Out of Stock Situations as a Retail Service Failure: The Role of Item Importance and Service Recovery Measures
– An experimental study of the German grocery retail sector

by

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ABSTRACT

One of the major advantages of store-based retail formats is the availability of products. The unavailability of products is a major threat for store-based retail formats as out of stock (OOS) situations are considered to be some of the most displeasing occurrences for consumers, resulting in dissatisfaction. As avoiding or recovering from OOS situations are matters of allocating limited resources (e.g. staff, money) wherever they are most effective, this work recommends actions that retailers can take to manage OOS occurrences at store-based retail formats to increase consumer satisfaction.

The literature review identifies that OOS research only rarely considers the importance of a product to a consumer. Therefore, this study investigates the effect of the importance of products on consumers' satisfaction, which, as mentioned above, is the central driver for consumer's evaluative and behavioural consequences with respect to retailers. Experimental fieldwork was conducted in the German grocery sector, comprising 24 different research scenarios, two products (hedonic/utilitarian), three importance drivers (basic importance [need]/brand loyalty/promotion) and four different retail settings (on-shelf availability [OSA]/OOS with no recovery measure/OOS with basic recovery measure/OOS with recovery-plus measure). By comparing the results of these 24 different research scenarios, this work provides that consumer satisfaction levels correlate significantly with the importance of a product to consumers and that consumer satisfaction levels correlate significantly with consumer reactions to retailers. This study finds that the outcomes to no recovery measures and to applied recovery measures in reaction to OOS occurrences varied between the hedonic and utilitarian settings and by the level of importance of the product to consumers.

DEDICATION

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ANOVA	Analysis of Variance
CMBM	Common Method Bias Marker
CIPI	Consumer Involvement Profile Inventory
CSD	Consumer Satisfaction / Dissatisfaction
DC	Distribution Centre
ECR	Efficient Consumer response
e.g.	Exempli gratia (Latin for "example given")
EHI	Einzelhandelsinstitut (Retail Institute)
et al.	Et alii (Latin for 'and other')
etc.	Et cetera (Latin for 'and so forth')
FMCG	Fast Moving Consumer Goods
i.e.	id est (Latin for "especially")
IT	Information Technology
KCVI	Key Consumer Value Items
KMO	Kaiser-Meyer-Olkin (test)
K-S	Kolmogorov-Smirnov (test)
KVI	Key Value Items
MC	Manipulation Check
MIS	Mittal's Involvement Scale
OM	Operations Management
OOS	Out of Stock
OSA	On-Shelf Availability
PAR	Permanent Assortment Reduction
PCA	Principal Component Analysis
PII	Personal Involvement Inventory
POS	Point of Sale
SCM	Supply Chain Management
SKU	Stock keeping unit
S–O–R	Stimulus-Organism-Response
UK	United Kingdom
vs.	versus (Latin for "against")
WOM	Word of Mouth

1 General Introduction to Research Subject

1.1 Research Background

This work focuses on store-based retail formats, which are expected to remain the dominant retail channel for the foreseeable future (PWC, 2012; Rudolph, Böttger and Pfrang, 2012; KPMG, 2014; Wyman, 2015). One of the major advantages of store-based retail formats is the availability of products in stores (Rudolph, 2009; Becker, 2013). Therefore, the unavailability of products is a major threat to store-based retail formats, and out of stock (OOS) situations are considered to be some of the most displeasing occurrences for consumers, who express this through consumer dissatisfaction (Smith and Bolton, 2002; ECR Europe, 2003). This leads to evaluative and behavioural consumer reactions to retailers (e.g. store switching, reduced loyalty) (Roschk and Gelbrich, 2013). Avoiding OOS situations or applying effective service recovery measures to OOS occurrences means allocating limited resources (e.g. money, staff) in stores wherever they are most effective (Trautrims, Grant, Fernie and Harrison, 2009). Consequently, the need to manage OOS situations is more topical than ever (Aastrup and Kotzab, 2010). Research has shown that the level of consumer satisfaction/dissatisfaction (CSD) varies depending on the importance of a product to the consumer (Sloot, Verhoef and Franses, 2005). This importance depends either on the product's characteristics (e.g. Batra and Ahtola, 1990; Babin, Darden and Griffin, 1994; Dhar and Wertenbroch, 2000) or on the involvement of consumers with the product (e.g. McKinnon, Mendes and Nababteh, 2007). This study examines whether and how CSD levels in OOS occurrences vary depending on how important products are to the consumer, and whether the relationship between these two variables could be used as a basis for recommending how to manage OOS occurrences.

1.1.1   Practical Relevance: Availability as a Retail Service

The ideal degree of on-shelf availability (OSA) has been discussed by many authors since the Progressive Grocer Study in 1968 (e.g. Gruen, Corsten and Bharadwaj, 2002; ECR Europe, 2003; Sloot, Verhoef and Franses, 2005; Gruen and Corsten, 2007; McKinnon, Mendes and Nababteh, 2007). This discussion is relevant to both theory and practice, as the availability of products is a key challenge for all retailers attempting to differentiate themselves from their competition (Corsten and Gruen, 2003; Fernie and Sparks, 2004). Hence, retailers have to consider their supply chains and increase their availability levels (Kahn, 1999; Teller, Kotzab and Grant, 2012; Vicari, 2013).

In contrast to the aforementioned statement by Teller, Kotzab and Grant (2012) to increase the level of OSA, other research considers the effort and resources spent in maintaining or increasing OSA and recommends lowering the degree of availability (e.g. Quelch and Kenny, 1994). This is directly linked to the finding that, even though large product ranges contribute to greater choice, more products in an assortment increase the possibility of OOS occurrences (e.g. Broniarczyk and Hoyer, 2006). Gruen and Corsten (2007) explain that having more products on a shelf likewise means that shelf space per product is reduced and therefore the quantity of each product is also reduced, which causes OOS situations when one product is more in demand than others.

Hence, to optimise consumer satisfaction, retailers have to balance their retail service levels (e.g. product availability, assortment size). In addition to the level of CSD, the costs (e.g. locked-up capital) of high OSA levels in relation to the number of stock-keeping units (SKUs) in assortments have to be balanced within retail management activities, such as operations management (OM) or supply chain management (SCM) (e.g. Cooper, Lambert and Pagh, 1997; Boatwright and Nunes, 2001; Stassen and Waller, 2002; Leitl, 2005; Mishra, Raghunathan and Yue, 2009; Kotzab, Teller, Grant and Sparks, 2011). The additional costs of high OSA rates also have to be considered – for example, as the level of unsold items rises (requiring longer sale periods), a retailer's gross profit falls (Gruber, Holweg and Teller, 2016; Holweg, Teller and Kotzab, 2016). From a managerial point of view, these studies claim that it could be better to manage lower degrees of OSA

rates as a "(...) trade-off between additional sales and additional costs" (Trautrims, Grant, Fernie and Harrison, 2009: 234) and therefore to accept a decline in turnover (e.g. Broniarczyk, Hoyer and McAlister, 1998). Broniarczyk and Hoyer (2006) claim that studies in the food retail industry have already tested the effect of reduced assortment on sales and costs: "Importantly, the results showed no significant negative impact of SKU reduction on sales." (p. 225).

