		% within Decisions R5 all participants	35,0%	33,3%	31,7%	100,0%
		% within Informative or affective or no ad	95,5%	80,0%	86,4%	87,0%
	Velabank	Count	1	5	3	9
		% within Decisions R5 all participants	11,1%	55,6%	33,3%	100,0%
		% within Informative or affective or no ad	4,5%	20,0%	13,6%	13,0%
Total		Count	22	25	22	69
		% within Decisions R5 all participants	31,9%	36,2%	31,9%	100,0%
		% within Informative or affective or no ad	100,0%	100,0%	100,0%	100,0%

ANOVAs:

Cognitive condition:

Descriptives

Intention to switch A R5

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
no ad	39	3,9103	2,21054	,35397	3,1937	4,6268	1,00	10,00
inf ad	29	5,6466	2,86334	,53171	4,5574	6,7357	1,00	11,00
aff ad	27	5,1296	2,47815	,47692	4,1493	6,1100	2,00	11,00
Total	95	4,7868	2,58781	,26550	4,2597	5,3140	1,00	11,00

Test of Homogeneity of Variances

Intention to switch A R5

Levene Statistic	df1	df2	Sig.
1,463	2	92	,237

ANOVA

Intention to switch A R5

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		54,574	2	27,287	4,367	,015
	Linear Term	Unweighted	23,722	1	23,722	3,796	,054
		Weighted	29,266	1	29,266	4,683	,033
		Deviation	25,308	1	25,308	4,050	,047
	Quadratic Term	Unweighted	25,308	1	25,308	4,050	,047
		Weighted	25,308	1	25,308	4,050	,047
Within Groups			574,922	92	6,249		
Total			629,496	94			

Robust Tests of Equality of Means

Intention to switch A R5

	Statistic[a]	df1	df2	Sig.
Welch	4,391	2	55,223	,017
Brown-Forsythe	4,207	2	79,367	,018

a. Asymptotically F distributed.

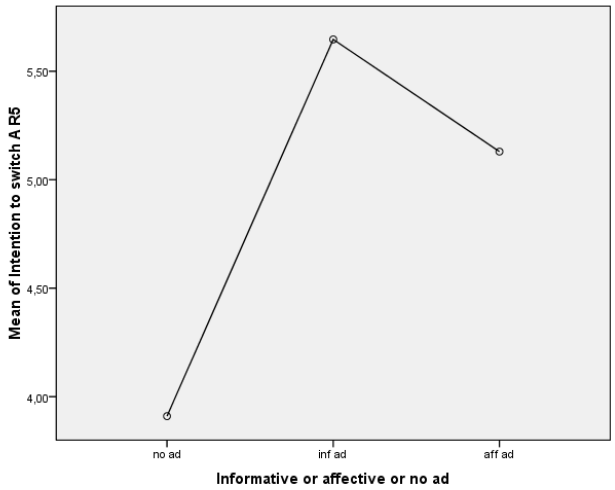
Contrast Coefficients

Contrast	Informative or affective or no ad		
	no ad	inf ad	aff ad
1	-2	1	1
2	0	-1	1

Contrast Tests

		Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)
Intention to switch A R5	Assume equal variances	1	2,9557	1,04301	2,834	92	,006
		2	-,5169	,66853	-,773	92	,441
	Does not assume equal variances	1	2,9557	1,00566	2,939	89,295	,004
		2	-,5169	,71426	-,724	53,727	,472

Means Plots



Emotional condition:

Descriptives

Intention to switch B R5

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
no ad	33	3,9167	2,16837	,37746	3,1478	4,6855	1,00	8,75
inf ad	39	4,2051	2,22417	,35615	3,4841	4,9261	1,00	8,25
aff ad	37	5,0608	2,13226	,35054	4,3499	5,7717	1,00	7,75
Total	109	4,4083	2,20995	,21167	3,9887	4,8278	1,00	8,75

ANOVA

Intention to switch B R5

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		25,340	2	12,670	2,675	,074
	Linear Term	Unweighted	22,834	1	22,834	4,820	,030
		Weighted	23,327	1	23,327	4,925	,029
		Deviation	2,012	1	2,012	,425	,516
	Quadratic Term	Unweighted	2,012	1	2,012	,425	,516
		Weighted	2,012	1	2,012	,425	,516
Within Groups			502,118	106	4,737		
Total			527,458	108			

Robust Tests of Equality of Means

Intention to switch B R5

	Statistic[a]	df1	df2	Sig.
Welch	2,716	2	69,956	,073
Brown-Forsythe	2,679	2	105,004	,073

a. Asymptotically F distributed.

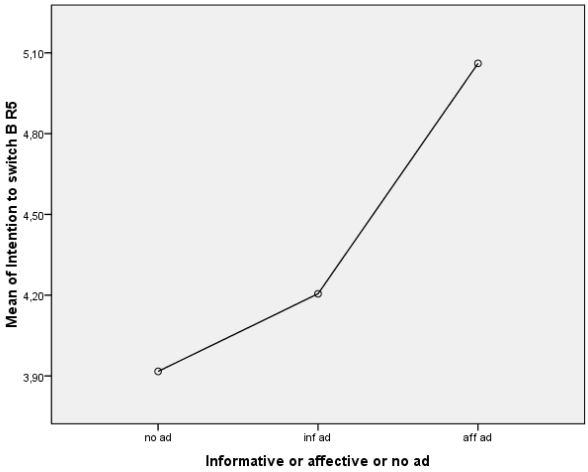
Contrast Coefficients

Contrast	Informative or affective or no ad		
	no ad	inf ad	aff ad
1	-2	1	1
2	0	-1	1

Contrast Tests

		Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)
Intention to switch B R5	Assume equal variances	1	1,4326	,90756	1,579	106	,117
		2	,8557	,49949	1,713	106	,090
	Does not assume equal variances	1	1,4326	,90534	1,582	61,113	,119
		2	,8557	,49972	1,712	73,991	,091

Means Plots



Declaration of Independent Completion

Erklärung zur selbstständigen Abfassung

Ich versichere: Ich habe diese Dissertation mit dem Titel „Combining Marketing Theory and Path Dependence. Measuring and Breaking the Consumption Path" selbstständig verfasst. Andere als die angegebenen Hilfsmittel und Quellen habe ich nicht benutzt.

Die Arbeit hat keiner anderen Prüfungsbehörde vorgelegen und wurde noch nicht veröffentlicht.

Berlin, den 15. April.2016 Unterschrift