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Replenishment Subscription Services

The Impact of Product Satisfaction, Awareness, and Perception on Consumers' Intention to Subscribe

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Dissertation written under the supervision of Paulo Romeiro

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ABSTRACT

Title: Replenishment Subscription Services – The Impact of Product Satisfaction, Awareness, and Perception on Consumers' Intention to Subscribe
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For the last five years, subscription e-commerce has grown by over 100% p.a. in the US – presenting a fast-growing channel of purchasing online. FMCG companies can increase revenue streams by offering products through a **Replenishment Subscription Service (RSS)**. RSS offers grocery and commodity products via automated, periodic deliveries which save consumers time and effort.

Quantitative research surrounding RSS has remained scarce which results in identifying two research needs:
Understand consumers' decision process to subscribe to RSS by lending a framework for innovation adoption, which includes the revised stages of *awareness*, *perception,* and *intention to subscribe*.
Analyze product requirements since it is questioned if consumers, who are satisfied with their current product choice, are more likely to subscribe and hence, repurchase their products through RSS? Therefore, the study equates a standard repurchase process triggered by satisfaction with the periodic purchase through RSS.

The goal was to study the impact of product satisfaction, awareness, and perception about RSS on consumers' intention to subscribe.

Consumers' level of product satisfaction about RSS significantly impacts the intention to subscribe. Perception about advantages, ease of use and, compatibility with shopping habits were positive indicators for subscribing. Consumers' overall perception fully mediates the relationship of awareness and partially mediates the relationship of product satisfaction on the intention to subscribe to RSS.
Building on findings, the paper gives implications and recommendations for companies to market RSS with its products and, to target consumers in an appropriate way to increase subscription rates.

Keywords: Subscription services, replenishment, grocery automating, intention to subscribe, satisfaction, awareness, perception, mediator model

SUMÁRIO

Title: Replenishment Subscription Services – O Impacto da Satisfação, Conscientização e Percepção do Produto na Intenção dos Consumidores de Assinar
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Nos últimos cinco anos, a subscrição do comércio eletrônico cresceu mais de 100% a.a. nos EUA - apresentando um canal de compras online em rápido crescimento. Empresas de FMCG podem aumentar fluxos de receita oferecendo produtos através de um Serviço de Subscrição de Reabastecimento (RSS). RSS oferece produtos de mercearia e mercadorias através de entregas automatizadas e periódicas poupando tempo e esforço aos consumidores.

A pesquisa quantitativa do RSS permanece escassa. Foi identificada a necessidade de compreender o processo decisivo de subscrição do RSS dos consumidores. Isto foi analisado através do empréstimo de uma estrutura para adoção da inovação, incluindo etapas revisadas de conscientização, percepção e intenção de assinar.
Surgiu a necessidade de analisar requisitos dos produtos, questionando se os consumidores, satisfeitos com a escolha atual, estão mais propensos a assinar e, portanto, recomprar através de RSS? Então, o estudo equacionou um processo de recompra padrão desencadeado pela satisfação da compra periódica via RSS.

O objetivo foi estudar o impacto da satisfação, conscientização e percepção sobre o RSS na intenção de assinar.

O nível de satisfação em relação ao RSS impactou significativamente a intenção de assinar. A percepção sobre vantagens, facilidade de uso e compatibilidade com hábitos de compra foi positiva, indicador de adesão. Consequentemente, a percepção dos consumidores mediou totalmente a relação de conscientização e parcialmente na satisfação na intenção de assinar o RSS.
Baseado nos resultados, o artigo dá implicações e recomendações para empresas comercializarem RSS e, para atingir os consumidores adequadamente para aumentar as taxas de assinatura.

Keywords: Serviços de subscrição, reabastecimento, automatização de mercearias, intenção de subscrição, satisfação, sensibilização, percepção, modelo mediador

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GLOSSARY

α	Alpha
β	Beta
&	And
ANOVA	Analysis of Variance
AW	Level of Awareness
DV	Dependent Variable
e.g.	For example
Et al.	Et alii
FMCG	Fast Moving Consumer Goods
H	Hypothesis
HED	Hedonic
HED/UT	Hedonic/Utilitarian Scale
ITS	Intention to Subscribe
IV	Independent Variable
KMO	Kaiser-Meyer-Olkin Measure of Sampling Adequacy
KPI	Key Performance Indicators
LPS	Level of Product Satisfaction
MANOVA	Multivariate Analysis of Variance
PC	Perceived Compatibility
PDI	Purchase Decision Involvement
PERC	Perception of RSS
PEU	Perceived Ease of Use
PRA	Perceived Relative Advantage
RQ	Research Question
RSS	Replenishment subscription service
SD	Standard Deviation
TAM	Technology Acceptance Model
UT	Utilitarian

1 INTRODUCTION

By 2021, about 2.14 billion consumers are projected to purchase goods and services online (eMarketer, 2017). Companies which are accelerating in e-commerce have understood the market and its potential early and have adapted to the needs of the digital retail sector, by implementing the online business within their core strategy and investing in appropriate capabilities (Webster, Booker, & Tager, 2017). Retailing is undergoing significant changes enhanced by technologies and evolving consumer behavior with increasingly busy lifestyles. Subsequently, leading to fragmentation of shopping behavior (Bain & Company, 2018) which forces retailers to rethink their current strategies. Vertical integration and new business models are rising in the ultra-competitive and highly volatile fast-moving consumer goods (FMCG) sector (Deloitte, 2018). Subscription services make up one of the new business models. Gartner (2018) predicts that by 2020, a majority of companies will offer subscription services.

The **subscription economy** where customers pay a recurring fee to access a product or service is on the rise and subscription companies have grown more than 100% per year for the last five years (Zuora, 2019). They are bypassing distributors to keep control over pricing and promotions (Cook & Garver, 2002; Geller, 2019; Warc, 2019) and sell directly to consumers by implementing subscription mechanisms (McKinsey & Company, 2016). Consequently, they benefit from stable, predictive revenue streams and, long-term customer relationships (Zuora, 2019).

1.1 Background

Subscriptions granting access to content and digital goods (Abdollahi & Leimstoll, 2011) have been on the market since the early 2000s (Rudolph, Bischof, Böttger, & Weiler, 2017) and give consumers access to intangible products without constraints (Rappa, 2000). Within the subscription industry, those business models were able to succeed. Successful companies such as Starbucks or Sephora entered the subscription economy and expanded their assortment by adding subscription services to their product line (Hitwise, 2016) and consumers got educated about subscriptions and the technology surrounding it. In the sector of media and entertainment, Netflix and Spotify became market leaders over the last couple of years (Pike, 2016).

Implementing subscription services can disrupt markets and companies. The razor blade market can be viewed as an example where the market share of the market leader, Gilette, fell from

70% in 2010 to 54% in 2016 due to the entrance of Dollar Shave Club, a subscription service for razor blades (Terlep, 2017; Tzuo & Weisert, 2018).

In e-commerce, FMCG companies can differentiate themselves by offering products through a **replenishment subscription service (RSS)** (Chen, Fenyo, Yang, & Zhang, 2018; Rudolph et al., 2017). This service predominantly aggregates commodity items based on an agreement between company and customer. The customer can activate an automated subscription for chosen products and receives them within a selected time recurrence (Chen et al., 2018). With implementing RSS, successful retailers as, e.g. Amazon (Amazon, 2019) and Target (Target, 2019) already harvest market potential and answer to changing consumer preferences by providing price advantages, access and convenience through a replenishing mechanism (Chen et al., 2018).

1.2 Problem Statement

The subscription economy has room to grow as more consumers become aware of it (Chen et al., 2018). However, the stream of research on how RSS impact consumers' purchase intention and its ascendants is still limited (Rudolph et al., 2017).

When focusing on **RSS** within FMCG research surrounding RSS has remained scarce, and thus, there is a need to first, understand consumers' process of subscribing to RSS and second, discover the requirements and nature of products which are offered through RSS.

(1) In order to quantify consumers' intention to subscribe to RSS, a **framework for innovation adoption** is used. The underlying process of subscribing to (adopting) a new service is three-fold: Firstly, consumers start in a knowledge/awareness phase, where they first hear about RSS. Secondly, a perception about RSS is built during the persuasion stage and thirdly, a decision about whether to adopt or reject the services of RSS is made (Rogers, 1995). In this third stage, the "intention to adopt" or for study purposes, the "intention to subscribe" is measured.

(2) Through RSS, consumers automate their grocery and commodity shopping and consequently get the **same products** delivered in a recurring cycle. Are consumers more likely to subscribe and hence commit to a specific product if they are familiar and satisfied with this product? The study equates a standard repurchase process triggered by satisfaction with an automated, recurring purchase through RSS and thus introduces product satisfaction as an independent variable.

Therefore, the **goal of this research** is to examine the impact of consumers' current level of product satisfaction and awareness on the intention to subscribe to RSS with perception functioning as a mediator. The scope is restricted to an underlying theory about the process of innovation adoption with the focus on non-durable goods.

To substantiate this problem statement, the following research questions (RQ) are introduced:

RQ1: What effect does consumers' level of product satisfaction have on the intention to subscribe to RSS?

RQ2: What effect does consumers' level of product satisfaction have on consumers' perception about RSS?

RQ3: What effect does the level of awareness of RSS have on consumers' perception about RSS?

RQ4: What is consumers' perception about RSS and which effect does it have on the intention to subscribe to RSS?

1.3 Relevance

Although subscription services are a tool for FMCG companies to differentiate in e-commerce (Bischof, Böttger, & Rudolph, 2018), research about subscription mechanisms, especially with a focus on FMCG, is still lacking. There is an apparent research gap since no study connects RSS for consumer goods with long studied variables like product satisfaction. Besides, little academic research, especially in a quantitative manner, assessed how RSS impacts consumers' purchase intention. However, consumers' traits should be the focus when designing a new service to sustain in the subscription industry (Ewen, 2017) and gain valuable insights to target consumers adequately and analyze retention rates due to its significant impact on firms' profitability.

Viewing this paper from the macro perspective of marketing, it is classified in the area of product placement and therefore, contributes by giving managerial implications for FMCG companies to understand consumers' intention to subscribe to RSS.

1.4 Research methods

To answer the research questions stated, the methodology used is based on different sets of research: primary and secondary research. Secondary research is collected to derive hypothesis and a conceptual model:

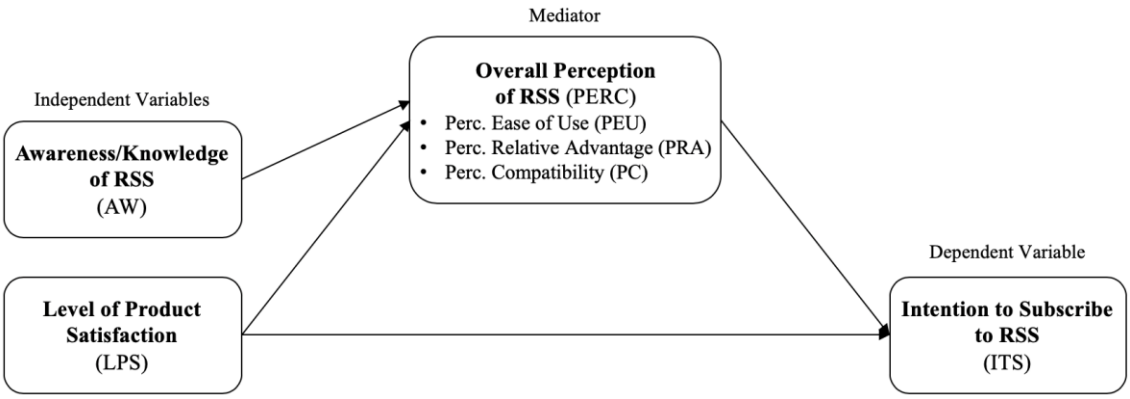

Figure 1: Conceptual Model

Primary research is split into qualitative and quantitative research methods. Qualitative data namely focus groups, are conducted to get a clear definition of RSS and build the factorial design for the following online survey. Quantitative data assessment is based on the online survey with a 2x2 factorial design to understand the impact of consumers' product satisfaction on their intention to subscribe to RSS and to provide a broad spectrum of managerial implications.

1.5 Dissertation outline

After introducing the research field, the research problem and questions were stated, and its relevance was argued. In the second chapter, a comprehensive review of the literature is presented to put this research into the context of existing knowledge. Consequently, hypothesis are derived, which build the research body. The third chapter covers the methodology, where the research approach and design are stated, comprising a presentation of qualitative data collection and an in-depth overview of quantitative measurements. In the fourth chapter, the results of data collection are analyzed and presented. Subsequently, hypothesis and a conceptual model are tested to answer the research problem followed by a detailed discussion which connects findings to established frameworks and points out differences and similarities in literature. Lastly, in the conclusion and limitations section, all relevant information is summed up, and the most significant findings are revisited. Essentially, this section gives a short description of what has been concluded, taking all aspects of the research into consideration. The final subchapter outlines limitations which are considered in this paper and managerial implications.

2 LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

In the following chapter, a comprehensive literature review is given. Firstly, to get an overview of RSS. Secondly, the underlying framework for the adoption process is introduced with its ascendants followed by a presentation of the independent variable (IV) "product satisfaction". Afterward, variables are connected to hypothesize effects between the IVs "product satisfaction" and "awareness", the mediator "perception" and the dependent variable (DV) "intention to subscribe". By connecting derived hypothesis, a conceptual model is introduced.

2.1 Subscription Services

Research surrounding subscription services already started around the 17th century (Clapp, 1931) and has developed ever since. Within the e-commerce sector, subscription services are spread widely and can be distributed and marketed in various ways.

2.1.1 Market Characterization

Chen et al. (2018) as well as Rudolph et al. (2017) structure subscription-based e-commerce services into three different categories, which can be differentiated in terms of customer value, earning mechanisms and Key Performance Indicators (KPI) (Rudolph et al., 2017):

		Surprise/ access Subscriptions	**Curated Subscriptions**	**Predefined/ Replenishment Subscriptions**
Customer Value	**USP**	Stimulate Inspiration	Personalization Reduce choice complexity	Convenience Price
	Level of surprise	High	Medium	Low
	Level of controllability vs. risk	High degree of risk		Controllable/ low degree of risk
	Output for consumer	Unexpected products within desired product category	Controlled, personalized inspiration	Replenishment of desired product within desired interval
Mechanisms for Earnings	**Earnings Perspective**	Long-Term Profitability	Short-Term Profitability (Premium Retail)	Long-Term Profitability (High Acquisition Cost)
	Profit-Critical Aspects	Scale: to Acquire Subscribers & Suppliers	Balancing Sales with Related Service Costs	Keeping Subscribers in the Long Run
KPI's			Customer acquisition costs Customer Lifetime Value Retention Rate	
Examples		Just Fab Nature box	Birchbox Foodist	Dollar Shave Club Amazon „subscribe & save" Target Subscriptions

Table 1: Overview of Subscription Services adapted from Chen et al. (2018) and Rudolph et al. (2017)

In the first category, **access subscriptions** or surprise subscriptions, consumers pay recurring fees to receive products from a specific product category, which cannot be controlled by the recipient (Chen et al., 2018). The second category, **curated subscriptions**, are the most dominant in the e-commerce sector (Chen et al., 2018) and the corresponding academic literature (Noorda, 2019; Woo & Ramkumar, 2018). Items within a product category are chosen by a curator based on consumer preferences and are afterward sent to the consumer. They aim at triggering a surprise and delight feeling for customers with personalized service and targeted experiences (Chen et al., 2018).

The third category, and, the research focus of this study, are **replenishment subscription services (RSS)** (Chen et al., 2018) or predefined subscriptions (Rudolph et al., 2017). Consumers automate their grocery and commodity shopping by subscribing selected products which they receive in a selected, recurring, delivery cycle (Chen et al., 2018). In RSS, best practices are Amazon Subscribe & Save and Dollar Shave Club for razor blades (Chen et al., 2018).

2.1.2 Replenishment Subscription Services (RSS)

As aforementioned, research surrounding RSS is still in the early stages (Bischof, Böttger, & Rudolph, 2017; Bischof et al., 2018; Chen et al., 2018; Rudolph et al., 2017; Warrillow, 2015). RSS is aimed at substituting routine purchases for commodity items since it eliminates the hustle for consumers to remember to replenish products (Randall, Lewis, & Davis, 2016).

2.1.2.1 RSS Design

Compared to other subscription services, RSS exhibits the lowest associated risk, which is often present in e-commerce settings (Fayad & Paper, 2015; Pavlou, 2003). However, some risk potentially occurs since consumers outsource their shopping task to companies. This risk can be minimized by promoting perceived RSS benefits and by giving consumers the flexibility to design RSS components themselves (Bischof et al., 2018; Rudolph et al., 2017). Additionally, with this flexibility, churn rates (number of consumers who terminate the service) can be kept at a low rate (Bischof et al., 2018; Warrillow, 2015).

Most existing RSSs are designed alike with the following components:

- **Price:** Most providers grant discounts between 5-15% on products purchased through RSS
- **Promotion:** Almost no special promotions are offered in RSS since researchers suggest to work with promotional discounts or vouchers wisely to gain an investment payback (Chen et al., 2018)
- **Placement:** Termination of the service is always possible; delivery intervals can be chosen by the consumer; option of skipping certain predefined intervals
- **Products:** primary commodity items and grocery

No research has assessed connections between intention to subscribe to RSS and consumers' product requirements in different product categories. For study purposes two product clusters are derived since consumers purchase goods and services for two reasons: to pursue (1) "consummatory affective (hedonic) gratification" and/or to search for (2) "instrumental, utilitarian reasons" (Batra & Ahtola, 1991, p.159). While experiencing a hedonic consumption behavior, the recipient will undergo through multisensory experiences and the "emotive aspects of product use" (Batra & Ahtola, 1991; Hirschman & Holbrook, 1982, p.82). It depends on the individual whether a product functions as a utilitarian or a hedonic good (Batra & Ahtola, 1991; Spangenberg, Voss, & Crowley, 1997; Voss, Spangenberg, & Grohmann, 2003).