Furthermore, other studies have found that consumers' reactions to products during OOS occurrences depend on the characteristics of a product, which increases the complexity by considering the degree of OSA and OOS situations (Castro, Morales and Nowlis, 2013). Even when the Pareto optimal availability of items is managerially meaningful for retailers (to accept OOS instead of overstocking), OOS situations are displeasing retail service failures for consumers' (e.g. Smith and Bolton, 2002). Hence, the demand for a high level of retail service in terms of "item availability" within the fast-moving consumer goods (FMCG) retail industry is an important retail service factor, and OOS situations will continue to be a problem for the foreseeable future (Miller, Craighead and Karwan, 2000; Pizzi and Scarpi, 2013).

1.1.2 Theoretical Relevance: The Gap in On-Shelf Availability/Out of Stock Literature

The OSA/OOS literature can be separated into two different perspectives: one focuses on the occurrences of unavailability from a retail operations and management point of view, while the other considers consumers' reactions to OOS occurrences (e.g. Aastrup and Kotzab, 2009). Both perspectives consider the same issue – the occurrence of unavailability at a retailer's store when consumers want to buy their desired item. The retail operations perspective of the OSA/OOS literature emphasises the need to optimise availability levels in order to be efficient and to accept OOS as a necessary evil, whereas the consumer behaviour literature referring to OOS occurrences highlights significant negative impacts on retailers. The existing research provides less information on how retailers should actually deal with OOS occurrences in order to limit consumers'

dissatisfaction levels in the case of retail service failures, particularly during OOS occurrences themselves (e.g. Aastrup and Kotzab, 2010). Moreover, the importance of products from a consumer's perspective has rarely been considered in the current OSA/OOS literature (Sloot, Verhoef and Franses, 2005), although the importance of items to consumers plays a decisive role in their reactions to unavailability (e.g. Campo, Gijsbrechts and Nisol, 2000). For instance, an OOS occurrence for a low-importance product could lead to no consumer dissatisfaction in the best case scenario, and in turn have no negative impact on the retailer (Broniarczyk and Hoyer, 2006). Therefore, this research builds upon the existing findings from related research and considers how the "importance of the item to the consumer" factor influences this debate.

1.2 Research Question, Unit of Analysis and Research Objectives

Therefore, the research questions for this research project are:

> To what extent does the importance of a product (from a consumer's perspective) affect the impact of an OOS occurrence on (1) CSD levels and subsequently (2) short- and long-term consumers' evaluative and behavioural reactions?

> To what extent do different types of service recovery measures influence the impact of OOS occurrence on (1) CSD levels and subsequently (2) consumers' short- and long-term evaluative and behavioural reactions?

> To what extent does the importance of a product (from a consumer's perspective) impact the effectiveness of different types of service recovery measures?

Based on these research questions, research objectives have to be defined to obtain a greater specification of the research purpose (Saunders, Lewis and Thornhill, 2009).

Therefore, the following research objectives have been formulated:

1. Develop a theoretical underpinning of consumers' reactions to OOS occurrences and establish the gaps in OSA/OOS theory.

2. Identify the motives that affect consumer behaviour to understand consumers' reactions to unavailability occurrences.

3. Develop applicable retail service recovery measures for consumers confronted with OOS occurrences for this research.

4. Evaluate the relationship between the importance of a product to the consumer and the level of CSD during OSA/OOS occurrences.

5. Relate the level of CSD to consumer's reactions when they face the retail service failure (OOS situations).

6. Relate findings of this study to the literature and provide recommendations to retailers on how to manage unavailability occurrences.

1.3   Empirical Research Setting

UK retailers and consumers have been the focal objects of much OSA/OOS research (Fernie and Grant, 2008). This reflects the constellation of retailers, research and industry bodies (e.g. IGD) and other stakeholders working closely together on OSA/OOS research in the UK retail market. This contributes to an enhanced information flow between retailers and manufacturers which again can have a positive impact on OSA/OOS (Aastrup, Kotzab, Grant, Teller and Bjerre, 2008). Therefore, findings related to OSA/OOS from the UK retail market are not necessarily transferable to other retail markets (Aastrup and Kotzab 2010). Hence, this work contributes to existing OSA/OOS research which is for a large part conducted in the UK retail market by investigating Germany's retail market. This is important as the German market has been ranked as the biggest retail market in Europe (IMAP, 2010), and has so far not been adequately considered in OSA/OOS research.

Generally, OSA/OOS research considers both the exchange of good between businesses (B-2-B) (e.g. Netessine and Rudi, 2003) and between business and consumers (B-2-C) (e.g. Gruen, Corsten and Bharadwaj, 2002). This work focuses on "retailing" in a B-2-C understanding, selling good to the end-consumer. Furthermore, the majority of OSA/OOS research has been conducted in the grocery retail industry and therefore concerns grocery products (e.g. ECR Europe, 2003; Green, 2004; Fernie and Grant, 2008; Aastrup and Kotzab, 2009). This study also considers the grocery industry, thus contributing to the existing debate. In particular, conducting this study in the German grocery retail market gives further insights about the generalisability of OSA/OOS findings retrieved from UK grocery retail market. The German grocery retail market is the second biggest grocery retail market, following the UK grocery retail market (IGD, 2016).

1.4   Structure

This thesis is split into seven main chapters, followed by a reflective diary, references and the appendices.

1. Introduction – problem statement, research question, research objectives

2. Literature review – definition, theoretical concepts, research gaps, findings

3. Hypotheses – deriving research hypotheses

4. Methodology – basis of the research design

5. Data analysis – compiling findings and answering research hypotheses

6. Discussion of findings and interpretation – putting results in context

7. Conclusion – summary and contributions to theory and practice

Chapter 1 of this thesis contains a short definition of the problem, establishes the research questions and highlights the research objectives. Chapter 2 deals with the theoretical foundations of this study and reviews the literature on retail services and unavailability as a retail service failure. In order to structure this literature review, four different research streams are identified. The first stream investigates the supply chain to gain an understanding of how OOS situations as retail service failures occur and why they are a current topic. The second stream evaluates consumers' reactions to OOS retail service failures, whose findings the third stream focuses on to consider retail service recovery measures; this concerns effective methods of overcoming consumer dissatisfaction in the face of OOS occurrences. In addition, the fourth and final research stream evaluates the importance of products. The analysis of these four research streams is then synthesised.

Chapter 3 presents the key findings from the literature review and uses them as a basis for the development of the research hypotheses with dependent and independent variables. Chapter 4 examines the research procedure, with sections on the research design and methodology, including a discussion and justification of the methodological approach and the philosophical underpinnings.

Chapter 5 concentrates on data analysis by evaluating the data with statistical methods such as *t*-tests, analysis of variance (ANOVA) and correlations in order to comment on the hypotheses raised. Chapter 6 discusses and interprets the results of the research by synthesising the relevant literature and relating the findings to the derived hypotheses. Chapter 7 concludes, summarising the findings of this study and providing suggestions for retailers in general. Furthermore, this chapter also discusses the limitations and restrictions of this study and provides recommendations for further research.

2   Literature Review

2.1   Introduction

This literature review provides the basis upon which the research is developed (Saunders, Lewis and Thornhill, 2009; Hart, 2010). A systematic review divides the elements of the research questions so that the literature on each element can be reviewed separately, following the recommendations of Poulson and Wallace (2011). These distinct elements of the literature review are named "literature streams".

Separating the elements of the research questions reveals that the first literature stream focuses on OOS occurrences, which are defined as retail service failures. This literature stream embeds OOS situations in the context of the retail industry and presents a root cause analysis of them.

The second literature stream considers consumers' reactions to OOS occurrences, beginning with an evaluation of how the former behave when they face the latter. Following this, there is an investigation into consumers' reactions to OOS in order to develop further appropriate measures for moderating the relationship between OOS situations and consumers' reactions.

The third literature stream evaluates service recovery measures. A detailed evaluation of how retail service recovery measures influence consumers' reactions at retail service failures is presented in order to define suitable measures for managing OOS occurrences.

The fourth and last literature stream provides insights into item importance. For this study, the importance of an item is considered from a consumer's perspective. The investigations of each stream reveal gaps in the literature, and the concluding section of this chapter consolidates these gaps and justifies the basis on which the study's research questions are answered.

2.2   Retail Services

This study focuses on store-based retailing and specifically OOS situations in physical stores. This is because store-based retail formats are the dominant retail format (DeStatis, 2012) and are expected to remain the dominant retail channel for the foreseeable future (Deloitte, 2009; EHI Retail Institute, 2012; KPMG, 2014; Wyman, 2015). This study also excludes the online business activities of retailers, even when store-based retail formats also sell products online via "multichannel business" activities such as "click & collect" (Nicholson, Clarke and Blakemore, 2002; Neslin, Grewal, Leghorn, Shankar, Teerling, Thomas and Verhoef, 2005; Rudolph, 2009). This exclusion is necessary, as consumers' reactions to retail service failures – especially OOS occurrences – when they are shopping online differ significantly to their reactions when shopping in physical stores.

The OSA of products is a core retail service and OOS situations are thus seen as failures of a retailer to provide this service (Parasuraman, Zeithaml and Berry, 1988; Smith, Bolton and Wagner, 1999). Given that the literature has seen major parallel contributions to research into OOS occurrences and OSA, the term "OSA/OOS" is used interchangeably from this point forward.

2.3 Stream 1: Out of Stock as a Retail Service Failure

2.3.1 Retail Service Failures

Kelley, Hoffman and Davis (1993) categorise all defects and mistakes during a customer's retail experience as retail service failures. More specifically, Smith, Bolton and Wagner (1999) understand retail service failures "(...) as a series of events in which a service failure triggers a procedure that generates economic and social interaction between the customer and the organisation, through which an outcome is allocated to the customer." (p. 357). A retail service failure exists when a specific retailer's service quality falls below a customer's expectations (e.g. Hoffman and Bateson, 1997; Hess, Ganesan and Klein, 2003). Komunda and Osarenkhoe (2012) limit service failures to failures in a company's core services. Nevertheless, the outcome can be understood as the customer's negative reaction to the retailer in the form of a negative influence on the retailer's economic, utilitarian resources (e.g. money, time) and/or social, symbolic resources (e.g. status, esteem) (Smith, Bolton and Wagner, 1999). Parasuraman, Zeithaml and Berry (1985) distinguish between two different types of retail service failure: first they list the outcome dimension of a service, which represents what the consumer receives, and second the process dimension, which refers to how consumers receive this outcome. Smith, Bolton and Wagner (1999) describe "outcome failures" as resulting in "utilitarian exchanges", whereas "process failures" result in "symbolic exchanges". OOS occurrences contribute to both the outcome dimension, that is, customers are not receiving the product they intended to purchase, and to the process dimension, that is, how the OOS occurrence is communicated or managed. From a consumer's point of view, and considering that consumers can react differently to OOS occurrences, the OOS situations are, at the very least, displeasing (ECR Europe, 2003). Consequently, in terms of a customer perceiving an OOS occurrence in which no suitable retail service recovery measures are available, OOS occurrences result in consumer dissatisfaction and therefore have a negative impact (e.g. via loss of customer loyalty) on retailers (ECR Europe, 2003; Grégoire and Fisher, 2008; Miller, 2013).

2.3.2   On-Shelf Availability versus Unavailability

The discussion about OOS occurrences emerged in the 1960s from the National Association of Food Chains, AC Nielsen Company and Progressive Grocer, and was developed further in the following decades. One of the major findings of this time was the apparent significance of a high level of OSA in retail business (Emmelhainz, Emmelhainz and Stock, 1991). Since then, the theoretical and practical investigations of OOS occurrences in store-based retailing have become a field of research in their own right, and continue to be an important part of retail research. With the increasing complexity of retail supply chains, OOS situations are an important topic now more than ever, and will continue to be a threat to store-based retailing in the future (Miller, Craighead and Karwan, 2000; Pizzi and Scarpi, 2013).

Managing OSA/OOS is one of the most discussed topics in retail management practice and theory (e.g. Grant and Fernie, 2008; Trautrims, Grant, Fernie and Harrison, 2009; Aastrup and Kotzab, 2010). As research has developed in recent years, the literature has divided into two different streams (Aastrup and Kotzab, 2009). One stream focuses more on the retail operations side of OOS situations within the supply chain and tries to identify recommendations for optimising OSA. The considerable number of authors investigating within this stream include, for example, Corsten and Gruen (2003), Pal and Byrom (2003), Kotzab and Teller (2005), McKinnon, Mendes and Nababteh (2007), Grant and Fernie (2008), Aastrup and Kotzab (2009) and Trautrims, Grant, Fernie and Harrison (2009). Figure 1 provides a summary of the findings in the OOS literature from a retail operations perspective. Aastrup and Kotzab (2009) cluster OOS situations into in- and out-store processes. In-store processes are defined as processes, tasks and flows of information that can be allocated directly to the point of sale (POS) itself (Kotzab and Teller, 2005). Out-store processes contribute to all the activities of the supply chain, from the purchasing of the material to the delivery of the final product to the customer (Skjøtt-Larsen, Schary, Mikkola and Kotzab, 2007). Green (2004) demonstrates the overall importance of OSA and OOS occurrences from a management-oriented perspective instead of putting emphasis on operational and procedural factors.

Figure 1: A Root Cause Analysis of OOS Occurrences

A Root Cause Analysis of OOS

OOS Occurrence by	Cause (examples)	Sources
OOS within In-Store Processes		
Delisting of items by store staff	Removed items, insufficient coordination, mistakes, covering existing OOS with other items	Raman, DeHoratius and Ton, 2001
Inventory inaccuracy	Insufficient trained staff, insufficient systems and processes	Gruen, Corsten and Bharadwaj, 2002
		Corsten and Gruen, 2003
		ECR Europe, 2003
Damages and shrinkage	Consumer and employee theft, internal errors (processing errors, accounting mistakes and pricing discrepancies)	Pal and Byrom, 2003
		Green, 2004
Shelf replenishment	Shelves not refilled adequately by staff, insufficient trained staff	Kotzab and Teller, 2005
		McKinnon, Mendes and Nabateh, 2007
Store ordering and forecasting inaccuracy	Insufficient systems or internal errors (miscalculation of forecast, mistakes)	Fernie and Grant, 2008
		Grant and Fernie, 2008
Ordering and replenishment practice	The last 50 yard problem - ordered products are stored in the back storage room and not taken for replenishment	Pramatari and Miliotis, 2008
		Aastrup and Kotzab, 2009
Human resource issues	Quantitative (insufficient staffing) and qualitative (insufficient training)	DeHoratius and Ton, 2009
		Trautrims, Grant, Fernie and Harrison, 2009
		Helm, Hegenbart and Gerking, 2013
OOS within Out-Store Processes		
Delivery schedule	Determining the delivery strategy of timing, frequency of store delivery	Gruen, Corsten and Bharadwaj, 2002
		Corsten and Gruen, 2003
Operations at DC	Inadequate process and human failures	ECR Europe, 2003
		Green, 2004
Supplier reliability	Delivery problems cause late or underdeliveries.	McKinnon, Mendes and Nabateh, 2007
		Aastrup and Kotzab, 2009
DC ordering and forecasting inaccuracy		DeHoratius and Ton, 2009
	Inaccurate forecasting of assortment planning and space allocation, automatic ordering systems, EDI systems, internet and real-time ordering, inventory control and flow replenishment.	Aastrup and Kotzab, 2010
		DeHoratius and Raman, 2008
		Kotzab and Teller, 2003
Further Root Cause Analysis		
Item promotion	Difficult to forecast demand	Quelch and Kenny, 1994
		Broniarczyk, Hoyer and McAlister, 1998
New product introduction	Insufficient linkage of Category Management to Supply Chain Departments	Gruen, Corsten and Bharadwaj, 2002
		ECR Europe, 2003
		Pal and Byrom, 2003
		Campo, Gijsbrechts and Nisol, 2004
Range density	Trade-off between wider category varieties and higher OOS rates	Corsten and Gruen, 2004
		Green, 2004
		Sloot, Verhoef and Franses, 2005
Insufficient data records	Insufficient systems, insufficient trained staff	Broniarczyk and Hoyer, 2006
		McKinnon, Mendes and Nabateh, 2007
		Grant and Fernie, 2008
Management attention to OOS	Insufficient management attention leads to neglecting OOS as key topic	DeHoratius, Mersereau and Schrage, 2008
		DeHoratius and Ton, 2009