2.1.2.2 RSS Implications

For companies to sustain in the RSS market, one of the primary goals, next to revenue generation, is to keep churn rates as low as possible (Zuora, 2019). Furthermore, a long-term goal is to harvest lock-in effects from retaining customers (Janzer, 2017). To achieve these goals, the customer needs to perceive an added value to his purchased service or good (Abdollahi & Leimstoll, 2011). Value in RSS can be added by providing significant benefits that offline shopping is not able to provide. As a result, literature uncovers two pillars: ***Convenience*** achieved by its hustle free use is one of the most attractive benefits. The second unique selling proposition (USP) is ***price*** since most providers grant consistent discounts (Chen et al., 2018).

2.2 Adoption of new services

Studying the overall e-commerce subscription market, only 32% of consumers are familiar with RSS despite its promising outlook (Chen et al., 2018). Furthermore, not many studies have assessed consumers' intention to subscribe. In academic research, adoption models serve the purpose to gain quantitative insights into consumers' intention to accept and use new services.

2.2.1 Overview

One of these theoretical perspectives is the technology acceptance model (TAM) (Davis, 1989). TAM predicts attitudes and behavior of technology adoption with its two moderators (1) perceived usefulness: assessing how the technology will enhance one's performance and (2) perceived ease of use: the extent to which the system studied is perceived as effort-free (Venkatesh & Davis, 2000).

Another theoretical perspective is the theory of diffusion of innovation, which also incorporates perceived usefulness and perceived ease of use (Rogers, 1962). It studies the underlying factors of how, why, and at which rate innovation is adopted. Diffusion is defined as a process with the four key elements of time, innovation, communication channels, and social systems (Rogers, 1962, 1976, 2003). Research questions in the field of diffusion circle around persona differentiation of early and late adopters and how perceived attributes of the innovation are valued and affect the adoption process (Rogers, 1962).

2.2.2 Diffusion of Innovation

Diffusion of innovation increases the understanding of intentions to subscribe to RSS and was therefore chosen as an underlying theory for this study. It is proposed to categorize RSS as an innovation which is per definition from Rogers (1962) "*an idea perceived as new by the individual*" (Rogers, 1962, p.11).

The process of diffusion can be divided into **five innovation decision stages** where potential adopters pass through and build up an opinion about the underlying innovation (Rogers, 1962).

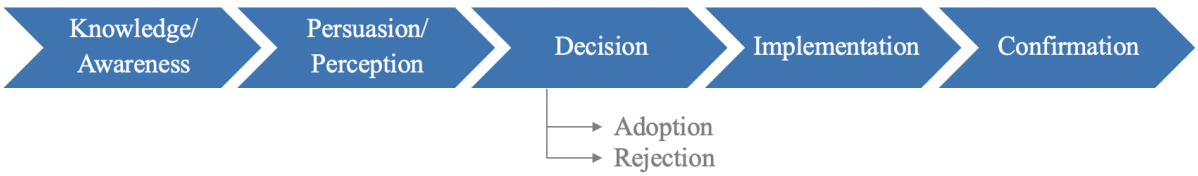

Figure 2: Innovation Decision Stages adapted from Rogers (1995)

Diffusion theory is applied to predict adoption at a later stage by measuring innovation characteristics at an earlier point in time (Tornatzky & Klein, 1982). Hence, only the first three stages are applied in this study and introduced in the following:

2.2.2.1 Knowledge/Awareness

In the knowledge/awareness phase, the consumer is exposed to the innovation for the first time and gets to understand the service better (Rogers, 1962). Awareness can be defined as the simplest version of brand knowledge and starts with acknowledging the brand name or the new service, followed by a complex cognitive structure based on previously gathered information (Hoyer & Brown, 1990). In the context of diffusion, this first step is called (1) awareness-knowledge which motivates to seek either (2) "how-to" knowledge, comprising all necessary information for usage and/or (3) principle knowledge containing information about the underlying constructs of the innovation (Rogers, 1995).

Characteristics of the decision-making unit, such as communication behavior, socio-economic traits, as well as personality, play a central role in the awareness process (Rogers, 1962). However, other authors state that the subjective norm is only showing a significant effect in mandatory settings as, e.g., workplace and is not significant in a voluntary context (Venkatesh & Davis, 2000). To conclude, a faster rate of adoption is expected if consumers have related knowledge and experiences with innovation (Dickerson & Gentry, 1983).

2.2.2.2 Persuasion/Perception

A distinction between early and late adopters can be drawn in terms of demographic traits, amongst others, but even if consumers are characterized as early adopters, they might not adopt yet due to their attitude or perceptions which do not match their current state of mind (Dickerson & Gentry, 1983). In diffusion literature, perceptions are the crucial part of rating whether potential consumers will adopt the innovation (Rogers, 1995).

To measure perception, five attributes of innovation are determined: (1) Relative Advantage; (2) Compatibility; (3) Complexity; (4) Trialability; and (5) Observability (Rogers, 1995). Moore and Benbasat (1991) restudy these attributes to build a measurement for the adopter's potential interaction (perception) with the innovation and label them Perceived Characteristics

of Innovation (PCI). **Perceived Relative Advantage**, **Perceived Ease of Use** and, **Perceived Compatibility** are categorized as the superior attributes to build perception (Rogers, 1995) and are thus studied in depth. All other attributes have been taken into consideration but are eliminated for research needs and limitations (Moore & Benbasat, 1991; Tornatzky & Klein, 1982).

Perceived Relative Advantage

Perceived relative advantage describes the degree the innovation is perceived better and more advantageous than other innovations surrounding it (Rogers, 1962). When building a connection to other theories, especially TAM, this pillar can be compared with "perceived usefulness" (Davis, 1989).

Perceived Ease of Use

Perceived Ease of Use (Moore & Benbasat, 1991) or "complexity" measures how difficult it is to operate an innovation (Rogers, 1962). This pillar can also be found in research surrounding TAM, and it views the service and its design itself (Davis, 1989).

Perceived Compatibility

Perceived compatibility measures the degree an innovation is comparable with existing values, beliefs and experiences (Rogers, 1962) and it is stated that compatibility of an innovation is positively related to its rate of adoption (Rogers, 1962).

2.2.2.3 Decision

The decision stage captures the perceived likelihood that consumers adopt or reject an innovation based on the perception about innovation (LaBarbera & Mazursky, 1983; Rogers, 1962). Rejection can be further analyzed by distinguishing between (1) active rejection, were adoption is considered but discarded later on, e.g., rejection after trialing it and (2) passive rejection, were adoption was never considered. This study only differentiates between a simple adoption/rejection (Rogers, 1962) to measure the behavioral intention to subscribe (cf. Cheng, Lam, & Yeung, 2006; Pavlou, 2003; Taylor & Todd, 1995).

2.3 Satisfaction

Satisfaction has significant effects on consumers' continuance intention (Wen, Prybutok, & Xu, 2011) and is additionally a reliable predictor of purchase attitude (Oliver, 1993). It is introduced as an IV for studying intention to subscribe to RSS.

2.3.1 Repeat Purchase

Sharp and Sharp (1997) define repeat-purchasing as *"the percentage of buyers who continue to buy the same brand in two equal-length time periods"* (Sharp & Sharp, 1997, p. 476). Within e-commerce, repeat purchase intention is defined with the probability that a product will still be bought through the same online seller in the next period (Chiu, Wang, Fang, & Huang, 2014). On the basis of the psychological state in which a loyal customer is situated, Oliver (1999) is differentiating between four stages of the loyalty process, being (1) cognitive, (2) affective, (3) conative and (4) action loyalty respectively, which can be determined as repeat purchasing (Oliver, 1999). Repeat purchasing behavior is not the same as brand loyalty (Szymanski & Henard, 2001), although loyal customers tend to be satisfied.

Analyzing the repurchase process further, literature connects the construct of repurchase with the construct of satisfaction. Oliver (1980) created a cognitive model, within the formation of purchase intentions and states that satisfaction influences repurchase intentions while being part of a dynamic purchase process comprising previous intention, product satisfaction as well as consumers' current attitudinal level (Oliver, 1980).

2.3.2 Product Satisfaction

Satisfaction is defined as *"the consumer's fulfillment response, the degree to which the level of fulfillment is pleasant or unpleasant"* (Oliver, 1997, p. 28). Moreover, satisfaction with the product can also be defined as a psychological process of comparing expected and actual product performance (Cronin, Brady, & Hult, 2000; Oliver & Desarbo, 1988; Rijsdijk, Hultink, & Diamantopoulos, 2007; Tse & Wilton, 1988).

Plenty of authors are aligned with the argumentation that disconfirmation is strongly associated with satisfaction (Oliver & Desarbo, 1988; Swan & Oliver, 1989; Szymanski & Henard, 2001). The expectation confirmation theory, which forms one of the basic models for explaining the development of satisfaction, states that when a product meets the expected performance,

confirmation occurs, and product satisfaction is reached (Oliver, 1980). If performance exceeds expectations, positive disconfirmation occurs, and the level of satisfaction rises. In addition, low product performance triggers negative disconfirmation leading to product dissatisfaction (Swan & Oliver, 1989). Thus, a positive correlation is observed, meaning the more positive disconfirmation occurs, the higher the level of satisfaction (Richins & Bloch, 1991).

Conversely, Johnson & Fornell (1991) state that performance and expectations can drive product satisfaction directly without disconfirmation acting as an intermediary (Hill, 1986). This definition is applied in this study by following Rijsdijk et al. (2007) measurements where overall product satisfaction, product expectations and the mapping of the product compared to the product category is assessed (cf. Fornell, Johnson, Anderson, Cha, & Bryant, 1996).

Mittal and Kamakura (2001) express three reasons where variability within the satisfaction-repurchase connection can occur, which has to be kept in mind when introducing satisfaction as a variable. Firstly, consumers characteristics can impact the threshold. Secondly, bias can be observed in the mentioned characteristics, and thirdly the outcome can vary depending on different consumers (Mittal & Kamakura, 2001).

2.4 Studying the intention to subscribe to RSS

This research uses the previously introduced innovation-decision stages (Rogers, 1995) as an underlying framework. It is limited to the first three stages to understand and predict consumers' intention to subscribe to RSS. This decision is henceforth titled as "intention to subscribe" since this paper strives to analyze consumers' intentions to subscribe to RSS with underlying ascendants.

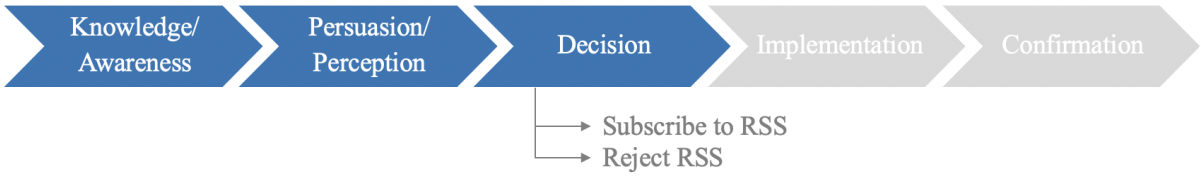

Figure 3: Innovation Decision Stages adapted to RSS needs (Rogers, 1995)

2.4.1 Impact of Product Satisfaction (IV)

The variable "level of product satisfaction" is introduced since it became apparent that the intention to subscribe to RSS can be equated with a repurchase process triggered by satisfaction.

2.4.1.1 Impact of product satisfaction on intention to subscribe

Consumers are automating and outsourcing their shopping tasks by giving the replenishment task to RSS, which they view as an essential service for the future (Oracle, 2017). Being satisfied with a current product choice increases the likelihood that consumers repurchase (cf. Hoyer, 1984; LaBarbera & Mazursky, 1983). Various authors (Mittal & Kamakura, 2001; Szymanski & Henard, 2001), as well as Tsai, Huang, Jaw and Chen (2006) who studied the construct of satisfaction within e-based services, argue that satisfied consumers are more likely to keep purchasing through the same distributor. By subscribing to RSS, a product is purchased repeatably. The study proposes that these two constructs are connected, and product satisfaction has an effect on the intention to subscribe to RSS.

> *H_1: The level of product satisfaction is positively related to consumers' intention to subscribe to RSS.*

Moreover, it is proposed that there is a difference in effect size for hedonic vs. utilitarian products in terms of product satisfaction but also, within the likelihood of subscribing to RSS. If consumers buy the same product which is of low importance repeatedly, they do not invest much effort in the decision-making process and instead apply choice heuristics or rules of thumb (Mano & Oliver, 1993). On the one hand, consumers rely on previously gathered product information but on the other hand, also on judgments about the level of recent product choice satisfaction (Hoyer, 1984). Repurchase can also be triggered by inertia due to lacking effort in consumers' decision-making process (Hoyer, 1984). Moreover, convenience generates utilitarian benefits, which can significantly alter a positive attitude towards the service (Wang, Zhang, Ye, & Nguyen, 2005).

> H_1^{UT}: *The level of product satisfaction for utilitarian products is positively related to consumers' intention to subscribe to RSS.*

For hedonic purchases and experiences, a higher intrinsic factor tends to be present since utilitarian goods are more beneficial to the consumer (Batra & Ahtola, 1991).

> H_1^{HED}*: The level of product satisfaction for hedonic products is positively related to consumers' intention to subscribe to RSS.*

2.4.1.2 Impact of Product Satisfaction on Perception

Satisfaction is a reliable predictor of purchase perception and intention (Oliver, 1980, 1993). Hence, perception is proposed to have an impact on the established relationship between product satisfaction and intention to subscribe. This connection also becomes apparent in the modified Howard and Sheth Model (Howard & Sheth, 1969) where the level of satisfaction affected the revised attitude, which furthermore affected the intention to buy again. For study purposes, it is proposed:

> *H_2: The level of product satisfaction positively affects consumers' overall perceptions about the RSS.*

2.4.2 Impact of Awareness (IV)

Davis (1989) motions that perception can be influenced by awareness and previous knowledge about an innovation. Although some scholars do not find significant differences between non-experiences/experienced consumers, Gefen, Karahanna, and Straub (2003) prove that a distinction can be drawn. Their study, which focused on trust and TAM within e-commerce and incorporated familiarity as the IV, denotes that experienced consumers perceived the study conditions as more useful and easier to use resulting in higher purchase intentions (Gefen et al., 2003). This is in line with the diffusion of innovation process where awareness leads to building a perception (Rogers, 1995). As repeated use increases familiarity with the RSS, perceptions increase because of seeing the value-added and better understanding the service and its interface (Hackbarth, Grover, & Yi, 2003). Altogether, it is theorized that:

> *H_3: Awareness about the RSS positively impacts consumers' overall perception about the RSS.*

2.4.3 Impact of Perception

Davis (1989) argues that perception predicts intentions, and consumers need to perceive an added value to subscribe (Chen et al., 2018). After the three Characteristics of Innovation (Moore & Benbasat, 1991) are studied separately in the context of RSS it is concluded, that consumers' overall perception about RSS influences the behavioral intention of consumers' decision regarding RSS.

> *H_4: An overall positive perception about RSS has a positive effect on ITS.*

2.4.3.3 Impact of perceived relative advantage

In RSS, **value for money** (Chen et al., 2018; Rudolph et al., 2017) was one of the two significant predictors of subscribing. The second significant predictor is **convenience** (Davis, Bagozzi, & R. Warshaw, 1989; Tao & Xu, 2018). This is in line with perceived relative advantages of the online shopping sector were convenience is a primary reason for usage (Childers, Carr, Peck, & Carson, 2001; Rohm & Swaminathan, 2004).

Following additional reasons for subscribing were uncovered: gaining a financial benefit, closely followed by recommendations as well as wanting to experience a new service. Financial incentives were next to convenience and personalized experience a primary driver for continuing to subscribe (Chen et al., 2018).

Besides, Tan and Teo (2000) discovered a meaningful connection that perceived relative advantage influences the intention to subscribe. Indeed, researchers attribute high importance to this pillar (Tornatzky & Klein, 1982) and have discovered that this attribute is the best predictor of the innovation adoption rate due to its indication whether consumers are rewarded or punished by adopting (e.g., Hoyer & Brown, 1990). Due to the positive linkage of perceived relative advantage to a favorable decision whether to adopt, it is therefore hypothesized that:

> *H_{4a}: The perceived Relative Advantage of using RSS, has a positive effect on consumers' intention to subscribe to RSS.*

2.4.3.4 Impact of perceived ease of use

Freedom of choice regarding RSS design components satisfies consumers, and reduces risk (Rudolph et al., 2017). This is mostly the case for attributes as, e.g. delivery intervals and termination options. Perception increases if PEU is viewed positively (Moore & Benbasat, 1991); thus, it is hypothesized:

> *H_{4b}: The perceived Ease of Use of RSS has a positive effect on consumers' intention to subscribe to RSS.*

2.4.3.5 Impact of perceived compatibility

In general, Tan and Teo (2000) found a significant linkage that perceived compatibility influences the intention to adopt when the studied object is comparable with adopters set of

values. RSS can be categorized as a non-traditional form of distributing products to consumers but creating a new shopping experience to the consumer. In contrary to offline shopping, the social experience is lacking, trying products is different and, the added value depends, amongst others, on the individual's shopping orientation (Rohm & Swaminathan, 2004). A study uncovered that consumers are not seeking the service itself instead they are looking for added value and tangible benefits in terms of memorable end-to-end experiences, lower cost, and personalization (Chen et al., 2018). Therefore, it is proposed that the perception of how RSS is compatible with consumers' shopping habits has a positive influence on the intention to subscribe (cf. Rogers, 1995).