Source: Own compilation (2016) of mentioned sources

The second stream focuses more on OOS occurrences at the POS, especially consumers' reactions to them. In this field, the authors include Emmelhainz, Emmelhainz and Stock (1991), Verbeke, Farris and Thurik (1998), Fitzsimons (2000), Campo, Gijsbrechts and Nisol (2004), Kucuk (2004) and Sloot, Verhoef and Franses (2005). OOS research usually considers both streams simultaneously, as there is a permanent interaction between the occurrence of OOS situations and the consumer's reaction to them (e.g. Aastrup and Kotzab, 2010). Regarding the structure of this study, OOS occurrences and consumers' reactions to them are reviewed separately, as consumers' reactions are evaluated in literature stream 2. However, before consumers' reactions to OOS occurrences are examined in literature stream 2, "OOS" has to be defined as it encompasses a variety of different definitions (Gruen and Corsten, 2007). Therefore, it is necessary to discuss the definition of OSA and OOS situations in the following section.

2.3.3   On-Shelf Availability

OSA is defined as "(...) the probability of having a product in stock when a customer order arrives." (Chopra and Meindl, 2007: 77). As this study focuses on the physical stores, this quote from Chopra and Meindl (2007) should be adjusted to consider "shelves" instead of "stocks". This adjustment is widely used in the OSA literature: "In that sense the issue of [OSA and] OOS can be said to stretch the unit of analysis of retail logistics to include also the store, and ultimately the shelf, as the final point of the retail supply chain (…)" (Aastrup and Kotzab, 2010: 147–8). Emmelhainz, Stock and Emmelhainz (1991) define "OSA" as the probability of "(...) having the product in stock [at a store or on the shelf of a store] at the time and place desired by the consumer." (p. 138–9). The complement to OSA, OOS, is more commonly used within OSA theory and is defined as: "(...) a product not found in the desired form, flavour or size, not found in saleable condition, or not shelved in the expected location – from the perspective of the consumer." (ECR Europe, 2003: 8).

Even when the unavailability of a product on a shelf has the same outcome – that customers cannot find their desired product – the root causes of this unavailability can be due to two different aspects (Campo, Gijsbrechts and Nisol, 2004). First, the product may be temporarily unavailable due to supply chain or procedural shortcomings (a "typical" OOS occurrence). Second, the product may no longer be available due to a strategic category decision to delist this item permanently, which is a "permanent assortment reduction" (PAR) (Campo, Gijsbrechts and Nisol, 2004).

2.3.3.1 Out of Stock

According to Gruen and Corsten (2006), an OOS situation can be defined as "an (...) event (...) when an item that the retail store carries is not available to the shopper in the expected place in the store at the moment that the shopper intends to purchase the item." (p. 35A). This understanding is also in accordance with further literature (e.g. Gruen, Corsten and Bharadwaj, 2002; ECR Europe, 2003; Aastrup and Kotzab, 2009). From a consumer's perspective, an OOS situation can be understood as a time when a sought product is not available. However, the term "OOS" must be defined precisely for this research, as different variations of OOS exist. For example, a product which is in multiple places in a store may be unavailable at one location but available at another (Gruen, Corsten and Bharadwaj, 2002). Gruen and Corsten (2007) divide OOS into three main types: OOS at the "distribution centre (DC) or at the warehouse", "store OOS" and "shelf OOS". While the manufacturing industry mainly focuses on "DC OOS", "store OOS" and "shelf OOS" are considered from a retailer's perspective. "Store OOS" happens when a store has entirely run out of the item, and "shelf OOS" is when the item is in store but is not on the shelf (Gruen and Corsten, 2007).

An ECR Europe (2003) study states that OOS arises in one of the three following forms:

- "Typical" OOS, where the shelf-edge ticket shows a product that is not on the shelf;
- "Dual placement" OOS, where the product is listed as being at a second place (or another shelf) but it is not at the second place;
- "Delisting" OOS, where products are generally listed but are currently removed from the shelves by the retailer.

Based on the ECR Europe (2003) study of "typical" OOS and Gruen and Corsten's (2007) definition of "store OOS", the term "OOS" is defined for this study as follows:

> *OOS (occurrences) are events when for a specific time span an item is not available to the consumer at the place intended and therefore constitutes a retail service failure.*

Furthermore, the term "shelf" not only stands for the physical shelf itself, but is rather used as a general term for the area where the item is intended to be sold. A "shelf" could therefore also represent other fixtures that are used to present items, such as tables, rotating displays, and so on.

2.3.3.2   Permanent Assortment Reduction

For retailers, an OOS situation is largely an unexpected and unplanned temporary event, whereas a permanent reduction of an assortment (PAR) is a strategic, planned action by retailers (Campo, Gijsbrechts and Nisol, 2004). Even when consumers are confronted with the same situation at the POS (i.e. that the item they intend to purchase is not at the expected place), from a retailers' perspective the variations between these two phenomena are different.

According to Hegenbart (2009), PAR can be differentiated into three different cause-related types:

- The first type of PAR is based on the strategic decision of a retailer to renew product ranges;
- The second type of PAR relates to changes within the supply chain that cause strategic decisions in the product range;
- The third type of PAR relates to further strategic decisions, such as the reduction of product ranges.

Therefore, PAR is defined as follows:

PAR is a retailer's planned strategic decision to change a product range permanently by delisting items from it without substitution. PAR thus does not constitute a retail service failure.

The different attributes of OOS and PAR are displayed in the figure below:

Figure 2: Attributes Describing OOS and PAR Phenomena

Attribute \ Phenomenon	OOS	PAR
Occurrence	Unexpected	Planned
Duration	Short-term	Mid- and long-term
Responsibility	All actors at the supply chain	Retailer
Type of unavailability	"Real" unavailability	"False" unavailability
Retail service failure?	Yes	No

Source: Adapted from Hegenbart (2009)

This study focuses on OOS as a retail service failure and refers therefore to "typical" OOS occurrences. This study therefore does not consider PAR. For the remainder of this study, the term "OOS" is thus used to simplify the term "typical OOS", as defined previously.