> *H_{4c}: The perceived Compatibility of RSS with consumers' values, has a positive effect on consumers' intention to subscribe to RSS.*

2.5 Conceptual Model

To conclude, the following conceptual model is derived when combining the previously stated hypothesis by connecting literature:

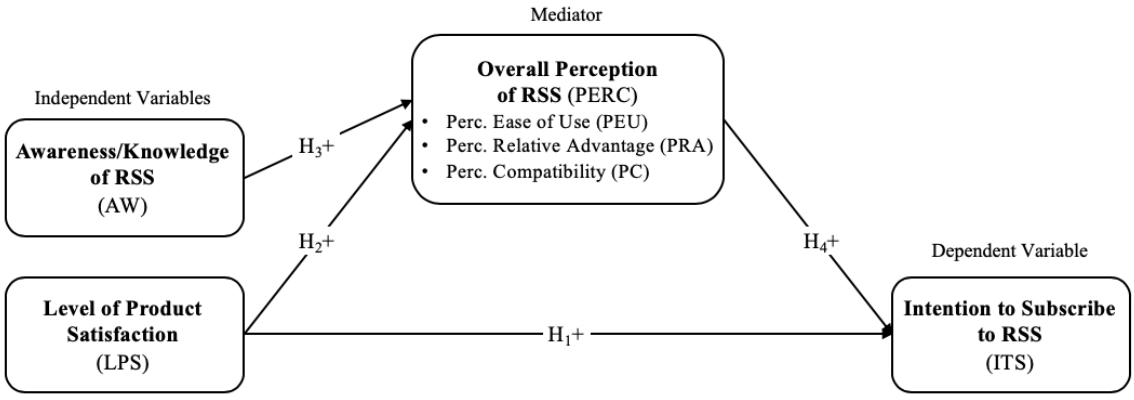

Figure 4: Conceptual Model

3 METHODOLOGY

This chapter comprises a detailed description of the methodology and its procedures used to fulfill set research questions and reach conclusions about the hypothesis formulated in the previous chapter.

3.1 Research Approach

The underlying methodology of this study was comprised of both secondary as well as primary research methods. Secondary research was revised to study the constructs connected to RSS and its mechanism itself. After collecting secondary research, qualitative and quantitative data was collected and used complementary as primary data. Qualitative research encompassed three non-structured focus groups to build the factorial design. Afterward, quantitative research was designed based on the information retrieved and included descriptive and confirmatory research by distributing and analyzing an online survey. The data obtained was subjected to quantitative analysis to test the hypothesis and answer the research questions thoroughly.

3.2 Research Design

In order to get first insights and set design guidelines for the quantitative data, qualitative research was encompassed of three non-structured focus groups. The overall goal was to gather insights to design the stimulus needed for quantitative data. Through focus groups, productive and valuable insights about consumer behavior, knowledge, perceptions, and attitudes can be gathered through a relaxed, free flow and open discussion between the participants (Malhotra, Nunan, & Birks, 2017). They were conducted in either German or English, lasted for about one hour and was recorded for further analysis. For the heterogeneous focus groups, the criteria used to randomly choose the participants was age to get representative insights for designing the quantitative conditions. Each focus group had six participants.

The type of conclusive research chosen is descriptive research to test the hypothesis. It is pre-planned, and the information needed is clearly stated (Malhotra et al., 2017). The data generation was based on a single cross-sectional design or survey research design since information was conducted from any sample population only once (Malhotra et al., 2017). Hence, as a second block of primary data, a survey with directed questions and structured data collection was allocated. The mode of administration was online via the platform Qualtrics, a

web service for surveys. Not only have survey methods been used to measure innovation diffusion and adoption behavior, but main advantages are also seen due to the methods' low costs and time efficiency (Malhotra et al., 2017). Besides its simple distribution, this method is not bounded by demographics and data is consistent due to limited alternatives stated. Disadvantages as, e.g., not getting all relevant consumer thoughts have been taken into account when deciding on the method (Malhotra et al., 2017).

3.3 Sampling

To fulfill the research aim, a 2x2 factorial between-subject design was built and allocated randomly. Thus, a convenience sampling method was used (Malhotra et al., 2017), which is based on a random sample. This method is simple, systematic, and stratified meaning that every sample unit has the same probability of being selected. Even though convenience sampling brings the risk of obtaining biased results (Malhotra et al., 2017), the method was carefully selected. In this respect, the sampling method is advantageous due to time and money constraints at hand. Participants were promised a gift incentive for completing the questionnaire (raffle to win one of two 10€ Amazon vouchers). The target audience was narrowed down to consumers who have shopped online before by implementing screening questions at the beginning of the survey.

3.4 Research Instruments

3.4.1 Focus Groups

As stated, the focus groups were conducted in order to design the stimuli for the online survey, to reduce possible researcher bias and to verify previously made assumptions. After the focus group guideline was pre-tested, the guide was narrowed down to six sections. The focus group started with warm-up questions, followed by assessing general attitudes and personal background with subscription services. Next, participants were confronted with ideas and questions about RSS to gather experiences and insights. Furthermore, they were given the task to design their own RSS based on given attributes (Focus Group Guidelines) which contributed to the overall goal of planning the design. Further, it was discussed about the chosen design, and the focus group concluded by talking about the willingness to subscribe to RSS (Appendix I).

3.4.2 Online Survey

After developing the stimuli based on the focus groups, the online survey was developed. The survey was conducted to measure the impact of product satisfaction and awareness on the intention to subscribe to RSS with the mediation effect of perceptions. The survey was built upon 38 questions and included an experiment with a full factorial 2x2 between-subjects design.

Condition 1/2: Hedonic/utilitarian product consumption was used as the first condition group and manipulated by giving respondents either a hedonic or a utilitarian product category, which was predefined. Chocolate was used for the hedonic product category, whereas toothpaste functioned as the utilitarian product category (Dang, 2016).

Condition 3/4: Two different RSS designs, which differed regarding delivery intervals, were built based on focus group results. Especially big players like Amazon Subscribe & Save (Amazon, 2019) and Target Subscriptions (Target, 2019) have rather high delivery frequencies (starting from one month) for consumers to choose from. Consumer insights showed a discrepancy since this period was rated as too long for specific product categories, and demand for weekly circles was uncovered. Likewise, the literature suggested focusing on smaller cycles combined with smaller product sizes (Bischof et al., 2018). Consequently, the basic RSS design was based on one-month intervals (Figure 3&5) compared to the superior design with weekly intervals (Figure 4&6). Inevitably, as literature defines advantages of RSS based on convenience and price, this was reflected by the RSS design as well. Both shipping of products and the termination were free of charge. Product price was set at the usual price but with a 5% discount for each product when purchased through the subscription service.

Figure 5: Factorial Design: Hedonic x Basic RSS (1)

Figure 6: Factorial Design: Hedonic x Superior RSS (2)

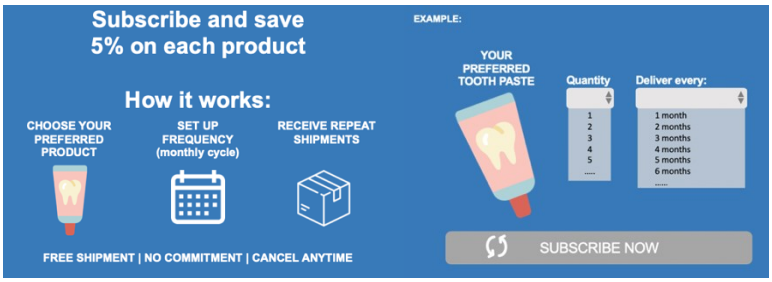

Figure 7: Factorial Design: Utilitarian x Basic RSS (3)

Figure 8: Factorial Design: Utilitarian x Superior RSS (4)

To summarize, the experiment was based on a 2 (*hedonic, utilitarian*) by 2 (*basic* RSS design, *superior* RSS design) between-subject design. Participants were randomly assigned to one of four conditions in the experiment.

3.5 Construct Measurement

The survey consisted of five sections: (1) Screening, (2) Random condition allocation (3) Level of satisfaction, (4) RSS, and, (5) Demographics. Based on a thorough literature assessment, subsequent reliable and applicable measurement scales were selected. The overall majority of the constructs have been used in its original form; however, minor adaptions have been made to wording and content, fitting this study. All constructs used were measured with non-comparative multi-item rating scales respectively on 5-point Likert scales or 5-point semantic scales, regardless of their original scale.

(1) Screening questions were used to identify the target population by asking if they have ever shopped online before. If the answer given was negative, the potential participant was excluded from the study. On the contrary, if the answer was affirmative, participants were asked to indicate their online shopping frequency followed by an assessment about a purchase within the last six months of chocolate and toothpaste. If at least one of the products were purchased, the survey was continued. A three-item scale for shopping comparison (Noble, Griffith, & Adjei, 2006) which deals with price comparison and price sensitivity and a three-item scale for

purchase decision involvement (PDI) (Mittal, 1995) was tested to conduct further potential analysis.

(2) After random distribution to one of the four conditions, a manipulation check was performed by measuring **utilitarian/hedonic consumption** on an eight semantic differential scale by Batra & Ahtola (1991) which statements were regarded as very reliable (α=0.8) and valid.

(3) **Product satisfaction (LPS)** was adapted from Rijsdijk (2007) and based on Hausknecht (1990) as well as questions found in the American Customer Satisfaction Index (ACSI) (Fornell et al., 1996). The first two items were measured ranging from 1 = "totally disagree" to 5 = "totally agree" asking about satisfaction with the product and comparison to other products in the category. The third item measured experience with the product, which ranged from 1 = "much worse than expected" to 5 = "much better than expected.".

(4) Before introducing the RSS to the participant, **awareness/knowledge (AW)** was tested on a semantic differential scale and was anchored with "unfamiliar/familiar", "inexperienced/experiences" and "not knowledgeable/knowledgeable" (Schlosser, 2006). To measure **perceptions of the innovation (PERC)** the construct by Moore and Benbasat (1991) was used which was developed to assess the adoption of new technologies in organizational environments and measured the perception of innovation for the individual level of adoption. The original construct consists of 34 items on seven different scales and was adapted to study purposes. Lastly, the **intention to subscribe (ITS)** was measured on a combined scale where four questions asked about adoption to RSS overall and one particularly about chocolate/toothpaste.

Variable	Scale	# of Items	Literature
Hedonic/ Utilitarian Consumption	Semantic differential	8	Batra and Ahtola (1991)
Product Satisfaction	Likert	3	Rijsdijk et al. (2007)
Level of Awareness/ Knowledge	Semantic differential	3	Schlosser (2006)
Perception of Innovation	Likert	12	Adapted from Moore & Benbasat (1991)
Relative Advantage	Likert	5	Moore and Benbasat (1991)
Compatibility	Likert	4	Moore and Benbasat (1991)
Ease of Use	Likert	3	Moore and Benbasat (1991)
Intention to Subscribe	Likert	5	2 from Taylor and Todd (1995) 3 from Cheng et al. (2006)

Table 2: Operational Model

(5) Additionally, the following demographic factors have been tested in the questionnaire to control for possible effects on the conceptual model: gender, age, nationality, occupation, education, income level, and household size.

3.6 Survey Pre-test

To secure accuracy, a pre-test was conducted to test question content, working flow, and formatting issues. Also, a particular focus was put on instruction and question difficulty as well as consistency of condition design. After the sample size of 15 responders gave feedback, the questionnaire was revised.

3.7 Data Analysis

Insights from the focus group were harvested by first transcribing transcripts, followed by a coding process to analyze findings. Additionally, a ranking of answers for the interactive RSS design study was comprised.

All obtained data from the online survey was analyzed using IBM SPSS Statistics Software. Techniques of descriptive statistics were applied to analyze and characterize the target population. Continuing, construct validity was tested by conducting Cronbach's alpha as a measure of internal consistency. Manipulation check was conducted by running factor analysis, MANCOVA, and correlation analysis to identify directions and effect sizes of the relationship between variables. Furthermore, correlation analysis ascertained the direction and the effect sizes of relationships. A confidence level of 95% and a significance level of 5% was applied for all purposes. Effect sizes were measured by conducting linear regressions and additional statistical tests to explore relationships in more depth. After studying independent effects, two simple mediation models were analyzed by applying the Hayes' macro PROCESS (Hayes, 2013). A mediation model seeks to explain the mechanism underlying the relationship from IV to DV variable via the inclusion of the mediator variable (Taylor, MacKinnon, & Tein, 2007). To finish the analysis off, a mediation model with two IVs was conducted as derived from the literature review.

4 RESULTS AND DISCUSSION

In chapter four, previously conducted data is analyzed. This chapter is divided into an examination of qualitative as well as quantitative data, which includes a discussion of connecting findings to established frameworks and points out differences and similarities in literature.

4.1 Qualitative Results

The sample characterization of the three focus groups is heterogeneous and is comprised of a broad spectrum of age distribution, education level, and occupations (Appendix II). This way, a common understanding of the RSS design was conducted.

The focus groups started with warm-up questions, where participants talked about online shopping in general. Overall, a mixed attitude and perception about online shopping were noted and, participants indicated that their purchase behavior varied depending on the product category. For some participants, it was essential to try on clothes in the store; some do not like the hassle of sending things back, and others enjoyed the feeling of going to the store. Participants who had a positive attitude towards price indicated to value price comparison opportunities and the ability to have a broad spectrum of choices. Also, convenience played an important role. When narrowing online shopping down to online grocery shopping, only a few participants had experience with it. Supplements have been named three times as products which have been shopped online and some rare products which cannot be found in regular supermarkets. Surprisingly, in two of the focus groups, subscription boxes (surprise subscription) have been mentioned by participants when talking about online grocery shopping. Participants who used them before spoke highly of them but reported that they terminated due to the inability of using the products within an expected time frame.

Next, RSS was introduced. About half of the participants knew about RSS but called it “grocery subscription services”, thus this term was used for the survey. Independent of demographics, almost all participants mentioned the perceived advantages of convenience and price. Moreover, there was a clear tendency to design needs. Regarding pricing of the RSS, A 5% discount on every product was the overall preferred choice. It was argued that this gives an incentive to rebuy the brand/product through the subscription mechanism.

In comparison, the option of 'If you ship less than five products within one month, you will receive a 5% discount. If one has five or more products delivered to the same address within one month, one will receive a 15% discount' (Appendix I) did not find much liking since consumers would then be triggered to buy more products even though they do not want/need them. On the design categories of termination and shipping, the majority was of the opinion to have both options for free. The RSS should be as easy as possible and designed in a way which does not trigger reactance. In terms of delivery cycles, consumers favor options of short cycles and the ability to choose the cycle themselves compared to predefined cycles. Here they argue that they know best when they need to replenish something and feel pressured if this cycle is decided for them. Participants did not understand that RSS market leaders only offer cycles of one month since certain products would need replenishment in a shorter frequency.

In general, the majority was intrigued by the RSS and had a positive attitude towards the service. However, the design of the service was assessed as crucial when deciding whether to adopt or not. All in all, qualitative research successfully reached the goal of building the RSS design stimulus.

4.2 Quantitative Results

All quantitative results were retrieved from the previously conducted survey and analyzed by either SPSS or PROCESS for SPSS (Hayes, 2013).

4.2.1 Sample Characterization

A total of 318 responses were collected from which 219 were taken into consideration for analysis after the data was cleaned (see 4.2.2). The respondents' gender is almost represented equally as 51.6% are female and 48.4% are male. Regarding age distribution, the demographic data showed that 86.3% of the population is up to 44 years old. By clustering nationalities, almost 3/4 are German, and remaining nationalities are clustered in the category "other". Income was clustered into three categories: low income (>1000€), medium income (1001-2000€), and high income (<2000€). Over half of the population (50.7%) is grouped into the first category, 27.4% are medium income holders, and the rest were clustered within the high-income group. Most of the population is either employed full time (46.1%) or a student (44.3%) who mostly either have an undergraduate (42%) or postgraduate degree (43.8%). Only 10% have a high school degree as the highest form of education (Appendix V). However, a non-

probability sample was used, which evinced that the sample cannot be considered representative of the population. Nevertheless, an indication for homogenous groups can be detected due to the similarity of demographic data across all four conditions (Appendix VI).

4.2.2 Preparation and Cleaning of Data

The screening mechanism excluded all participants who indicated that they have never shopped online before. After finishing the data preparation and exclusion of incomplete cases, a total number of 219 cases remain to be used for analysis purposes. Firstly, it was checked for univariate outliers were standardized values (z scores) were utilized, and secondly, the data was analyzed for multivariate outliers by using Mahalanobis distance. As a result, a few cases were deleted. This low number of outliers can be explained by the use of pretested Likert scales, which are restricted to specific answer choices. Only the HED/UT scale needed further cleaning to work with the data. Additionally, scales were renamed and relabeled for a better understanding. To further prepare the dataset for analysis, constructs were combined and mean scores were computed.