Moreover, the definition of how to measure OOS is examined below. According to Gruen, Corsten and Bharadwaj (2002), the most accepted method for measuring OOS is as a percentage of SKUs "(...) that are out-of-stock on the retail store shelf at a particular moment in time (i.e., the consumer expects to find the item but it is not available)" (p. 10). This approach is named within the aforementioned ECR Europe (2003) study as the direct approach and constitutes physical counting by staff or service providers who go into the POS and count the unavailable items by looking on the shelves. This method can also be found within further literature as the snap-shot approach, due to the survey being conducted at a specific time (McKinnon, Mendes and Nababteh, 2007). Hereafter within this study, the direct approach of OOS that measures and expresses the snap-shot definition of a consumer's viewpoint is used.

2.4 Stream 2: Consumer Reactions to the Service Failure Out of Stock

This stream describes consumers' reactions to OOS retail service failure. Furthermore, it also describes influences that cause consumer reactions, particularly during OOS occurrences (Schweikhart, Strasser and Kennedy, 1993; Hoffman, Kelley and Rotalsky, 1995; Grönroos, 1998).

2.4.1 The Extent of Out of Stock Situations: How the Consumer Reacts

Schary and Christopher (1979) state that OOS occurrences can damage the bond between customers and the brand of a product or a store to a large extent, as OOS situations are important and displeasing issues for shoppers (Aylott and Mitchell, 1998; ECR Europe, 2003; Grewal, Kopalle, Marmorstein and Roggeveen, 2012). Gruen, Corsten and Bharadwaj (2002) state that OOS impacts retailers and manufacturers immensely. The appearance of an unavailability occurrence harms the retailer "(...) not only at the item and category level, but also at the overall store level (e.g. by encouraging store switching)." (Campo, Gijsbrechts and Nisol, 2004: 834).

Therefore, researchers have attempted to bring understanding to the field of research surrounding how consumers react to OOS occurrences. The early findings try to explain consumers' behaviour by describing their reactions to OOS occurrences. Schary and Christopher (1979) were some of the first researchers to come up with a behaviour and reaction model, and identified six different reactions to OOS occurrences. In the following decades, these findings were further developed. For example, Emmelhainz, Emmelhainz and Stock (1991) identified 15 different reaction possibilities to OOS occurrences in the early 1990s.

These findings were later transferred to theoretical models. Campo, Gijsbrechts and Nisol (2000) for example tried to construct a concept in order to explain consumer reactions to OOS occurrences and to measure the impact of these reactions on retailers (Sloot, Verhoef and Franses, 2005). Corsten and Gruen (2003) aggregated the reactions of more than 71,000 consumers from 29 studies and in 20 countries and classified those reactions through five different types,

which are still widely and generally accepted within this research field and used by wide range of authors (e.g. Miklas, 1993; Zinn and Liu, 2001; Campo, Gijsbrechts and Nisol, 2004; Christopher, 2005; Grant and Fernie, 2008; Aastrup and Kotzab, 2010). As general consumer reactions to product unavailability occurrences, Corsten and Gruen (2003) name:

- the actions of purchasing the item in another store ("store switching")
- substituting the item with a different brand ("brand switching")
- substituting the item with another size of the same brand ("size switching")
- delaying the purchase ("postponement of purchase")
- not purchasing ("cancelling of purchasing").

Within studies, the percentages of these reactions vary depending on the country, the category or other influencing factors (e.g. ECR Europe, 2003; Aastrup and Kotzab, 2010). However, these five different reactions dominate the literature as "agreed reactions", which, indeed, can vary by their naming.

The reactions to OOS occurrences are an outcome of the consumers' individual attitudes to the product, the consumers' involvement with the purchasing action itself and their evaluation of the costs for the opportunity, transaction or substitution of their action (Grant and Fernie, 2008). Hence, the outcome in terms of the consumer's reaction to OOS occurrences is complex and hardly predictable for retailers. Grant and Fernie (2008) state further that consumers seeking products with "high brand equity" and "high hedonic values" are more likely to switch stores when faced with an OOS. Consumers more often switch products in categories that do not have an individual meaning to them (Corsten and Gruen, 2003; Grant and Fernie, 2008). As an example, Corsten and Gruen (2003) state that more brand switching occurs with paper towels than it does with feminine hygiene products. The ECR Europe study (2003), for example, states that products which contribute to high impulse buying behaviour, commodity items and substitutable products (e.g. beer, snacks, frozen food, toilet paper) are more likely to be affected by a consumer's reaction of "brand switching", which is related to a lower involvement the consumer has with and/or lower hedonic values that they have for the products. Still, the first alternative for the consumer before considering

switching store might be to substitute the unavailable product with another size of the same brand ("size switching"). This is due to the fact that the opportunity and transaction costs may exceed the substitution cost of the same brand in another size (Campo, Gijsbrechts and Nisol, 2000). In the case that no other size is available, the reaction of "store switching" when facing a "typical" OOS occurrence is more likely to change into the reaction of "brand switching" when the transaction cost of switching the store is higher than the substitution and opportunity cost (Corsten and Gruen, 2003).

In the cases of products where consumers tend to carry out "size switching" and "brand switching", the impacts on the retailers are manageable (Sloot, Verhoef and Franses, 2005). However, in those cases where the consumers are closely related to the item, for example, in terms of brand loyalty, consumers are not willing to switch to another brand. They choose "store switching", with immense impacts on the retailers (Sloot, Verhoef and Franses, 2005). Hence, the consequences for retailers are significant. For example, a "substitution" of the consumer's preferred choice with another size or brand increases the problem of OOS occurrences for retailers. This is related to the fact that substitution dilutes the demand for the preferred item. It provides automatic demand systems with inaccurate data and leads to less demand and smaller order quantities, which, again, result in further OOS occurrences (Anupindi, Dada and Gupta, 1998; Netessine and Rudi, 2003). To avoid data inaccuracy, the substitute product of the preferred brand has to be calculated with respect to its sales at a given time, whether OOS occurred and for how long they lasted and how the sales of the substitute were affected. With regards to this situation, Anupindi, Dada and Gupta (1998: 407) state that "(...) a naive approach by the retailer to estimate demand will give biased results".

2.4.2   Influencing Factors of Consumer Reactions to Out of Stock Occurrences

As the consequences of OOS include various consumer reactions, it is vital that further insights into consumer behaviour are gained, as an "(...) OOS occurrence can be seen as the intersection between consumer behaviour and distribution." (Aastrup and Kotzab, 2010: 147). The ECR Europe (2003) study emphasises an investigation into consumer behaviour with the aim of shedding light on consumers' reactions to OOS occurrences. In a broader understanding, consumer behaviour covers consumers' reactions to OOS occurrences and also investigates the antecedent processes to find out which specific drivers impact the consumer's reaction chain during an OOS occurrence (Solomon, Bamossy, Askegaard and Hogg, 2006).