4.2.3 Reliability of Constructs

Even though all scales were tested in literature, Cronbach's Alpha for the constructs' internal consistency was conducted to check the reliability of scales. It is satisfactory when the Cronbach's Alpha coefficient, which is measured on a scale ranging from 0 to 1, is >0.7, good when >0.8, and excellent when >0.9 (Gliem & Gliem, 2003). As the following table shows, all scales were satisfactory, and hence, scale items were combined to generate one continuous score per construct.

Construct	Scale name	# of Items	Cronbach's Alpha for factorial design	
			Hedonic	Utilitarian
Hedonic/Utilitarian Scale	HED/UT	8	.757	.750
Level of Product Satisfaction	LPS	3	.747	.728
Level of Awareness	AW	3	.887	.866
Perception of Innovation	PERC	12	.921	.913
Perc. Relative Advantage	PRA	5	.865	.853
Perc. Ease of Use	PEU	4	.848	.855
Perc. Compatibility	PC	3	.911	.896
Intention to Subscribe	ITS	5	.955	.969

Table 3: Construct Reliability Analysis

4.2.4 Manipulation Check

Before hypothesis were tested, manipulation checks were run. A principal component analysis was performed for checking the Hedonic/Utilitarian scale. Factor analysis explors underlying constructs in an assessment and gives insights into which items appear to measure the same constructs. KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) value is preferred when above 0.6, in the respected case the KMO is 0.856 and Bartlett's Test of Sphericity shows a statistically significant value (Bartlett, 1954). An investigation of the scree plot showed that two values are above the Eigenvalue of 1, so only two factors are extracted, which explain 74.5% of the variance. In line with previous research, one component loads on hedonic factors, whereas the second component loads on the utilitarian factor. The construct measures the variables as it is supposed to (Appendix VII).

Furthermore, the factorial design was split almost equally between the sample size, but it has to be assessed whether groups are significantly different.

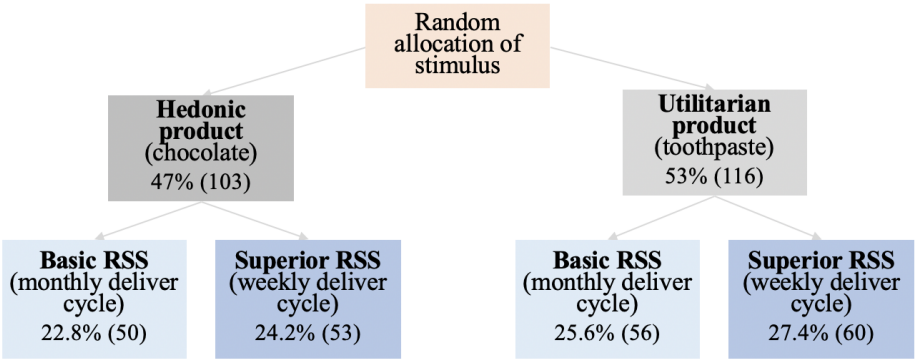

Figure 9: Condition Allocation

A multivariate analysis of variance (MANOVA) was conducted to assess if there are significant differences between the four conditions in the linear combination of ITS, LPS, AW, and PERC. The main effect for the four conditions is not significant, $F(12,642)=1.55$, $p=.101$, $\eta^2_p=.03$, suggesting the linear combination of ITS, LPS, AW, and PERC is similar for each condition. An analysis of variance (ANOVA) was conducted as a post hoc test for each DV to examine the effects of the conditions further. However, all conducted ANOVAs are insignificant, which resulted in the exclusion of the RSS Design variation (Condition 3&4) as a factorial design.

When performing a MANOVA with only product category as a factorial design, the main effect is significant, $F(4,214)=2.43$, $p=.049$, $\eta^2_p=.04$, suggesting the linear combination of ITS, LPS, LW, and PERC is significantly different between the conditions 1&2 (Appendix VII). However, the reported p-value is on the edge of significance, which needs be kept in mind.

4.2.5 Descriptive Statistics

To get a more detailed overview of the sample's characteristic, means were analyzed and if necessary, compared. It was mainly of interested how means differ regarding the factorial design consumers were randomly allocated to.

Screening questions captured consumers' PDI (Mittal, 1995) and the level of price comparison shopping (Noble et al., 2006). The overall population has a rather high PDI (3.39±.89), which implies that consumers are moderately involved when making a purchase decision about the product in question. When analyzing the data with a split for product categories, only for the statement "*I would not care at all/a great deal to which toothpaste/chocolate I buy*" the mean difference between the two groups is statistically significant (Appendix VIII). Consumers allocated to the hedonic product category indicate that they care (4.06±.74) when buying chocolate, which connotes a higher level of involvement than for consumers who buy toothpaste (3.76±.86).

Consumers who engage in comparing prices seek retailers and products with the lowest price, which is subjectively acceptable (Noble et al., 2006). As stated in the literature review, for RSS, price is one USP for consumers to participate. Indeed, the overall mean shows that consumers tend to compare prices when shopping (3.49±.89). This finding is not different in means when comparing it to ITS. A paired sample t-test is statistically insignificant, which indicates that ITS is made regardless of consumers' tendency of comparison shopping.

To shed light on consumers' LPS, they indicate to be moderately satisfied (3.84±.61) with their current product choice in the allocated product category (chocolate/toothpaste). For additional analysis, a new scale was created by dividing the LPS scale by a mean split method and grouping consumers into "low satisfied consumer" and "high satisfied consumer".

When deep diving into the RSS, consumers are moderately familiar with the RSS (3.04±1.3). Nevertheless, consumers' overall AW about RSS is rather low (2.71±1.15), which makes the introduction to the RSS quite essential for consumers.

In terms of PERC of the RSS, namely PRA, PEU, and PC no significant differences in means of the different stimuli were observed. Overall, consumers have a fair perception of RSS (3.61±.71). Besides, participants have a neutral perception of PC, explaining on how the RSS

fits into their current shopping style. Further, PRA accounts for a mean of 3.62, which proves that perception about advantages is positive. PEU excels compared to the other two categories, and consumers perceive the RSS easy to operate, clear in understanding and usage.

4.2.6 Hypothesis Testing

To answer the research questions and hypothesis, various inferential statistics were conducted on a significance level of 5% and a confidence level of 95%. For all linear regressions following assumption were checked and can be assessed in the appendix for the respective test:

The **assumption of normality** was checked by visual inspection of a Q-Q scatterplot (Hayes, 2013). For the assumption of normality to be met, the quantiles of the residuals cannot strongly deviate from the theoretical quantiles. **Homoscedasticity** was evaluated by plotting the residuals against the predicted values (Field, 2009; Osborne & Waters, 2002) and the assumption was met if the points appeared randomly distributed with mean=0 and no apparent curvature. Variance Inflation Factors (VIFs) were calculated to check for **multicollinearity** between predictors. High VIFs indicate increased effects of multicollinearity and VIFs greater than five were cause for concern, whereas VIFs of 10 are considered the maximum upper limit (Field, 2009). Besides, univariate and multivariate **outliers** were checked however, no outliers were detected during the data preparation and cleaning phase.

4.2.6.1 H_1: LPS is positively related to the consumer's ITS to RSS

To test the effect of LPS on the ITS, a linear regression was run. All assumptions were fulfilled (Appendix IX). The overall model has a week quality in predicting the effect of LPS on ITS (R=.243) since the low adjusted R^2 of .055 shows that LPS solely explains 5.5% of the variance in ITS thus, LPS is only a small driver. However, the model is still statistically significant in predicting ITS (B=.449, t(217)=3.68, p<.001) and H_1 was accepted. To describe the relationship between the predictor variable and the outcome variable, regression coefficients were additionally calculated. H_0 (β_{LPS}=0) was rejected and the unstandardized regression equation was computed: ITS=1.441+0.449*LPS. This indicates that on average, a one-unit increase in LPS increases the value of ITS by 0.45 units (B=.449).

Product category view

Are consumers who are satisfied with their product choice within a particular product category, namely hedonic or utilitarian more likely to adopt the services of the RSS?

Since LPS is subjective and can also be affected by product category, the regression analysis was rerun by splitting the sample by factorial design allocation. When analyzing the relationship for the utilitarian product category, an adjusted R^2 of .024 is reported ($F(1,114)=3.824$, $p=0.53$, $R^2=0.024$). The LPS explains only 2.4% of the variance in ITS, which is a small effect size (Cohen 1988). No statistical significance of the model is reported, and H_1^{UT}: *LPS for utilitarian products is positively related to the consumers' ITS to RRS* was rejected.

However, the regression for hedonic products is statistically significant and reports 9.1% of the variability in ITS ($F(1,101)=11.256$, $p<.01$, $R^2=.091$). When analyzing the slope coefficient which represents the change in the DV for a one-unit change in the IV, a predicted increase in ITS of .568 for a one-unit increase of LPS is shown: $ITS=0.835+0.568*LPS_{Hedonic}$ ($t(102)=3.356$, $p<.01$, $B=.568$). Consequently, H_1^{HED} was accepted since $LPS_{Hedonic}$ has a positive impact on ITS.

4.2.6.2 H_2: LPS is positively related to consumers' PERC about RSS

To investigate the effect of LPS on PERC of RSS, a linear regression analysis was conducted after ensuring that all assumptions are met (Appendix X). For this analysis, the scale of PERC was a combination of PEU, PRA, and PC.

The results of the linear regression are significant ($F(1,217)=31.64$, $p<.001$, $R^2=0.123$) indicating that LPS accounts for 12.3% of variance in PERC of RSS ($B=0.415$, $t(217)=5.63$, $p<.001$). H_0:$\beta_{LPS}=0$ was rejected, and the following model was computed: $PERC=2.016+0.415*LPS$, which explains that if LPS increases by one unit, PERC increases by 0.415 units. Consequently, a positive relationship between the two variables is observed, and H_2 was accepted.

When splitting the model into product categories, $LPS_{Hedonic}$, reports a high adjusted R^2, explaining 18.7% of the variance in PERC ($F(1,101)=24.42$, $p<.001$, $R^2=.187$). The H_0 that there is no linear relationship between the variables was rejected, which indicates that there is

a statistically significant linear relationship (B=.502, t(101)=4.94, p<.001). This relationship is numerically reported as the following: PERC=1.646+0.502*$LPS_{Hedonic}$

Similar results are noted for the utilitarian product category (F(1,114)=8.36, p < .005, R^2=.06) but $LPS_{Utilitarian}$ only explains 6% in the variance of PERC. The statistically significant linear relationship reveals that a one-unit increase in $LPS_{Utilitarian}$ leads to an increase of .315 units of PERC (B=.315, t(114)=2.89, p<.005) and is expressed as PERC=2.420+0.315*$LPS_{Utiliarian}$

To conclude, for both hedonic as well as utilitarian products, a positive linear relationship between LPS and PERC of the RSS is reported, and thus, H_2 was accepted.

4.2.6.3 H_3: AW about RSS positively impacts consumers' PERC about RSS

To analyze the hypothesized effect of AW on PERC, a linear regression was conducted. The test shows significant results, and AW explains 7.6% of the variance in PERC (F(1,217)=18.84, p<.001, R^2=.076) meaning that a one-unit increase in AW explains a positive increase of .176 of PERC (B =.176, t(217)=4.34, p<.001). Therefore, H_3 was accepted.

4.2.6.4 H_4: An overall PERC about RSS has a positive effect on consumers' ITS to RSS

For the sake of scrutinizing the effect of PERC on ITS, three independent linear regressions were conducted to answer H_{4a}, H_{4b}, and H_{4c}.

All three hypothesis are accepted on a 5% significance level and display positive relationships towards ITS. PRA yields an adjusted R^2 of 65.1% (F(1,217)=408.52, p<.001) and an one-unit increase, results ITS to rise by 1.13 (B=1.130, t(217)=20.212, p<.001). PEU scores the lowest when explaining variance in ITS with 27.4% (F(1,217)=83.35, p<.001, R^2=27.4) and a slope of B=.999, (t(217)=9.13, p<.001). Last but not least, PERC explains 69.6% in variance, being the highest predictor of ITS (F(1,217)=499.21, p<.001, R^2=69.6).

Next, the effect of overall PERC on ITS was analyzed. A linear regression shows significant results (F(1,217)=611.3, p<.001, R^2=.74). Mainly, 74% of the variance in ITS is explained by PERC of the RSS. H_0 stating that all of the model coefficients equal zero is rejected, and the regression command is built: ITS=-1.771+1.368*PERC (B=1.37, t(217)=24.72, p<.001). To conclude, H_4 was accepted.

4.2.7 Mediation Models

To combine all previously assessed relationships, two simple mediation models for PERC were analyzed. First with LPS as an IV, followed by AW as IV. Afterwards, both models were combined to analyze the conceptual model.

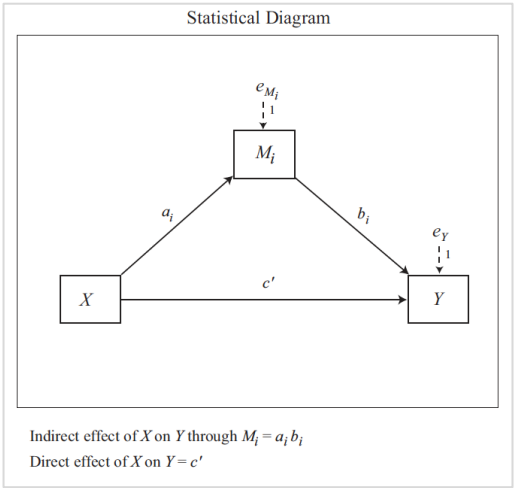

Figure 10: Mediator Analysis; Process Model 4

In each model, various paths were analyzed to ascertain underlying associations: M was regressed on X to yield *path a*, Y was regressed on M to yield *path b*. The **direct effect** *c'* quantified how differences in X relate to differences in Y independent of M influencing Y. The **indirect effect** *ab* explained the mechanism through which X influences Y. When summing direct and indirect effect, the **total effect** is developed and yields the same effects for regressing Y on X as previous hypothesis testing.

To determine whether the data supported a mediating relationship, the IV should no longer be a significant predictor of the DV in the presence of the mediator in order for full mediation to exist (Hayes, 2013). If all paths are significant, partial mediation is supported. All regressions were examined based on a p-value of 0.05.

4.2.7.5 Mediation Model 1 (IV: LPS)

The mediator PERC was regressed on LPS to yield *a,* and ITS was regressed on both LPS and PERC to generate *b* and *c'*.

Path a_1 is statistically significant, $F(2,217)=31.64$, $p<.001$; therefore, LPS is a significant predictor of PERC with a positive regression coefficient of 0.41. The individual predictors are examined further, and it is discovered that PERC is a significant predictor of ITS when LPS is included in the model, $p<.001$, $B=1.41$ (**path b_1**). Even though the p-value of .491 is on the

edge of statistical significance, LPS is a significant predictor of ITS when PERC is included in the model, *B*=-0.14 (**path c_1'**). This negative direct effect is interpreted as follows: Two cases that differ by one-unit on LPS but are equal on PERC are estimated to be lower by -.1354 units on ITS. Furthermore, the **total effect *c***, which was measured before when testing H_1, is significant, ($F(2,217)=13.58$, $p<.005$).

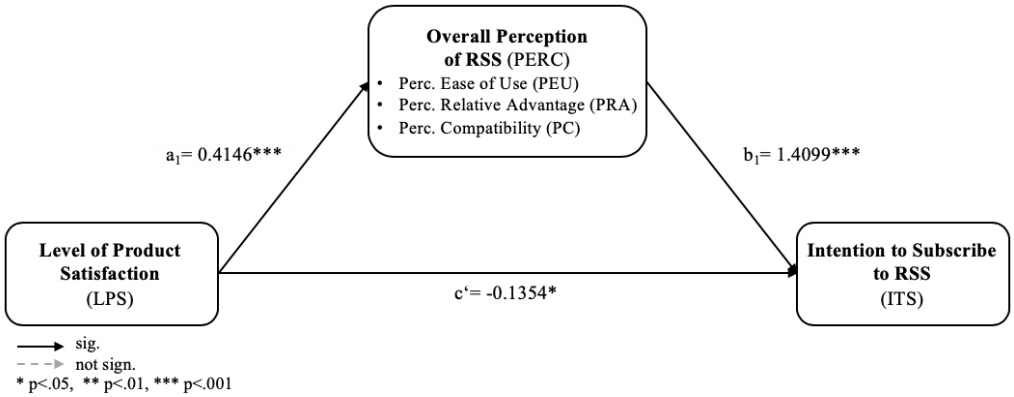

Figure 11: Conceptual Model for Mediator Analysis 1

Next, the evaluation exhibits a positive **indirect effect** of LPS on ITS with mediation through PERC. This implies that LPS significantly predicts PERC and that PERC, in turn, is a significant predictor of ITS. The bootstrapping confidence interval of a*b did not fall below zero, which indicates significance. Since both path *c'* and path *ab* are also significant, a partial mediation of PERC is noted.

Hedonic product category (M1a)

If the view was changed, and the two product categories were analyzed, similar effects for paths *a*, *b*, and *c* are noted. Nevertheless, the direct effect of LPS on ITS (path *c'*) is statistically not significant, and consequently, a full mediation is detected. This indicates that the mediation of PERC fully explains the variation of ITS by LPS.

Path		B	SE	t-value	95% CI	
a	Direct effect of LPS on PERC	.5016	.1015	4.9415***	.3002	.7029
b	Direct effect of PERC on ITS	1.4395	.0842	17.0867***	1.2724	1.6067
c'	Direct effect of LPS on ITS	-.1540	.0958	-1.6082	-.3440	.0360
c	Total effect of LPS on ITS=ab+c'	.5680	.1693	3.3550**	.2322	.9039
ab	Indirect effect of LPS on AI through PERC	.7220	.1492	-	.4291	1.0329

*$p<0.05$, **$p<0.01$, ***$p<0.001$

*Table 4: Process Output for Mediator Analysis 1a – **Hedonic** Product Category*

Utilitarian product category (M1b)

For the utilitarian product category, only *path a* and *b* are statistically significant. However, neither a significant total effect nor a significant direct effect of LPS on ITS is reported which is interpreted as follows: H_0:c'≠0 is not rejected, and therefore, there is no association between LPS and ITS when the mechanism through PERC is accounted for. LPS for the utilitarian product does not affect the ITS to RSS independent of the mediator's (PERC) effect on ITS (Hayes, 2013).

Path		B	SE	t-value	95% CI	
a	Effect of LPS on PERC	.3150	.1090	2.8909**	.0991	.5308
b	Effect of PERC on ITS	1.3722	.0818	16.7715***	1.2101	1.5343
c'	Direct effect of LPS on ITS	-.0861	.0986	-.8728	-.2814	.1093
c	Total effect of LPS on ITS =ab+c'	.3462	.1770	1.9555	-.0045	.6968
ab	Indirect effect of LPS on ITS through PERC	.4322	.1743	-	.0703	.7464

*p<0.05, **p<0.01, ***p<0.001

*Table 5: Process Output for Mediator Analysis 1b – **Utilitarian** Product Category*

4.2.7.6 Mediation Model 2 (IV: AW)

PERC was regressed on AW to produce *a,* and ITS was yielded on both AW and PERC to generate *b* and *c'*.

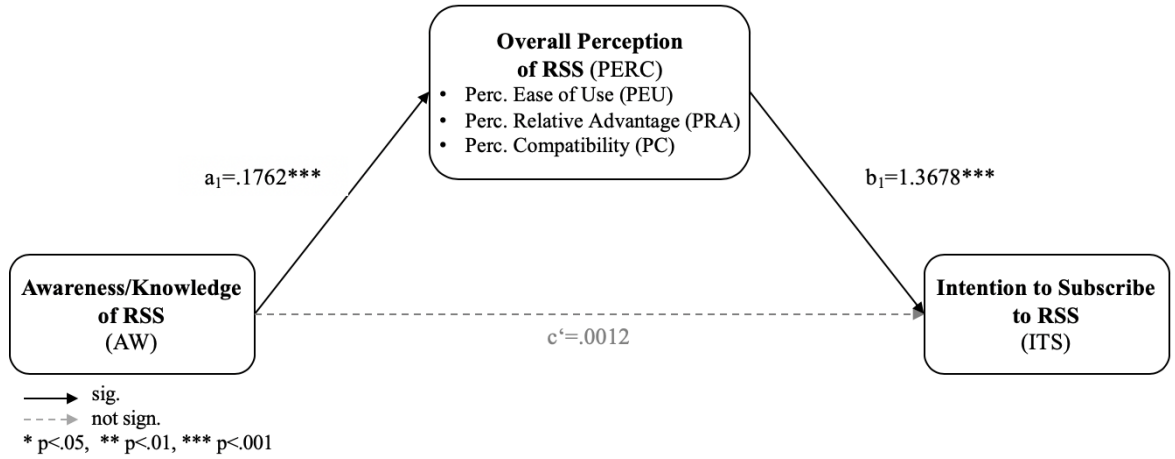

Figure 12: Conceptual Model for Mediator Analysis 2

Results indicated that AW is indirectly related to ITS through its relationship with LPS. A one-unit increase in AW leads to a 0.18 unit increase in PERC. Besides, a one-unit increase in PERC leads to a 1.36 unit increase in ITS (B=1.36, p<0.01). Moreover, the result shows that PERC is a significant predictor of ITS when AW is included in the model. However, AW is not a

significant predictor of ITS when PERC is included in the model, which indicates that a full mediation exists.

Path		B	SE	t-value	95% CI	
a	Direct effect of AW on PERC	.1762	.0406	4.3399***	.0962	.2562
b	Direct effect of PERC on ITS	1.3678	.0578	23.6524***	1.2538	1.4818
c'	Direct effect of LPS on ITS	.0012	.0361	.0361	-.0698	.0723
c	Total effect of LPS on ITS =ab+c'	.2422	.0654	3.7049**	.1134	.3710
ab	Indirect effect of LPS on ITS through PERC	.2410	.0538	-	.1339	.3575

*p<0.05, **p<0.01, ***p<0.001

Table 6: Process Output for Mediator Analysis 2

4.2.7.7 Conceptual Model

No correlation between AW and LPS is detected, which resulted in comparing model effects when either AW or LPS functioned as a covariate. After carefully weighting effects, analysis, and consideration, it was concluded that AW functions as the second causal agent and takes a role as a second IV within the Mediator Model. Hayes (2013) states that by having more than one causal agent, the procedure of aggregating the two previously conducted models stay the same in terms of regressing the factors to the respective variables. However, the effect of a combined model is different compared to having two independent models with only one IV (Hayes, 2013). The author states that differences arise due to the size of the correlation between LPS and AW, as well as between those two variables and PERC and ITS.

Continuous IVs

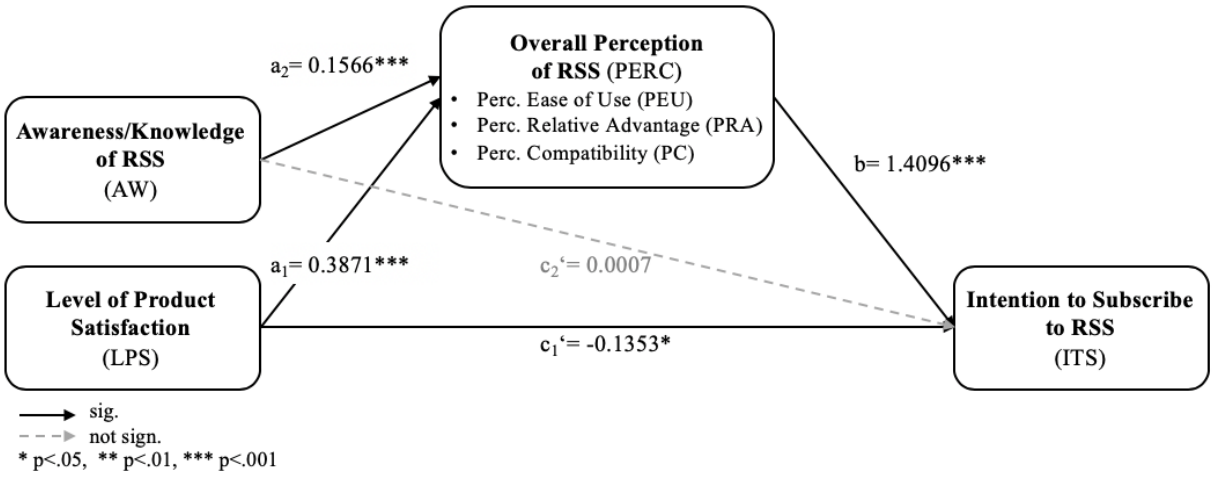

Figure 13: Conceptual Model

Results show that there are significant, positive effects for LPS on PERC and AW on PERC respectively. Furthermore, the effect of PERC on ITS proves to be significant with a regression coefficient of .1566. All indirect and total effects show statistical significance, which can be viewed in Table 7. Direct and indirect effects of LPS are interpreted as the estimated difference in ITS between two cases differing by one unit on LPS but that are equal on AW. Meaning that AW is held constant. When interpreting direct effects, only the effect of LPS on ITS is on the edge of significance, indicating a partial mediation. In contrary, for AW, a full mediation exists.

Path		B	SE	t-value	95% CI	
a_1	Direct effect of LPS on PERC	.3871	.0715	5.413***	.2461	.5280
a_2	Direct effect of AW on PERC	.1566	.0384	4.082**	.0810	.2322
b	Direct effect of PERC on ITS	1.409	.0612	23.026***	1.2889	1.5303
c_1'	Direct effect of LPS on ITS	-.1353	.0686	-1.974*	-.2705	-.0002
c_2'	Direct effect of AW on ITS	.0007	.0358	.0202	-.0699	.0713
c_1	Total effect of LPS on ITS =ab+c'	.4103	.1195	3.433**	.1747	.6458
c_2	Total effect of AW on ITS =ab+c'	.2214	.0641	3.455**	.0951	.3477
ab_1	Indirect effect of LPS on ITS through PERC	.5456	.1107	-	.3254	.7596
ab_2	Indirect effect of AW on ITS through PERC	.2207	.0547	-	.1167	.3298

*p<0.05, **p<0.01, ***p<0.001

Table 7: Process Output Conceptual Model (Continuous IVs)

Dichotomous IVs

To give further managerial implications, a median split for LPS categorized consumers into low and high satisfied consumers. Due to clustering, regression coefficients differ slightly compared to the previous analysis. High satisfied consumers (X=1) are, on average, .4018 units higher in their PERC of RSS than low satisfied consumers and on average, .5535 units higher (b) in their ITS. Resulting in the effect of LPS on PERC, which, in turn, putatively affects consumers' ITS. In total, high satisfied consumers are, on average, .5039 units higher in their ITS than low satisfied consumers. With PERC functioning as a mediator, high aware consumers (X=1) are, on average, .3003 units higher in their ITS than low aware consumers.

Path		B	SE	t-value	95% CI	
a_1	Direct effect of LPS on PERC	.4018	.0919	4.3735***	.2207	.5828
a_2	Direct effect of AW on PERC	.2134	.0924	2.3092*	.0313	.3956
b	Direct effect of PERC on ITS	1.3778	.0588	23.4456***	1.2619	1.4936
c_1'	Direct effect of LPS on ITS	-.0496	.0828	-.5993	-.2128	.1136
c_2'	Direct effect of AW on ITS	.0063	.0808	.0779	-.1530	.1656
c_1	Total effect of LPS on ITS =ab+c'	.5039	.1493	3.3757**	.2097	.7928
c_2	Total effect of AW on ITS =ab+c'	.3003	.1502	1.9997**	.0043	.5964
ab_1	Indirect effect of LPS on ITS through PERC	.5535	.1242	-	.3070	.7955
ab_2	Indirect effect of AW on ITS through PERC	.2940	.1274	-	.0471	.5407

*p<0.05, **p<0.01, ***p<0.001

Table 8: Process Output Conceptual Model (Dichotomous IVs)

Product Category View

When the conceptual model was split into product categories, a full mediation with AW and LPS functioning as IV for both Hedonic/Utilitarian products is noted and can be viewed in Appendix XIV. For hedonic products, LPS and AW explain more variance in PERC (F(2,100)=16.45, p<.001, R^2=.2475) than utilitarian products (F(2,113)=9.596, p<.001, R^2=.1452). It is apparent that LPS for hedonic products has a greater effect on PERC than for utilitarian products which, is in line with the literature.

4.3 Discussion

To give further applicable managerial recommendations, about consumers with different PERC about RSS and their ITS, a k-means cluster analysis was conducted for creating different persona profiles. To avoid biased results, consumers were divided into low/high satisfied consumers who were henceforth included when building the clusters. The four-cluster solution iterates four different consumer groups when including significant demographics. Gender and number of cluster members is normally distributed across the groups (Appendix XV).

Overall the four clusters are split into online vs. offline shoppers since a difference in ITS is noted. Offline shoppers who are clustered in Studying Millennials and Working Millennials are overall low satisfied and have a fair PERC about RSS. Interestingly, PEU is quite high for both groups. Online shoppers, namely Studying Millennials and Young Professionals have a higher ITS. The first cluster demonstrates a lower ITS and PERC, which could be due to the low disposable income and the overall low satisfaction. Surprisingly, Young Professionals have a

high mean for ITS and also PERC and therefore, make up the most interesting target group for RSS. They are employed full time, between 35 and 44 years old, have, on average, a postgraduate degree and a disposable income of 1501€-2000€. Probably, Young Professionals are tech affine and do not associate high risk with shopping online and giving the replenishment task to RSS. They see RSS in line with their current shopping habits and have a high perception of PRA.

	Offline Shopper		Online Shopper	
	Studying Millennials	Working Millennials	Studying Millennials	Young professionals
# of cluster Members	48	56	57	58
ITS	2.06	2.34	3.73	4.32
Satisfaction cluster	Low satisfied consumer	Low satisfied consumer	Low satisfied consumer	High satisfied consumer
PERC	3.01	3.06	3.87	4.38
PC	2.07	2.46	3.60	4.28
PRA	3.04	2.98	3.95	4.41
PEU	3.74	3.73	4.14	4.47
Age	25-34 years old	25-34 years old	18-24 years old	35-44 years old
Occupation	Student	Employed full time	Student	Employed full time
Education	Undergraduate degree	Postgraduate degree	Undergraduate degree	Postgraduate degree
Net income	501€ - 1000€	1501€ - 2000€	500€ or less	1501€ - 2000€
How often do you shop online?	Once every quarter of a year	Once a month	Twice a month	Twice a month

Table 9: Overview Cluster

To recap, the study equates a standard repurchase process triggered by satisfaction with the recurring purchase through RSS and thus introduced LPS as an IV. LPS shows positive effects and impacts change on PERC and ITS to RSS, which implies to be in line with the proposed equation. Moreover, findings of the existence of a full mediation of PERC for the relationship between AW and ITS is in line with the diffusion of innovation theory where consumers follow a process when deciding to adopt or to subscribe to RSS.

Uncovering a strong relationship between PERC and ITS, mediation effects as causal explanations were off interest. Indeed, PERC is considered an intervening variable which significantly explains the relationship between AW and ITS and partially explains the

relationship between LPS and ITS. However, when combining model 1 and 2, resulting in having two IVs, the regression coefficient of LPS to PERC decreases by a minimum, which can be explained by adding more variables into the model.

The following table sums up the previously tested hypothesis:

Hypothesis	Antecedent	Relationship	Consequent	REMARK
H_1	LPS	(+) →	ITS	Accept
H_1^{UT}	LPS^{UT}	(+) →	ITS	Reject
H_1^{HED}	LPS^{HED}	(+) →	ITS	Accept
H_2	AW	(+) →	PERC	Accept
H_3	LPS	(+) →	PERC	Accept
H_4	PERC	(+) →	ITS	Accept
H_{4a}	PRA	(+) →	ITS	Accept
H_{4b}	PEU	(+) →	ITS	Accept
H_{4c}	PC	(+) →	ITS	Accept
M1	LPS	(+) →	PERC → ITS	Partial Mediation
M1a	$LPS_{Hedonic}$	(+) →	PERC → ITS	Full Mediation
M1b	$LPS_{Utilitarian}$	(+) →	PERC → ITS	Full Mediation
M2	AW	(+) →	PERC → ITS	Full Mediation

Table 10: Overview Hypothesis

5 CONCLUSIONS AND LIMITATIONS

The following chapter summarizes the findings mentioned earlier and draws conclusions. Ultimately, managerial and academic implications are drawn, followed by an outline of limitations and proposals for further research topics.

5.1 Main Findings and Conclusions

RQ1: What effect does consumers' LPS have on the ITS to RSS?

As literature proposes, product satisfaction can lead to repurchase. This study successfully connects this effect to RSS since consumers can automate their shopping by receiving products in a predefined frequency. LPS has a small but positive effect on consumers' ITS. If consumers are satisfied with their current product choice, their likelihood of subscribing goes up. To substantiate this finding, if LPS increases by one-unit ITS increases by 50%, which indicates that high satisfied consumers are likely to replenish their current products, and low satisfied consumers have a lower ITS. Overall, LPS plays a role in determining ITS. Marketing managers can gain by focusing on satisfaction measures and invest in satisfaction to increase subscription rates for their RSS.

For hedonic products offered through RSS the effect of LPS is even higher (R^2=.091), indicating that LPS has more impact on ITS since hedonic products demonstrate higher involvement than utilitarian products (Hirschman & Holbrook, 1982). If consumers are satisfied, they are more likely to repurchase, and brand switching is not as frequent. In contrary, even if it is hypothesized and discovered in qualitative research that the RSS is compatible with replenishing commonalities, no significant direct effect of LPS on ITS for utilitarian products was found which was due to the strong mediator effect of PERC.

RQ2: What effect does LPS have on consumers' PERC about RSS?

A positive effect of LPS on consumers' PERC of RSS is reported. This clarifies that if consumers are satisfied with their current product choice, they have a higher overall PERC of PRA, PC, and PEU of the RSS. Overall, LPS explains 12.3% of the variance in PERC. If managers can increase LPS, they can, therefore, intensify PERC and lock-in more consumers to RSS.

It is noteworthy that LPS for hedonic products explains higher variance (18.7%) in PERC about RSS than utilitarian products. Making it transparent, that LPS for hedonic products is of importance and higher product involvement might be the underlying reason.

RQ3: What effect does AW have on consumers' PERC about RSS?

Consumers have an overall low level of AW about the RSS (2.71±1.15) probably due to the newness of the service. Companies are in the first steps of implementing these services, especially in Germany, which 74% of responders indicated as their nationality. The analysis proves that consumers who are aware and have reasonably good knowledge about the RSS have a higher PERC of RSS. AW about RSS is a positive, significant, but a small predictor of PERC which is in line with the diffusion theory where consumers experience a knowledge phase, followed by building a perception about an innovation (Davis, 1989). RSS providers should allocate budget to increase AW to harvest a higher subscription rate.