The traditional consumer behaviour models try to explain consumers' buying behaviour with rational economic models, explaining consumers' buying decisions with models that compute the probabilities of alternative outcomes (Phillips, Broderick and Thompson, 1997). In particular, these models are applied within the OOS literature by focusing on the substitution of OOS products (e.g. Emmelhainz, Emmelhainz and Stock, 1991). The "trade-off theory", "categorical bipolar selection" and/or "decision trees" models are examples. These universal normative and descriptive theories are based on the fact that consumers try to maximise their utility by describing how customers should react (Morrell and Jayawardhena, 2008). However, criticism arises when these models are put into practice. This is related to the fact that these models "explain" consumer behaviour, but they are not measurable and therefore not quantifiable. This is why Morrel and Jayawardhena (2008) have added "prospect theory" and "transaction utility" to the traditional rational theories to provide further information about the buying process. "(...) prospect theory holds that customers evaluate utility gains and losses (...) relative to a reference point (...)" (Morrel and Jayawardhena, 2008: 137). Therefore, prospect theory is of importance for explaining consumers' reactions to retail service failures such as OOS. In contrast, the "(...) transaction utility theory suggests that customers are motivated by more than just the acquisition utility (...)" (Morrel and Jayawardhena, 2008: 137). Here, the buying transaction or the

recovery measure itself is also a motivation. Transaction utility theory, for example, is used especially often in OSA/OOS theory (e.g. Corsten and Gruen, 2003; Fernie and Grant, 2008). This is due to the fact that the consumers' decision in response to an OOS occurrence is an evaluation of the alternative's costs. In addition to the rational economic models, Morrel and Jayawardhena (2008) added neo-behaviourism theories, such as the black box model "stimulus–organism–response" (S–O–R) or the "three-term contingency" model (stimulus–response–stimulus). Within these behavioural black box models, the unobservable processing of a controlled stimulus (e.g. price) or uncontrolled stimulus (e.g. weather) is analysed and explained by the observable reaction (e.g. purchase) (Howard and Sheth, 1969; Foxall, 1999; Hubert and Kenning, 2008; Morrel and Jayawardhena, 2008).

Moreover, Aastrup and Kotzab (2010) state that consumers react to OOS according to their individual preference sets and hence they react to some categories differently than to others This individual preference set is characterised by diverse impact drivers, such as their buying behaviour type, the cost consideration of OOS or personal motives (Laurent and Kapferer, 1985).

Figure 3: Influence Factors for Consumer Behaviour
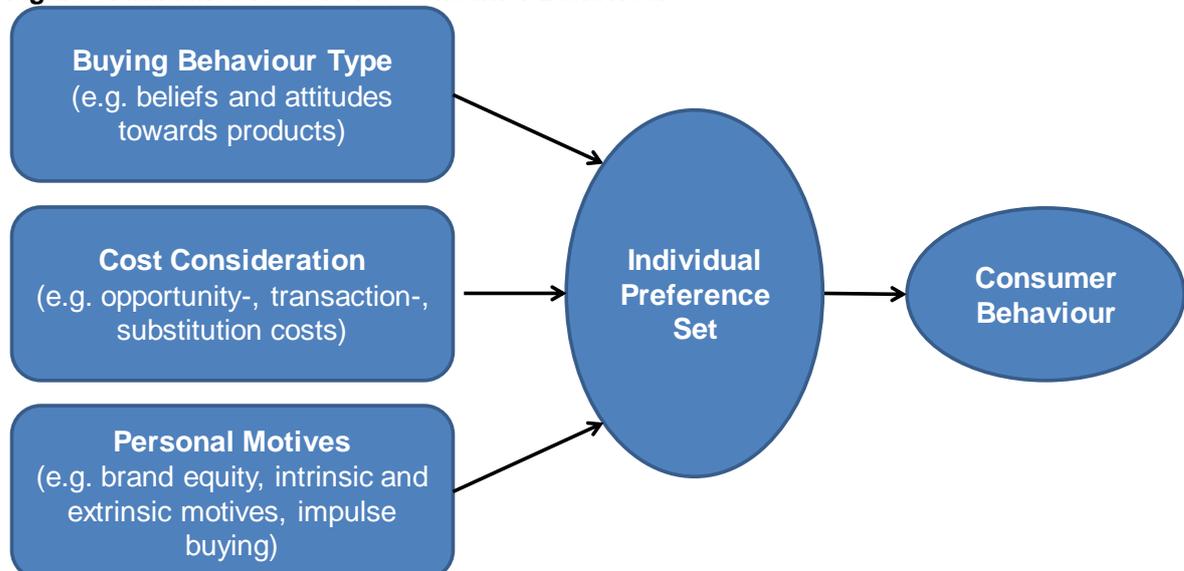
Source: Own design (2016)

The buying behaviour type again is directly linked to the consumer's beliefs about and attitudes to the products they want to buy (Laurent and Kapferer, 1985; Kotler and Bliemel, 2001; Kotler, Armstrong, Saunders and Wong, 2003). In addition, Campo, Gijsbrechts and Nisol (2000) establish the opportunity, substitution and transaction costs as further influencing factors for the reaction to OOS occurrences. They argue that opportunity costs arise when the consumer is not able to use the item immediately after purchase. Substitution costs cover the reduced value of a less-favoured alternative item, while transaction costs involve the time needed to obtain the preferred product (Campo, Gijsbrechts and Nisol, 2000; Corsten and Gruen, 2003; Campo, Gijsbrechts and Nisol, 2004).

Sloot, Verhoef and Franses (2005) investigate the personal motivations for buying products in relation to the OOS occurrences of these preferred products. They have also investigated consumers' hedonic characteristics in relation to products and brand equity – both stimuli of purchase reactions – and tried to measure these intrinsic and extrinsic motivations to define characteristics and behaviours/reactions with regard to their impact on OOS occurrences. They measured how the hedonic characteristics of items have an impact on OOS. In addition, they measured how brand equity impacts consumers' reactions during OOS. Furthermore, specific items that are bought through impulse buying behaviour result in different consumer responses than strong loyalty brands, which are more often related to planned purchase behaviour (Aastrup and Kotzab, 2009). "Impulse-driven products (...) are another prime candidate for out-of-stocks. Even the notion of 'impulse' implies something that is difficult to plan and control." (ECR Europe, 2003: 18).

However, the discussion about consumer behaviour is not only concerned with explaining and understanding it from an impulse buying or brand equity perspective; it also covers the decision-making process and the motivations behind these decisions (Solomon, 2006). The consumer's decision-making process, the antecedent process that drives the consumer's reactions to OOS, has rarely been mentioned in the OSA/OOS literature. This is important, as an understanding of motivators plays a decisive role in gaining an understanding of how consumers react as they do and why they are dissatisfied.

Therefore, the S–O–R model is used as a starting point to investigate deeper into the antecedents underlying consumer reactions. By relating the five steps of a purchasing process (following Kotler and Bliemel, 2001; Rose, 2001; Levy and Weitz, 2009) to the S–O–R model, the sections "need recognition", "information search" and "evaluation of alternatives" can deductively be allocated as parts of the decision-making process to the "organism" step of the S–O–R model, as shown in the following figure:

Figure 4: Influencing Factors of Consumer Reactions
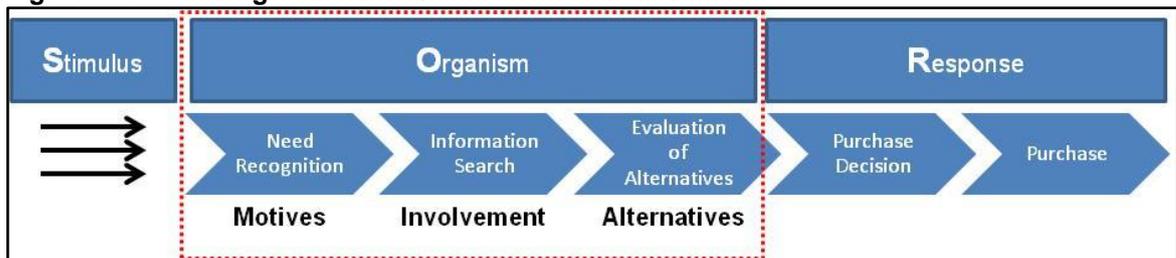
Source: Own design (2016)

This theoretical model is established in order to frame the aforementioned divergent influencing factors and to analyse them in a step-by-step manner. The following subsections contain the three steps of the decision-making process and thus express the "organism" part of the S–O–R model. The "need recognition" element implies consumer motives that influence the attention span of consumers to a certain stimulus, whereas the "information search" element contains the consumer's involvement with the purchasing item, and the rationality of "planned" and "unplanned" buying decisions. Furthermore, the "evaluation of alternatives" substantially impacts the scientific field of OOS, where alternatives to purchasing items – the substitutability of products – are evaluated. Therefore, these three steps of the buying decision-making process are carved out in detail in the following subsections.

2.4.2.1   Needs and Wants: Motives that Drive Out of Stock Reactions

An understanding of motivational aspects during OOS occurrences is necessary for this study, as they explain why consumers are dissatisfied when they cannot buy the item they intended to buy (O'Shaughnessy, 1992; Maslow, 2002; Lindstrom, 2010). This link is mentioned in OSA/OOS research, but has so far been insufficiently researched (Renvoisé and Morin, 2007). Motives and motivation are the drivers behind the buying reactions of consumers, and belong to the psychological research field of needs and wants. The underlying explanation models for motives and motivations lead back to three major pioneers: Freud, Maslow and Herzberg (Solomon, 2006; Levy and Weitz, 2009).

Freud assumed that an action with an underlying motive is not known by the actor. According to Freud, the obvious action could be driven by more psychological motives (Kotler, Armstrong, Saunders and Wong, 2003). This explains why consumer reactions to OOS occurrences differ for some OOS products in an unforeseen manner for retailers.

Maslow's motivation theory is based on a differentiated importance of needs and motivations, starting with the basic needs for survival up to the needs of self-esteem and self-actualisation (Maslow, 2002). Maslow's findings are important for this study as they explain why the same product OOS situation in different retail settings (e.g. different countries) results in different consumer reactions. For example, an OOS situation involving a basic need, like rice, could lead to a higher "dissatisfaction" level in geographical areas where rice is a physiological need, while in areas that are more in line with a society of self-esteem and self-actualisation and where rice is generally available everywhere, the OOS situation involving this basic need would contribute more to transactional dissatisfaction, as the consumer would have to switch stores to purchase the rice.

Herzberg's research indicates that two different groups of motivational factors exist: one driving satisfaction in a positive way and one in a negative way. These motivators correlate positively with satisfaction and dissatisfaction levels, while other factors ("Hygiene-Factors") exist that are misleadingly intended to be motivators, but that are actually already presumed aspects (Herzberg, 1974).

These factors only contribute to dissatisfaction and not to satisfaction, and therefore only correlate positively with the level of dissatisfaction (Behling, Labovitz and Kosmo, 1968; Herzberg, 1974; Herzberg, 1979). This differentiation is an important finding that plays a decisive role for this research project, as the availability of items on a consumer's shopping list could show similarities to Herzberg's findings (OOS drives CSD).

2.4.2.2   Informational Aspect: Planned versus Unplanned Purchases

The informational aspects of a consumer's decision-making process can be divided into the concepts of "planned and unplanned (impulse)" buying behaviour, as these terms often arise in OSA/OOS theory. Planned buying decisions can be described through the definition of Kucuk (2008): "In a regular shopping trip, consumers enter a store with some degree of preference or awareness about [products and] brands which is explained as top-of-mind awareness (...)" (p. 414). Products that contribute to Kucuk's (2008) definition are the primary objects of investigation in OSA/OOS theory.

In contrast, the majority of consumers have far less rationality in their purchasing attitude. Consumers' purchases are influenced by desire, mood or emotion (Turley and Milliman, 2000). "Consumers buy products for all kinds of other reason than because these are strictly necessary. Such "non-rational' purchase styles have become known as impulse buying." (Verplanken and Herabadi, 2001: 71). Impulse buying arises in different facets of non-rational buying habits and comprises at least two core elements: "The first is the lack of planning and deliberation concerning the purchase of the impulsively bought product (...)" (Verplanken and Herabadi, 2001: 72). Additionally, the second element, according to Verplanken and Herabadi (2001), is an emotional response.

Schenk (2007) argues that every purchase is planned and that the concepts of unplanned or impulse buying behaviour therefore do not exist, as only the decision time between the "need recognition" and the "decision and purchase" phases varies significantly between both concepts. Even though Schenk (2007) does not differentiate between planned and unplanned purchase behaviour, this study

contributes more to the "planned" buying behaviour definition of Kucuk (2008). This is related to the fact that this study wants to discover how the importance of a product impacts satisfaction levels during OOS occurrences, which presumes a planned purchase retail setting in which a described product is not available.

2.4.2.3   Evaluation of Alternatives: Substitution and Out of Stock

The third part of the decision-making process takes up the informational aspects and evaluates this information against alternatives to finalise a consumer's purchasing decision. Generally, consumers' evaluations of alternatives are an important element of the OSA/OOS research area, as attempts are often made to explain consumer reactions to the unavailable but intended-to-purchase item rationally with a cognitive approach, such as in the research by Emmelhainz, Emmelhainz and Stock (1991). They explain how consumers rationally evaluate the importance of the characteristics of products against each other – for example, product-related attributes (brand loyalty, level of product risk and product involvement), purchase frequency (familiarity) and availability of alternatives (in terms of availability of size, variety and brand/product substitutes). These importance measures are widely accepted in the literature, as in Boatwright and Nunes (2001) and Aastrup and Kotzab (2009). Some other researchers add additional item characteristics into the importance set, such as price (Broniarczyk and Hoyer, 2006). Moreover, Laurent and Kapferer (1985) also agreed with the definition of importance of Emmelhainz, Emmelhainz and Stock (1991), but as they investigated the role of product involvement in particular they added the terms "intrinsic importance", "personal meaning" and "strong vis-a-vis affection" as influencing factors contributing to a consumer's alternative evaluation.

Furthermore, the OSA/OOS literature indicates that item substitution is only a second-best offer, as the disappointment level increases with every substitution: "After the third disappointment, the probability of store switching increases to a staggering 70%." (ECR Europe, 2003: 13). As such, this work focuses on the "importance of the product to the consumer" approach and not on substitutability.

2.5 Stream 3: Service Recovery and Its Effects on Consumer Decisions During Out of Stock Occurrences

This literature stream focuses on retail service recovery strategies and the measures that a retailer can implement to manage OOS occurrences at the POS and to limit negative consumer consequences for retailers. The literature shows a lack of instruction, recommendations or support on how to manage OOS occurrences rather than indicating how to minimise them (Aastrup and Kotzab, 2010): "Consumer response patterns are used to estimate the economical effects of OOS, but are never employed to discuss principles on how to manage OOS." (p. 157). The literature review found that consumers' behaviour resulting from OOS occurrences, and its impact on retailers, is related to their level of dissatisfaction. Specifically, "satisfaction" – and, by analogy, "dissatisfaction" – is the result of consumers' expectations concerning a specific retail service in relation to their perception of this service (Oliver, 1981; Parasuraman, Zeithaml and Berry, 1985). This difference between a consumer's expectation and perception is called a disconfirmation paradigm (Churchill and Surprenant, 1982; Oliver and Bearden, 1985; McCollough, Berry and Yadav, 2000; Hutter and Hoffmann, 2014).