RQ4: What is consumers' PERC about RSS and which effect does it have on their ITS?

After building up a perception, consumers decide whether to adopt an innovation or not (Davis, 1989). This study uncovers that perception about the RSS, namely PRA, PEU, and PC are significant drivers for subscribing to RSS. As the literature suggests, PRA has the highest effect on PERC due to consumers seeking an added value to subscribe and change their shopping habits. Overall, a positive attitude about the RSS is uncovered and especially, advantages for instance, price and convenience are recognized as such. This is in line with the literature since it is of importance for consumers to build perception and perceive an added value before deciding whether to subscribe. The positive relationship explains 74% of the variance, and if one unit of PERC is increased, ITS climbs 1.7 times higher.

Conceptual Model

To conclude, the research confirms that LPS has a statistical effect on PERC and ITS to RSS. Furthermore, PERC significantly moderates the effect of AW on ITS, which is in line with the diffusion of innovation. When both LPS and AW are included as IV, the effect size of the moderator model is increased. Hence, consumers' LPS, as well as AW about the RSS, has an impact on whether consumers intent to purchase the product via RSS. A full mediation of PERC

is uncovered when assessing the effect of AW on ITS. Additionally, a partial moderation is detected for PERC when studying the impact of LPS on ITS.

The study shows that perception of RSS has a prominent mediation function on subscribing which makes it necessary to position advantages and ease of use of RSS and further, design RSS in a way it is compatible with the target groups' shopping behavior. To define target groups, cluster analysis was performed, and hence, four persona profiles were analyzed. Surprisingly, purchase decision involvement, price comparison shopping, gender, and AW do not significantly differ between clusters and were, consequently, excluded. High satisfied, Young Professionals make up the most promising group for marketers to target since they are well situated and score high on PERC, which is crucial when promoting RSS. Moreover, if LPS can be increased, Studying Millennials, who are categorized as online shoppers, build up a valuable target group due to their high PERC and ITS.

To sum up findings regarding hedonic vs. utilitarian product consumption it was uncovered, that in this study, $LPS_{Hedonic}$ explains more variance in both PERC and ITS than $LPS_{Utilitarian}$. Corresponding to literature, LPS is more important for hedonic products.

5.2 Managerial Implications

The study aims to contribute to managerial and academic purposes and to give implications for the arising subscription distribution channel within FMCG. Proving that there is a positive statistical relationship between LPS, PERC, and ITS of the RSS has never been tested before and consequently specks interesting implications for both managerial and academic research areas.

Replenishment Services are a topic of the future: more and more shops, even small independent online stores are implementing a subscription option to their portfolio. This research confirms that awareness/knowledge about the RSS is still quite low and needs to be improved by marketing activities resulting in word of mouth and positive attitude. PERC about the RSS plays a crucial role in the process of consumers' decision-making about whether to subscribe, and therefore, advantages should be highlighted to position the distribution channel as the better alternative for standard online orders. RSS is classified in the placement sector of the marketing mix, which makes it necessary to design all other aspects surrounding it in alignment. The channel itself needs to be marketed in the correct way for consumers to perceive it as an

appropriate alternative or additional channel. Therefore, highlighting compatibility with consumers' current shopping styles, and focusing on making the system easy to use can increase overall PERC. It is also aligned with the design of the RSS itself. It is proven that consumers assess e-retailers with having the perceived risk component in mind. Hence, managers should focus on designing RSS, which does not leave any questions in terms of use or compatibility open for the consumer. The focus should be on USPs of price and convenience since these are essential for consumers to adopt and should, therefore, be communicated with utmost importance. Furthermore, in order to compete against market players, marketers should attempt to build experiences surrounding the offered products in order to create a memorable experience for products, they are usually annoyed by replenishing.

5.3 Limitations and Further Research

Limitations

Several limitations regarding the overall study, the data collection process, and the data itself were reported. In general, the number of academic papers available covering the research topic at hand is limited. This is especially present when analyzing the dynamics of RSS and consumer behavior surrounding it. Besides, the paper works with only one approach, Diffusion of Innovation, when studying ITS, which could have led to biased results.

The data collection was limited in time and scope, which only allows for a limited understanding of the topic at hand. Main disadvantages of collecting insights through focus groups are the misjudgment of collected answers and having an unsatisfying moderation or misrepresentation of the covered topic. The interviewee's role is of utmost importance since it could lead to misleading or ambiguous results. Also, focus groups can get unstructured at specific points (Malhotra et al., 2017). One reason why the RSS was designed in that particular way, could have been due to biasing respondents by giving a ranking exercise during the focus groups. Although participants had the opportunity to add a design element, this option was rarely exploited. During the manipulation check, one of the factorial designs proved to be statistically not significant and was henceforth excluded from the analysis. Additionally, due to the usage of non-probability sampling, the sample was not representative.

Further limitations of the survey conducted are its length, potential bias due to time pressure and fatigue and prestige seeking and social desirability, which led to response bias or uninformed response bias. Doubts if the factorial design was biased aroused since it was not

gauged if respondents understood the RSS design correct or if doubts where unanswered. There was no control over the identity of the responder, and the opportunity to clarify questions was nonexistent. Since the topic at hand was fairly unknown, respondents were asked to engage in extreme levels of abstraction. This was especially the fact when participants needed to assess ITS for products they were probed on. Moreover, some statistical tests were slightly over or under the edge of the previously set p-value which could have led to interpretation bias.

Further research

Although several limitations were noted, this study sets foundations for future research. It is appealing to analyze how the results turn out if the manipulation is successful. Further research can be carried out by comparing RSS designs to a greater extent and highlighting their USPs more prominently. Also, clear differentiation of hedonic vs. utilitarian products should be performed to assess which category is best suited to be sold through RSS. In the same context, the process could be pursuit by analyzing consumers who already adopted and consumers who churned already. This way, satisfaction with RSS would also speck interesting findings.

Likewise, a study about ITS with a comparison between RSS and a traditional distribution service is of importance for understanding consumer's behavior. This would also give the chance to discover and afterward exploit on other factors which impact the adoption of RSS since this study was only able to explain some variance in the DV. All in all, this field of research of subscription services is a topic for the future and should, therefore, find importance and variance in academic literature as well as implementation in distribution channels.

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APPENDICES

Appendix I: Focus Group Guide

Welcome & presentation of myself
„Hello everybody. First, I would like to thank you all for your coming and your committed cooperation.
My name is Franziska Stahuber, I am 25 years old and I am studying International Management with a Major in Marketing at the Catolica School of Business and Economics in Lisbon. Currently I am writing my Master thesis and this is why we are here today.“

Objective of the focus group and rules
“Thank you for willing to participate in my focus group. We'll be here for about an hour. The reason we're here today is to gather your opinions and attitudes about subscription services and their designs.
Your personal opinions and view are very important for my study. There are no right or wrong answers. Please feel welcome to express yourself freely during the discussion. This conversation will be recorded on tape. This is only for purpose of the research, only my team will listen to the tape. No names or personal information will be used in the report.
Please give everyone the chance to express their opinion during the conversation. You can address each other when expressing your opinion, we are only here to assist in the discussion. Is everything clear about the course of the focus group discussion or do you have any other questions?”

1. **WARM-UP (5 minutes)**

   “Before we start, I'd like to know a little about each of you. Please tell me…”
   - Presentation of the participants being interviewed: name, age, profession, civil status (married/single), etc.
   - Presentation of the theme of the research
   - Leading question: why (why not) do you shop online?
   - What is your General Attitude towards online shopping?
   - How often and which products do you shop online?
   - Have you ever shopped groceries online?

2. **GENERAL ATTITUDES AND BACKGROUND WITH SUBSCRIPTION SERVICES (5 minutes)**

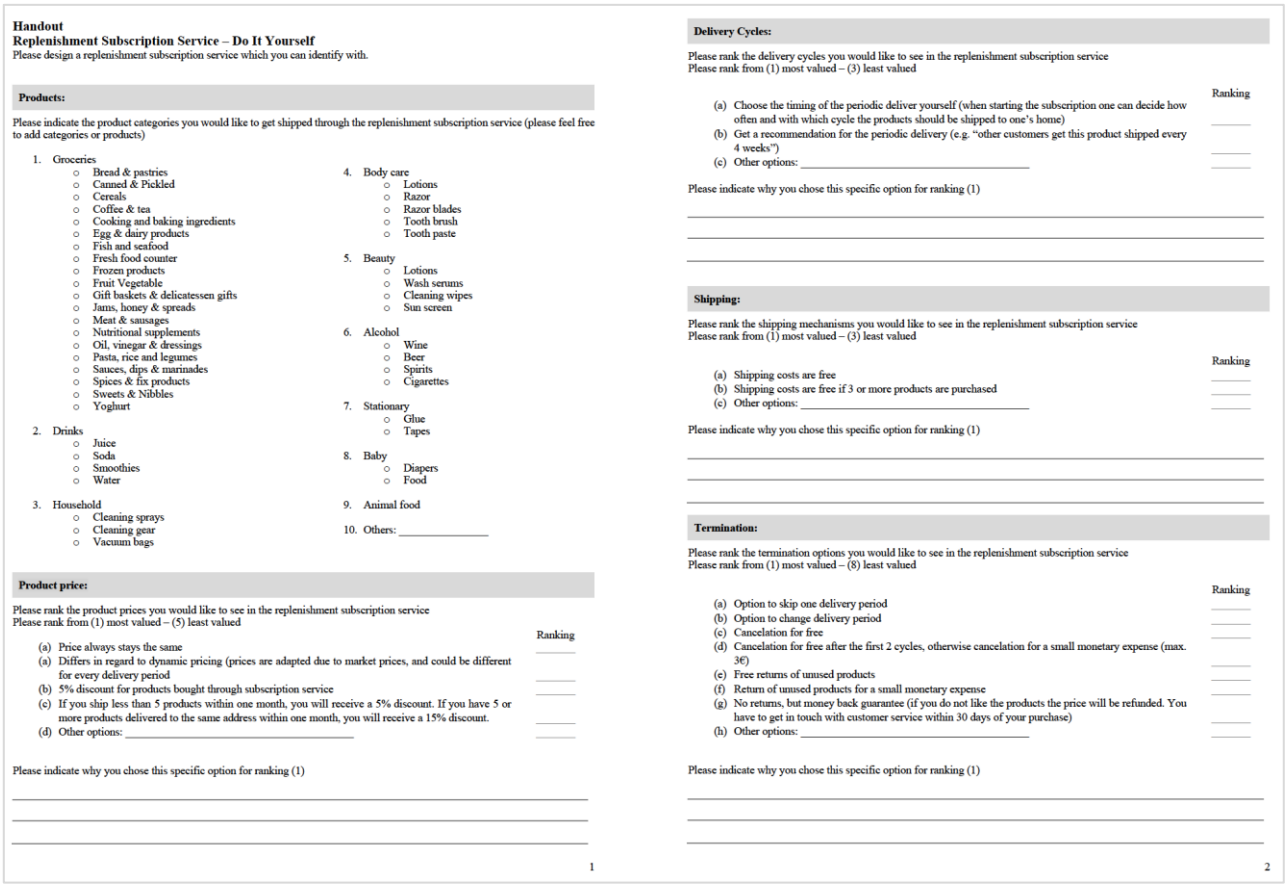
   - What services come to mind when thinking about subscription services?
   - Have they ever used or experienced subscription services?
   - Let them tell about their experience with subscription services?

3. **INTRODUCTION REPLENISHMENT SUBSCRIPTION (20 minutes)**

   “A replenishment subscription service is an online service and distribution mechanism which sends products to you after you run out of them and need to replenish them. You subscribe to certain products and set a delivery period. For instance, you need to get new toothpaste every 4 weeks. You subscribe to the service and will get send a new toothpaste to your home every 4 weeks.”
   - What are the first thoughts about this service?
   - Have they ever heard of anything like this?

4. **DESIGN OF SERVICE (15 minutes)**

   “I now have an activity planned. Please put your own, in your mind ideal, service together. Please be realistic about it”
   Handout for participants:



Handout
Replenishment Subscription Service – Do It Yourself
Please design a replenishment subscription service which you can identify with.

Products:

Please indicate the product categories you would like to get shipped through the replenishment subscription service (please feel free to add categories or products)

1. Groceries
   - Bread & pastries
   - Canned & Pickled
   - Cereals
   - Coffee & tea
   - Cooking and baking ingredients
   - Egg & dairy products
   - Fish and seafood
   - Fresh food counter
   - Frozen products
   - Fruit Vegetable
   - Gift baskets & delicatessen gifts
   - Jams, honey & spreads
   - Meat & sausages
   - Nutritional supplements
   - Oil, vinegar & dressings
   - Pasta, rice and legumes
   - Sauces, dips & marinades
   - Spices & fix products
   - Sweets & Nibbles
   - Yoghurt
2. Drinks
   - Juice
   - Soda
   - Smoothies
   - Water
3. Household
   - Cleaning sprays
   - Cleaning gear
   - Vacuum bags
4. Body care
   - Lotions
   - Razor
   - Razor blades
   - Tooth brush
   - Tooth paste
5. Beauty
   - Lotions
   - Wash serums
   - Cleaning wipes
   - Sun screen
6. Alcohol
   - Wine
   - Beer
   - Spirits
   - Cigarettes
7. Stationary
   - Glue
   - Tapes
8. Baby
   - Diapers
   - Food
9. Animal food
10. Others: _____

Product price:

Please rank the product prices you would like to see in the replenishment subscription service
Please rank from (1) most valued – (5) least valued

	Ranking
(a) Price always stays the same	
(a) Differs in regard to dynamic pricing (prices are adapted due to market prices, and could be different for every delivery period	
(b) 5% discount for products bought through subscription service	
(c) If you ship less than 5 products within one month, you will receive a 5% discount. If you have 5 or more products delivered to the same address within one month, you will receive a 15% discount.	
(d) Other options: _____	

Please indicate why you chose this specific option for ranking (1)

_____
_____
_____

1

Delivery Cycles:

Please rank the delivery cycles you would like to see in the replenishment subscription service
Please rank from (1) most valued – (3) least valued

	Ranking
(a) Choose the timing of the periodic deliver yourself (when starting the subscription one can decide how often and with which cycle the products should be shipped to one's home)	
(b) Get a recommendation for the periodic delivery (e.g. "other customers get this product shipped every 4 weeks")	
(c) Other options: _____	

Please indicate why you chose this specific option for ranking (1)

_____
_____
_____

Shipping:

Please rank the shipping mechanisms you would like to see in the replenishment subscription service
Please rank from (1) most valued – (3) least valued

	Ranking
(a) Shipping costs are free	
(b) Shipping costs are free if 3 or more products are purchased	
(c) Other options: _____	

Please indicate why you chose this specific option for ranking (1)

_____
_____
_____

Termination:

Please rank the termination options you would like to see in the replenishment subscription service
Please rank from (1) most valued – (8) least valued

	Ranking
(a) Option to skip one delivery period	
(b) Option to change delivery period	
(c) Cancelation for free	
(d) Cancelation for free after the first 2 cycles, otherwise cancelation for a small monetary expense (max. 3€)	
(e) Free returns of unused products	
(f) Return of unused products for a small monetary expense	
(g) No returns, but money back guarantee (if you do not like the products the price will be refunded. You have to get in touch with customer service within 30 days of your purchase)	
(h) Other options: _____	

Please indicate why you chose this specific option for ranking (1)

_____
_____
_____

2

- Let them tell about the service they put together
- Be specific about the different categories
- Why did they choose this option?

5. REPLENISHMENT SUBSCRIPTION IN GENERAL (15 minutes)

- Which benefits do they perceive? Why?
- Which disadvantages come to their mind? Why?
- If it was available in Portugal, would they try it? Why?
- Would they consider using it as an alternative to shopping clothes yourself? Why? Why not?
- How would they describe the user of these type of services?

6. WILLIGNESS TO ADOPT (5 minutes)

- "Imagine you could purchase your products through that service, would you do so?"
- Which products would they subscribe to?

7. END OF SESSION AND THANK YOU

Appendix II: Focus Group Demographics of Participants

Gender	Age	Education Level	Occupation
W	16	Secondary School Certificate	High School Student
M	19	High School Degree	Student
W	20	High School Degree	Student
W	22	Bachelor's Degree	Student
W	23	Bachelor's Degree	Student
M	24	Bachelor's Degree	Student
W	24	Bachelor's Degree	Student
M	25	Bachelor's Degree	Student
M	26	Bachelor's Degree	Student
W	27	Bachelor's Degree	Student
W	29	Master's Degree	Product Manager
W	32	Master's Degree	Marketing Manager
M	38	High School Degree	Controller
M	45	Master's Degree	Private Equity
W	47	Bachelor's Degree	Internal Accountant
W	53	Bachelor's Degree	Designer
M	58	Bachelor's Degree	CEO
M	60	Bachelor's Degree	Consultant

Appendix III: Questionnaire

S1 Have you ever shopped online?

- ○ Yes (1)
- ○ No (2)

Skip To: End of Survey If Have you ever shopped online? = No

Display This Question:
If Have you ever shopped online? = Yes

S2 How often do you shop online?

- ○ More than once a week (1)
- ○ Once a week (2)
- ○ Twice a month (3)
- ○ Once a month (4)
- ○ Once every quarter of a year (5)
- ○ Once every half year (6)
- ○ Once a year (7)

Shopping Comparison (Noble et al., 2006)

S3 Please indicate your agreement with the following statements:

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
I often compare product prices across retailers to get the lowest price. (1)	O	O	O	O	O
I usually find myself price comparison shopping. (2)	O	O	O	O	O
I often find myself looking for the exact same product at different outlets to find the lowest price. (3)	O	O	O	O	O

S4 Have you purchased a product from the category **toothpaste** in the last 6 months?

- Yes (1)
- No (2)

S5 Have you purchased a product from the category **chocolate bar** in the last 6 months?

- Yes (1)
- No (2)

Factorial design allocation:

(1) For the remainder of the survey I want you to work with a specific product. Please think of the last brand/product you bought of the following category: **Chocolate bar**

(2) For the remainder of the survey I want you to work with a specific product. Please think of the last brand/product you bought of the following category: **Toothpaste**

HED/UT (Batra & Ahtola, 1991)

HED/UTI Please rate the product you were just thinking of on the following scales:
To me this type of product is...

	1	2	3	4	5	
Useful	O	O	O	O	O	Useless
Valuable	O	O	O	O	O	Worthless
Beneficial	O	O	O	O	O	Harmful
Wise	O	O	O	O	O	Foolish
Pleasant	O	O	O	O	O	Unpleasant
Nice	O	O	O	O	O	Awful
Agreeable	O	O	O	O	O	Disagreeable
Happy	O	O	O	O	O	Sad

SAT1/2 Please indicate your level of agreement with the following statements about the product you were just thinking of.

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
I am very satisfied with my product. (1)	O	O	O	O	O
This product matches my ideal product in the product category. (2)	O	O	O	O	O

SAT3 What is your general experience with the product?

- Far short of expectations (1)
- Short of expectations (2)
- Equals expectations (3)
- Exceeds expectations (4)
- Far exceeds expectations (5)

Purchase Decision Involvement (B. Mittal, 1989):

PDI1_H In selecting from many types and brands of chocolate bars/toothpaste available in the market, would you say that:

	1	2	3	4	5	
I would not care at all	O	O	O	O	O	I would care a great deal as to which one I buy

PDI2 How important would it be to you to make a right choice of this product?

	1	2	3	4	5	
Not at all important	O	O	O	O	O	Extremely important

PDI3 In making your selection of this product, how concerned would you be about the outcome of your choice?

	1	2	3	4	5	
Not at all concerned	O	O	O	O	O	Very much concerned

Awareness (Schlosser, 2006)

This survey will be about a grocery subscription service. Please rate the following statement on the given scales.

Regarding grocery subscription services I am:

	1	2	3	4	5	
Unfamiliar	O	O	O	O	O	Familiar
Inexperienced	O	O	O	O	O	Experienced
Not knowledgeable	O	O	O	O	O	Knowledgeable

RSS Introduction based on random factorial design allocation

(1) Basic design, hedonic product
(2) Basic design, utilitarian product
(3) Superior design, hedonic product
(4) Superior design, utilitarian product

The Replenishment Subscription Service

Literature defines grocery subscription services as replenishment subscription services. This terminology will be used from now on.
A replenishment subscription service is an online service and distribution mechanism which sends products from various categories to you after you run out of them and need to replenish them. You subscribe to products and set a delivery period. Afterwards, you will get the product delivered home within the indicated time delivery cycle. The price will always stay the same.

Basic Design	Superior Design
Product Price: Get a 5% discount on products bought through the subscription service.	**Product Price** Get a 5% discount on products bought through the subscription service.
Shipping Costs: Shipping is free of charge.	**Shipping Costs** Shipping is free of charge.
Delivery Period (when starting the subscription, you indicate how often, and with which cycle the products should be shipped to your home) • You can choose the shipping cycle yourself • Shipping cycles can be chosen in monthly intervals • Get recommendations how often other consumers buy this specific product (e.g. "other customers get this product shipped every 4 weeks") • Option to skip a delivery period if product is not needed	**Delivery Period** (when starting the subscription, you indicate how often, and with which cycle the products should be shipped to your home) • You can choose the shipping cycle yourself • Shipping cycles can be chosen in monthly intervals • Get recommendations how often other consumers buy this specific product (e.g. "other customers get this product shipped every 4 weeks") • Option to skip a delivery period if product is not needed
Termination Terminating the subscription is free of charge and you can terminate whenever you like.	**Termination** Terminating the subscription is free of charge and you can terminate whenever you like.

Perception Relative Advantage (Moore & Benbasat, 1991)

What is your level of agreement on following statements regarding the replenishment subscription service(RSS)?

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
Using the RSS enables me to shop more quickly (1)	O	O	O	O	O
Using the RSS improves the quality of shopping I usually do (2)	O	O	O	O	O
Using the RSS makes it easier to shop (3)	O	O	O	O	O
Using the RSS enhances my effectiveness on my shopping (4)	O	O	O	O	O
Using the RSS gives me greater control over my shopping (5)	O	O	O	O	O

Perception Compatibility (Moore & Benbasat, 1991)

What is your level of agreement on following statements regarding the replenishment subscription service (RSS)?

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
Using the RSS is compatible with all aspects of my grocery shopping (1)	O	O	O	O	O
I think that using the RSS fits well with the way I like to grocery shop (2)	O	O	O	O	O
Using the RSS fits into my shopping style (3)	O	O	O	O	O

Perception Ease of use (Moore & Benbasat, 1991)

What is your level of agreement on following statements regarding the replenishment subscription service (RSS)?

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
My interaction with the RSS is clear and understandable (1)	O	O	O	O	O
I believe that it is easy to get the RSS to do what I want it to do. (2)	O	O	O	O	O
Overall, I believe that the RSS is easy to use. (3)	O	O	O	O	O
Learning to operate the RSS is easy for me. (4)	O	O	O	O	O

Intention to adopt/subscribe (Cheng et al., 2006; S. Taylor & Todd, 1995)

AI What is your level of agreement on following statements?
(RSS = Grocery Subscription Service)

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
I would use the RSS for my shopping needs. (1)	O	O	O	O	O
Using the RSS for my shopping is something I would do. (2)	O	O	O	O	O
I would see myself using the RSS for handling my shopping. (3)	O	O	O	O	O
I intend to use the RSS. (4)	O	O	O	O	O
I intend to use the RSS to buy my preferred toothpaste/chocolate bar	O	O	O	O	O

Demographics

D1 Which gender do you identify with?

- ○ Male (1)
- ○ Female (2)
- ○ Other (3)

D2 Please indicate your nationality.

▼ Afghan (1) ... Zimbabwean (201)

Q53 Please indicate your age.

- ○ under 18 (1)
- ○ 18-24 years old (2)
- ○ 25-34 years old (3)
- ○ 35-44 years old (4)
- ○ 45-54 years old (5)
- ○ 55-64 years old (6)
- ○ 65-74 years old (7)
- ○ 75 years or older (8)

D3 Please indicate your current status.

- ○ Employed full time (1)
- ○ Employed part time (2)
- ○ Unemployed looking for work (3)
- ○ Unemployed not looking for work (4)
- ○ Retired (5)
- ○ Student (6)
- ○ Unable to work (7)

D4 Please indicate the highest level of education you have completed.

- ○ Less than Highschool diploma (1)
- ○ Highschool degree (2)
- ○ Undergraduate degree (Bachelor or equivalent) (3)
- ○ Postgraduate degree (Master or equivalent) (4)
- ○ Professional degree (PhD or equivalent) (5)
- ○ Other (6)

D5 What is your monthly net income after deducting all fix costs?

- ○ 500€ or less (1)
- ○ 501€ - 1000€ (2)
- ○ 1001€ - 1500€ (3)
- ○ 1501€ - 2000€ (4)
- ○ 2001€ - 2500€ (5)
- ○ More than 2500€ (6)

D6 Including yourself, how many people currently live in your household?

- ○ 1 (1)
- ○ 2 (2)
- ○ 3 (3)
- ○ 4 (4)
- ○ 5 (5)
- ○ 6 (6)
- ○ More than 6 (7)

Appendix IV: SPSS Output Reliability Analysis

Case Processing Summary

		N	%
Cases	Valid	219	100,0
	Excluded[a]	0	,0
	Total	219	100,0

a. Listwise deletion based on all variables in the procedure.

Appendix V: SPSS Output Demographic Statistics

Statistics

		Gender	Age	Nationality Cluster	Education	Occupation	Income Cluster	Household Size
N	Valid	219	219	219	219	219	219	219
	Missing	0	0	0	0	0	0	0
Mean		1,52	3,24	1,26	3,43	3,38	1,71	2,29
Std. Error of Mean		,034	,078	,030	,052	,163	,054	,085
Median		2,00	3,00	1,00	3,00	2,00	1,00	2,00
Std. Deviation		,501	1,149	,440	,766	2,408	,804	1,261
Variance		,251	1,320	,193	,586	5,796	,646	1,591

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	106	48,4	48,4	48,4
	Female	113	51,6	51,6	100,0
	Total	219	100,0	100,0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	under 18	6	2,7	2,7	2,7
	18-24 years old	51	23,3	23,3	26,0
	25-34 years old	88	40,2	40,2	66,2
	35-44 years old	44	20,1	20,1	86,3
	45-54 years old	22	10,0	10,0	96,3
	55-64 years old	5	2,3	2,3	98,6
	65-74 years old	3	1,4	1,4	100,0
	Total	219	100,0	100,0	

Nationality Cluster

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	German	162	74,0	74,0	74,0
	Other	57	26,0	26,0	100,0
	Total	219	100,0	100,0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highschool degree	22	10,0	10,0	10,0

	Undergraduate degree (Bachelor or equivalent)	92	42,0	42,0	52,1
	Postgraduate degree (Master or equivalent)	96	43,8	43,8	95,9
	Professional degree (PhD or equivalent)	6	2,7	2,7	98,6
	Other	3	1,4	1,4	100,0
	Total	219	100,0	100,0	

Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employed full time	101	46,1	46,1	46,1
	Employed part time	11	5,0	5,0	51,1
	Unemployed looking for work	6	2,7	2,7	53,9
	Unemployed not looking for work	3	1,4	1,4	55,3
	Retired	1	,5	,5	55,7
	Student	97	44,3	44,3	100,0
	Total	219	100,0	100,0	

Household Size

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	76	34,7	34,7	34,7
	2	64	29,2	29,2	63,9
	3	32	14,6	14,6	78,5
	4	36	16,4	16,4	95,0
	5	9	4,1	4,1	99,1
	6	2	,9	,9	100,0
	Total	219	100,0	100,0	

Stimulus

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	UT_Basic	56	25,6	25,6	25,6
	UT_Superior	60	27,4	27,4	53,0
	HED_Basic	50	22,8	22,8	75,8
	HED_Superior	53	24,2	24,2	100,0
	Total	219	100,0	100,0	

Appendix VI: Demographics, Stimuli View

		Utilitarian Condition		Hedonic Condition		
		Basic	**Superior**	**Basic**	**Superior**	**Total**
Respondents total #		**56**	**60**	**50**	**53**	**219**
Gender	*Male*	51.8%	53.3%	40.0%	47.2%	**48.4%**
	Female	48.2%	46.7%	60.0%	52.8%	**51.6%**
Age	*Under 18 years old*	5.4%	3.3%	2.0%	0.0%	**2.7%**
	18-24 years old	21.4%	20.0%	30.0%	22.6%	**23.3%**
	25-34 years old	39.3%	38.3%	34.0%	49.1%	**40.2%**
	35-44 years old	26.8%	18.3%	20.0%	15.1%	**20.1%**
	45-54 years old	7.1%	15.0%	10.0%	7.5%	**10.0%**
	55-64 years old	0.0%	3.3%	2.0%	3.8%	**2.3%**
	65-74 years old	0.0%	1.7%	2.0%	1.9%	**1.4%**
Nationality	*German*	75%	80.0%	60.0%	79.2%	**74.0%**
	*Other**	25.0%	20.0%	40.0%	20.8%	**26.0%**
Education	*Highschool degree*	8.9%	15.0%	6.0%	9.4%	**10.0%**
	Undergraduate degree	57.1%	41.7%	38.0%	30.2%	**42.0%**
	Postgraduate degree	32.1%	35.0%	52.0%	58.5%	**43.8%**
	Professional degree	0.0%	6.7%	2.0%	1.9%	**2.7%**
	Other	1.8%	1.7%	2.0%	0.0%	**1.4%**
Occupation	*Employed full time*	50.0%	40.0%	46.0%	49.1%	**46.1%**
	Employed part time	1.8%	6.7%	8.0%	3.8%	**5.0%**
	Unemployed looking for work	3.6%	3.3%	4.0%	0.0%	**2.7%**
	Unemployed not looking for work	1.8%	0.0%	4.0%	0.0%	**1.4%**
	Retired	0.0%	1.7%	0.0%	0.0%	**0.5%**
	Student	42.9%	48.3%	38.0%	47.2%	**44.3%**
Income**	*low income cluster*	50.0%	56.7%	48.0%	47.2%	**50.7%**
	medium income cluster	28.6%	20.0%	26.0%	35.8%	**27.4%**
	high income cluster	21.4%	23.3%	26.0%	17.0%	**21.9%**

* Consolidated nationalities:
** low income (>1000€), medium income (1001-2000€), high income (<2000€)

Appendix VII: SPSS Output Manipulation Check

Factor Analysis HED/UT Scale

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
HED/UT Useless:Useful	2,05	1,338	219
HED/UT Worthless:Valuable	2,27	1,258	219
HED/UT Harmful:Beneficial	2,11	1,305	219
HED/UT Foolish:Wise	2,47	1,186	219
HED/UT Unpleasant:Pleasant	4,16	,977	219
HED/UT Awful:Nice	4,11	,977	219
HED/UT Disagreeable:Agreeable	3,92	1,024	219
HED/UT Sad:Happy	3,87	1,059	219

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,856
Bartlett's Test of Sphericity	Approx. Chi-Square	1082,987
	df	28
	Sig.	,000

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4,428	55,353	55,353	4,428	55,353	55,353	3,673
2	1,529	19,109	74,462	1,529	19,109	74,462	3,542
3	,633	7,918	82,381				
4	,387	4,842	87,223				
5	,338	4,226	91,448				
6	,272	3,395	94,843				
7	,228	2,851	97,694				
8	,184	2,306	100,000				

Extraction Method: Principal Component Analysis.
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Component Matrix[a]

	Component	
	1	2
HED/UT Useless:Useful	,792	
HED/UT Worthless:Valuable	,635	
HED/UT Harmful:Beneficial	,786	
HED/UT Foolish:Wise	,756	
HED/UT Unpleasant:Pleasant	-,726	
HED/UT Awful:Nice	-,776	
HED/UT Disagreeable:Agreeable	-,613	,527
HED/UT Sad:Happy	-,839	

Extraction Method: Principal Component Analysis.
a. 2 components extracted.

Rotated Component Matrix[a]

	Component	
	1	2
HED/UT Useless:Useful	,877	
HED/UT Worthless:Valuable	,782	
HED/UT Harmful:Beneficial	,875	
HED/UT Foolish:Wise	,786	
HED/UT Unpleasant:Pleasant		,859
HED/UT Awful:Nice		,870
HED/UT Disagreeable:Agreeable		,804
HED/UT Sad:Happy		,764

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

MANOVA

Between-Subjects Factors

		Value Label	N
Stimulus	1	UT	116
	2	HED	103

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.983	3005.236[b]	4.000	214.000	.000
	Wilks' Lambda	.017	3005.236[b]	4.000	214.000	.000
	Hotelling's Trace	56.173	3005.236[b]	4.000	214.000	.000
	Roy's Largest Root	56.173	3005.236[b]	4.000	214.000	.000
Stimulus	Pillai's Trace	.043	2.430[b]	4.000	214.000	.049
	Wilks' Lambda	.957	2.430[b]	4.000	214.000	.049
	Hotelling's Trace	.045	2.430[b]	4.000	214.000	.049
	Roy's Largest Root	.045	2.430[b]	4.000	214.000	.049

a. Design: Intercept + Stimulus
b. Exact statistic

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Intention to Subscribe total	2.563[a]	1	2.563	1.990	.160
	Satisfaction total	.724[b]	1	.724	1.926	.167
	Awareness total	1.591[c]	1	1.591	1.213	.272
	Perception total	.006[d]	1	.006	.011	.917
Intercept	Intention to Subscribe total	2177.573	1	2177.573	1690.197	.000

	Satisfaction total	3221.394	1	3221.394	8569.281	.000
	Awareness total	1615.064	1	1615.064	1231.634	.000
	Perception total	2839.257	1	2839.257	5540.888	.000
Stimulus	Intention to Subscribe total	2.563	1	2.563	1.990	.160
	Satisfaction total	.724	1	.724	1.926	.167
	Awareness total	1.591	1	1.591	1.213	.272
	Perception total	.006	1	.006	.011	.917
Error	Intention to Subscribe total	279.573	217	1.288		
	Satisfaction total	81.575	217	.376		
	Awareness total	284.556	217	1.311		
	Perception total	111.195	217	.512		
Total	Intention to Subscribe total	2476.320	219			
	Satisfaction total	3309.333	219			
	Awareness total	1900.889	219			
	Perception total	2960.972	219			
Corrected Total	Intention to Subscribe total	282.136	218			
	Satisfaction total	82.299	218			
	Awareness total	286.147	218			
	Perception total	111.201	218			

a. R Squared = .009 (Adjusted R Squared = .005)
b. R Squared = .009 (Adjusted R Squared = .004)
c. R Squared = .006 (Adjusted R Squared = .001)
d. R Squared = .000 (Adjusted R Squared = -.005)

Appendix VIII: Descriptive Statistics:

Purchase Decision Involvement

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PDI 1 I would not care at all:I would care a great deal as to which one I buy	219	1	5	3,90	,818
PDI2 How important would it be to you to make the right choice of this product? - Not at all important:Extremely important	219	1	5	3,61	,889
PDI 3 In making your selection of this product, how concerned would you be about the outcome of your choice? - Not at all concerned:Very much concerned	219	1	5	3,46	1,019
Purchase Decision Invovlement	219	1,00	5,00	3,6545	,72936
Valid N (listwise)	219				

Group Statistics

	HED/UT Product	N	Mean	Std. Deviation	Std. Error Mean
PDI 1 I would not care at all:I would care a great deal as to which one I buy	HED Product	103	4,06	,739	,073
	UT Product	116	3,76	,861	,080
PDI2 How important would it be to you to make the right choice of this product? - Not at all important:Extremely important	HED Product	103	3,63	,852	,084
	UT Product	116	3,59	,924	,086
PDI 3 In making your selection of this product, how concerned would you be about the outcome of your choice? - Not at all concerned:Very much concerned	HED Product	103	3,45	,977	,096
	UT Product	116	3,47	1,059	,098
Purchase Decision Invovlement	HED Product	103	3,7120	,65020	,06407
	UT Product	116	3,6034	,79237	,07357

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PDI 1	Equal variances assumed	3,425	,066	2,747	217	,007	,300	,109	,085	,515
	Equal variances not assumed			2,772	216,754	,006	,300	,108	,087	,513
PDI 2	Equal variances assumed	,361	,549	,372	217	,710	,045	,121	-,193	,283

	Equal variances not assumed			,374	216,685	,709	,045	,120	-,192	,281
PDI 3	Equal variances assumed	1,290	,257	-,137	217	,891	-,019	,138	-,291	,254
	Equal variances not assumed			-,137	216,658	,891	-,019	,138	-,290	,252
Purchase Decision Involvement	Equal variances assumed	2,531	,113	1,100	217	,273	,10853	,09870	-,08600	,30305
	Equal variances not assumed			1,112	215,699	,267	,10853	,09756	-,08376	,30081

Awareness about RSS

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AW1 Unfamiliar:Familiar	219	1	5	3,04	1,304
AW2 Inexperienced:Experienced	219	1	5	2,40	1,257
AW3 Not knowledgeable:Knowledgeable	219	1	5	2,70	1,274
Awareness total	219	1,00	5,00	2,7154	1,14569
Valid N (listwise)	219				

LPS about RSS

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Satisfaction total	219	1,67	5,00	3,8387	,61443
Valid N (listwise)	219				

Satisfaction cluster

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low satisfied consumer	113	51,6	51,6	51,6
	High satisfied consumer	106	48,4	48,4	100,0
	Total	219	100,0	100,0	

PERC about RSS

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
PERC_PC_total	Based on Mean	1,724	3	215	,163
	Based on Median	1,629	3	215	,184
	Based on Median and with adjusted df	1,629	3	212,786	,184
	Based on trimmed mean	1,700	3	215	,168

ANOVA

PERC_PC_total

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10,292	3	3,431	2,877	,037
Within Groups	256,402	215	1,193		
Total	266,694	218			

Multiple Comparisons

Dependent Variable: PERC_PC_total

	(I) Stimulus	(J) Stimulus	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Tukey HSD	UT_Basic	UT_Superior	,200	,203	,757	-,32	,73
		HED_Basic	,559*	,212	,045	,01	1,11
		HED_Superior	,025	,209	,999	-,52	,57
	UT_Superior	UT_Basic	-,200	,203	,757	-,73	,32
		HED_Basic	,359	,209	,318	-,18	,90
		HED_Superior	-,176	,206	,829	-,71	,36
	HED_Basic	UT_Basic	-,559*	,212	,045	-1,11	-,01
		UT_Superior	-,359	,209	,318	-,90	,18
		HED_Superior	-,534	,215	,066	-1,09	,02
	HED_Superior	UT_Basic	-,025	,209	,999	-,57	,52
		UT_Superior	,176	,206	,829	-,36	,71
		HED_Basic	,534	,215	,066	-,02	1,09

*. The mean difference is significant at the 0.05 level.

Appendix IX: SPSS Output for H_1 – Effect of LPS on AI

Assumption	Result of Assumption Testing
Linear relationship between IV and DV	**Fulfilled** Visual inspection of scatterplots
Outliers	**Fulfilled** No outliers detected
Normal distribution of errors	**Not needed** Central Limit Theorem (sample size > 200)
No multicollinearity	**Fulfilled** Tolerance value >0.10 and VIF value <10
Independence of Residuals (observation)	**Fulfilled** Durbin-Watson = 1.630
Homoscedasticity	**Fulfilled** When plotting the residuals against the predicted values points appeared randomly distributed

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,243[a]	,059	,055	1,10617	1,630

a. Predictors: (Constant), Satisfaction total

b. Dependent Variable: Intention to Subscribe total

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16,611	1	16,611	13,575	,000[b]
	Residual	265,525	217	1,224		
	Total	282,136	218			

a. Dependent Variable: Intention to Subscribe total
b. Predictors: (Constant), Satisfaction total

Coefficients[a]

Model		Unstandardized B	Unstandardized Std. Error	Standardized Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	1,441	,474		3,040	,003		
	Satisfaction total	,449	,122	,243	3,684	,000	1,000	1,000

a. Dependent Variable: Intention to Subscribe total

H1: Effect of Satisfaction on Intention to Subscribe: HED/UT Split

Assumption	Result of Assumption Testing
Linear relationship between IV and DV	**Fulfilled** Visual inspection of scatterplots
Outliers	**Fulfilled** No outliers detected
Normal distribution of errors	**Not needed** Central Limit Theorem (sample size > 200)
No multicollinearity	**Fulfilled** Tolerance value >0.10 and VIF value <10
Independence of residuals	**Fulfilled** Durbin-Watson HED = 1.714 Durbin-Watson UT = 1.734
Homoscedasticity	**Fulfilled** When plotting the residuals against the predicted values points appeared randomly distributed

Model Summary[b]

HED/UT Product	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
HED Product	1	,317[a]	,100	,091	1,14222	1,714
UT Product	1	,180[a]	,032	,024	1,06291	1,734

a. Predictors: (Constant), Satisfaction total
b. Dependent Variable: Intention to Subscribe total

ANOVA[a]

HED/UT Product	Model		Sum of Squares	df	Mean Square	F	Sig.
HED Product	1	Regression	14,686	1	14,686	11,256	,001[b]
		Residual	131,772	101	1,305		
		Total	146,457	102			
UT Product	1	Regression	4,320	1	4,320	3,824	,053[b]
		Residual	128,795	114	1,130		
		Total	133,116	115			

a. Dependent Variable: Intention to Subscribe total
b. Predictors: (Constant), Satisfaction total

Coefficients[a]

HED/UT Product	Model		Unstandardized B	Unstandardized Std. Error	Standardized Beta	t	Sig.
HED Product	1	(Constant)	,835	,670		1,247	,215
		Satisfaction total	,568	,169	,317	3,355	,001
UT Product	1	(Constant)	1,957	,677		2,890	,005
		Satisfaction total	,346	,177	,180	1,956	,053

a. Dependent Variable: Intention to Subscribe total

Appendix X: SPSS Output for H_2 – Effect of LPS on PERC

Assumption	Result of Assumption Testing
Linear relationship between IV and DV	**Fulfilled** Visual inspection of scatterplots
Outliers	**Fulfilled** No outliers detected
Normal distribution of errors	**Not needed** Central Limit Theorem (sample size > 200)
No multicollinearity	**Fulfilled** Tolerance value >0.10 and VIF value <10
Independence of Residuals (observation)	**Fulfilled** Durbin-Watson = 1.445
Homoscedasticity	**Fulfilled** When plotting the residuals against the predicted values points appeared randomly distributed

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,357[a]	,127	,123	,66876	1,445

a. Predictors: (Constant), Satisfaction total
b. Dependent Variable: Perception total

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14,150	1	14,150	31,638	,000[b]
	Residual	97,051	217	,447		
	Total	111,201	218			

a. Dependent Variable: Perception total
b. Predictors: (Constant), Satisfaction total

Coefficients[a]

Model		Unstandardized		Standardized			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2,016	,287		7,034	,000		
	Satisfaction total	,415	,074	,357	5,625	,000	1,000	1,000

a. Dependent Variable: Perception total

SPSS Output for H_2 – Effect of LPS on PERC – HED/UT Split

Assumption	Result of Assumption Testing
Linear relationship between IV and DV	**Fulfilled** Visual inspection of scatterplots
Outliers	**Fulfilled** No outliers detected
Normal distribution of errors	**Not needed** Central Limit Theorem (sample size > 200)
No multicollinearity	**Fulfilled** Tolerance value >0.10 and VIF value <10
Independence of Residuals (observation)	**Fulfilled** Durbin-Watson HED = 1.625 Durbin-Watson UT = 1.602
Homoscedasticity	**Fulfilled** When plotting the residuals against the predicted values points appeared randomly distributed

Model Summary[b]

HED/UT Product	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
HED Product	1	,441[a]	,195	,187	,685	1,625
UT Product	1	,261[a]	,068	,060	,654	1,602

a. Predictors: (Constant), Satisfaction total
b. Dependent Variable: Perception total

ANOVA[a]

HED/UT Product	Model		Sum of Squares	df	Mean Square	F	Sig.
HED Product	1	Regression	11,452	1	11,452	24,418	,000[b]
		Residual	47,367	101	,469		
		Total	58,819	102			
UT Product	1	Regression	3,577	1	3,577	8,357	,005[b]
		Residual	48,799	114	,428		
		Total	52,376	115			

a. Dependent Variable: Perception total
b. Predictors: (Constant), Satisfaction total

Coefficients[a]

HED/UT Product	Model		Unstandardized B	Unstandardized Std. Error	Standardized Beta	t	Sig.
HED Product	1	(Constant)	1,646	,402		4,099	,000
		Satisfaction total	,502	,102	,441	4,941	,000
UT Product	1	(Constant)	2,420	,417		5,806	,000
		Satisfaction total	,315	,109	,261	2,891	,005

a. Dependent Variable: Perception total

Appendix XI: SPSS Output for H_3 – Effect of AW on PERC

Assumption	Result of Assumption Testing
Linear relationship between IV and DV	**Fulfilled** Visual inspection of scatterplots
Outliers	**Fulfilled** No outliers detected
No multicollinearity	**Fulfilled** Tolerance value >0.10 and VIF value <10
No multicollinearity	**Fulfilled** All tolerance values >0.10 and all VIF values <10
Independence of Residuals (observation)	**Fulfilled** Durbin-Watson = 1.401
Homoscedasticity	**Fulfilled** When plotting the residuals against the predicted values points appeared randomly distributed

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,283[a]	,080	,076	,687	1,401

a. Predictors: (Constant), Awareness total
b. Dependent Variable: Perception total

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8,881	1	8,881	18,835	,000[b]
	Residual	102,320	217	,472		
	Total	111,201	218			

a. Dependent Variable: Perception total
b. Predictors: (Constant), Awareness total

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3,129	,120		26,163	,000
	Awareness total	,176	,041	,283	4,340	,000

a. Dependent Variable: Perception total

Appendix XII: SPSS Output for H_4 – Effect of PERC on ITS

Assumption	Result of Assumption Testing
Linear relationship between IVs and DV	**Fulfilled** Visual inspection of scatterplots
Outliers	**Fulfilled** No outliers detected
Normal distribution of errors	**Not needed** Central Limit Theorem (sample size > 200)
No multicollinearity	**Fulfilled** Tolerance value >0.10 and VIF value <10
Independence of residuals	**Fulfilled** Durbin-Watson = 1.975
Homoscedasticity	**Fulfilled** When plotting the residuals against the predicted values points appeared randomly distributed

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,859[a]	,738	,737	,58363	1,975

a. Predictors: (Constant), Perception total
b. Dependent Variable: Intention to Subscribe total

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	208,222	1	208,222	611,300	,000[b]
	Residual	73,915	217	,341		
	Total	282,136	218			

a. Dependent Variable: Intention to Subscribe total
b. Predictors: (Constant), Perception total

Coefficients[a]

Model		Unstandardized B	Unstandardized Std. Error	Standardized Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	-1,771	,204		-8,702	,000		
	Perception total	1,368	,055	,859	24,724	,000	1,000	1,000

a. Dependent Variable: Intention to Subscribe total

Appendix XIII: Mediator Model 1

Path		B	SE	t-value	95% CI	
a	Direct effect of LPS on PERC	0.4146	.0737	5.6247***	.2693	.5599
b	Direct effect of PERC on ITS	1.4099	.0588	23.9584***	1.2939	1.5259
c’	Direct effect of LPS on ITS	-.1354	.0684	-1.9787*	-.2702	-.0005
c	Total effect of LPS on ITS = ab+c’	0.4493	.1219	3.6845**	.2089	.6896
ab	Indirect effect of LPS on ITS through PERC	0.5846	.1120	-	.3640	.8021

*p<0.05, **p<0.01, ***p<0.001
Process Output for mediator analysis

Hedonic Product View:

Path		Coe-fficient	t-value	p-value	bootstrap interval	confidence
a	Direct effect of LPS on PERC	.5016	4.9415	.0000	.3002	.7029
b	Direct effect of PERC on ITS	1.4395	17.0867	.0000	1.2724	1.6067
c’	Direct effect of LPS on ITS	-.1540	-1.6082	.1109	-.3440	.0360
c	Total effect of LPS on ITS = ab + c’	.5680	3.3550	.0011	.2322	.9039
ab	Indirect effect of LPS on ITS through PERC	.7220	-	-	.4291	1.0329

*p<0.05, **p<0.01, ***p<0.001
*Process Output for mediator analysis – **Hedonic** product category*

Utilitarian Product View:

Path		Coe-fficient	t-value	p-value	bootstrap interval	confidence
a	Direct effect of LPS on P	.3150	2.8909	.0046	.0991	.5308
b	Direct effect of P on ITS	1.3722	16.7715	.0000	1.2101	1.5343
c’	Direct effect of LPS on ITS	-.0861	-.8728	.3846	-.2814	.1093
c	Total effect of LPS on ITS = ab + c’	.3462	1.9555	.0530	-.0045	.6968
ab	Indirect effect of LPS on ITS through P	.4322	-	-	.0703	.7464

*p<0.05, **p<0.01, ***p<0.001
*Process Output for mediator analysis – **Utilitarian** product category*

Appendix XIV: Conceptual Model

Hedonic Product View:

Path		B	SE	t-value	95% CI	
a_1	Direct effect of LPS on PERC	.4749	.0991	4.7912***	.2783	.6716
a_2	Direct effect of AW on PERC	.1458	.0550	2.6492**	.0366	.2550
b	Direct effect of PERC on ITS	1.4250	.0874	16.3029*	1.2515	1.5984
c_1'	Direct effect of LPS on ITS	-.1526	.0961	-1.5888	-.3433	.0380
c_2'	Direct effect of AW on ITS	.0323	.0498	.6488	-.0665	.1310
c_1	Total effect of LPS on ITS = ab + c'	.5241	.1655	3.1673**	.1958	.8524
c_2	Total effect of AW on ITS = ab + c'	.2400	.0919	2.6127*	.0578	.4223
ab_1	Indirect effect of LPS on ITS through PERC	.6767	.1501	-	.3842	.9736
ab_2	Indirect effect of AW on ITS through PERC	.2077	.0769	-	.0577	.3583

*p<0.05, **p<0.01, ***p<0.001

*Process Output for mediator analysis – **Hedonic** product category*

Utilitarian Product View:

Path		B	SE	t-value	95% CI	
a_1	Direct effect of LPS on PERC	.2907	.1051	2.765**	.0824	.4989
a_2	Direct effect of AW on PERC	.1720	.0539	3.1880**	.0651	.2788
b	Direct effect of PERC on ITS	1.3813	.0857	16.1099***	1.5512	1.2114
c_1'	Direct effect of LPS on ITS	-.0863	.0990	-.8713	-.2824	.1099
c_2'	Direct effect of AW on ITS	-.0191	.0513	-.3716	-.1208	.0826
c_1	Total effect of LPS on ITS = ab + c'	.3153	.1737	1.8149	-.0289	.6594
c_2	Total effect of AW on ITS = ab + c'	.2158	.0892	2.4506*	.0418	.3951
ab_1	Indirect effect of LPS on ITS through PERC	.4015	.1672	-	.0518	.7048
ab_2	Indirect effect of AW on ITS through PERC	.2375	.0738	-	.0904	.3814

*p<0.05, **p<0.01, ***p<0.001

*Process Output for mediator analysis – **Utilitarian** product category*

Appendix XV: Cluster Analysis

ANOVA

	Cluster		Error			
	Mean Square	df	Mean Square	df	F	Sig.
Age	28,484	3	,940	215	30,286	,000
Occupation	397,699	3	,328	215	1213,784	,000
Education	8,606	3	,474	215	18,145	,000
Net income	131,972	3	1,224	215	107,857	,000
Perceived Compatibility total	55,906	3	,460	215	121,440	,000
Perceived relative Advantage total	26,998	3	,295	215	91,516	,000
Perceived Ease of Use total	6,943	3	,268	215	25,941	,000
Adoption Intention total	64,018	3	,419	215	152,790	,000
Perception total	24,276	3	,178	215	136,011	,000
How often do you shop online?	23,053	3	1,612	215	14,299	,000
Satisfaction cluster	1,130	3	,239	215	4,737	,003

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.