2.5.1 Retail Service Recovery

Generally, retail service recovery strategies involve any activities and actions that a retailer undertakes in the case of retail service failures in order to lower or to overcome these situations (Kelley, Hoffman and Davis, 1993; Miller, Craighead and Karwan, 2000). Moreover, retail service recovery measures are "(...) designed to alter the negative perceptions of dissatisfied consumers and to (...) maintain a business relationship with these consumers." (Schweikhart, Strasser and Kennedy, 1993: 3). Retail service recovery can be defined as an umbrella concept for the planned efforts of a company to overcome the consequences that result from retail service failures (Rothenberger, Grewal and Iyer, 2008). Moreover, the literature separates service recovery literature into "recovery by the firm", "recovery by the customer" and "joint recovery" (Zhu, Nakata, Sivakumar and Grewal, 2013). The aim of retail service recovery measures is to improve

consumer satisfaction and retain the patronage of customers (Rothenberger, Grewal and Iyer, 2008). As this work aims to analyse consumers' behavioural consequences following a specific OOS retail service failure, this work refers to Zhu, Nakata, Sivakumar and Grewal's (2013) definition of the recovery measures undertaken by a company.

The potential for effective retail service recovery strategies is stated by diverse research (e.g. Anderson, Fitzsimons and Simester, 2006; Gelbrich, 2010). In the case of retail failure occurrences, the retailer's recovery reaction can reinforce a strong customer bond and increase customer satisfaction and loyalty (Hoffman, Kelley and Rotalsky, 1995; La and Kandampully, 2004; Cranage and Mattila, 2006). Although the precise chain of action is subject to disagreement, the vast majority of studies note that retail service failure occurrences and retail service recovery measures result in CSD, as customer satisfaction is the difference between the sum of the services supplied by a company according to the customer's expectation (Oliver, 1981). Moreover, consumer satisfaction can be understood as a very important success factor for evaluating a company's service activities and determining consumer consequences. Swanson and Kelley (2001) separate these consequences into evaluative and behavioural outcomes. Evaluative consequences are identified as the quality of a perceived retail service failure/recovery in a short-term understanding, and the rating of this quality regarding a store's image in a long-term evaluation. Swanson and Kelley (2001) name the behavioural consequences (e.g. to repurchase at same retail store) of customers following retail service failure/recovery experiences following the methodology of Rothenberger, Grewal and Iyer (2008). Moreover, they state that consumer satisfaction results in customer loyalty, which is also termed (retail) patronage in the literature, and can be measured in a short-term understanding as the likelihood of recommending the retailer to others (Rothenberger, Grewal and Iyer, 2008). Swanson and Kelley (2001) term this consumer's recommending retailers to others as word of mouth (WOM). In addition, the likelihood of repurchase at the same store can be taken as a measure for loyalty and patronage as a long-term consequence (Miller, Craighead and Karwan, 2000; Swanson and Kelley, 2001; Rothenberger, Grewal and Iyer, 2008).

Figure 5: Consequences of Consumer Satisfaction
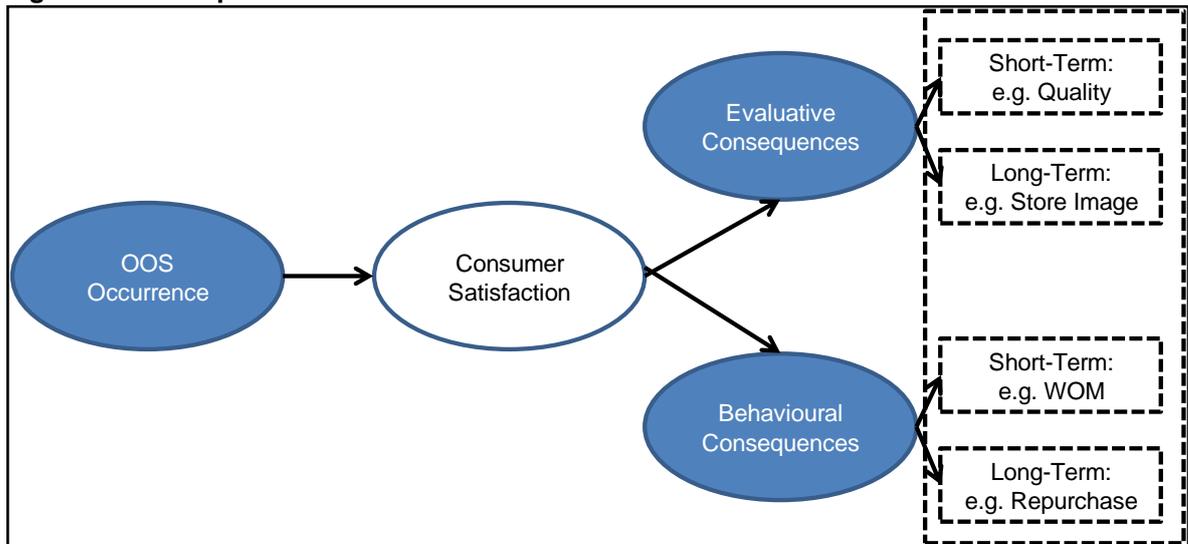
Source: Own design (2016)

Komunda and Osarenkhoe (2012), as well as Moliner-Velasquez, Ruiz-Molina and Fayos-Gardo (2015), concluded that consumer satisfaction is significantly linked to service recovery measures. Although other researchers do not distinguish between "evaluative" and "behavioural" consumer consequences, the general functionality of recovery measures overlaps (e.g. effective retail service recovery measures result in positive WOM, strengthen a consumer's loyalty to the company and reinforce patronage) (Crosby and Stephens, 1987; Wirtz and Mattila, 2004; Komunda and Osarenkhoe, 2012).

Accordingly, a well-handled first customer complaint results in higher loyalty to the retailer on behalf of the customer in comparison to the loyalty of a customer who did not suffer a retail service failure at all (Cheng, Lam and Hsu, 2005; Rothenberger, Grewal and Iyer, 2008). Therefore, effective recovery measures can lead to the paradoxical situation whereby the consumer values the retailer more favourably after the correction of a service failure than if the service was executed as intended in the first place (Kelley, Hoffman and Davis, 1993; Schweikhart, Strasser and Kennedy, 1993; Komunda and Osarenkhoe, 2012). This inversion is called the "recovery paradox" (McCollough, Berry and Yadav, 2000). The opposite case, a failure of the retailer's recovery measure, is called the "double deviation" (McCollough, Berry and Yadav, 2000; Komunda and Osarenkhoe, 2012), where the results can even worsen the original retail service

failure occurrence and turn it into a major incident (Hoffman, Kelley and Rotalsky, 1995; Komunda and Osarenkhoe, 2012). According to Wirtz and Mattila (2004), the recovery paradox and the double deviation effect can be explained with justice theory. Within justice theory the consumer's post-recovery satisfaction level plays a decisive role in the positive or negative evaluation of the overall retail undertaking. Elsewhere, other researchers have identified the mental accounting approach as an explanation theory for the outcome of recovery measures (e.g. Morrell and Jayawardhena, 2008).

Further, Wirtz and Mattila (2004) explain that the outcome of retail service failure and the procedural and interactional fairness of the recovery process are the significant drivers for post-recovery consumer satisfaction. Generally, consumers facing retail service failure want to understand why this situation occurred, and to know that the retailer has knowledge of this situation and is aware of the inconvenience caused. The consumer expects to perceive a retailer's responsibility and experience fairness of compensation. Further, when the consumer perceives the same in terms of, for example, "pleasure", "the choice of freedom", "dominance and control of the situation" and/or "arousal" of the compensation, a retail service failure can result in the recovery paradox, turning the previously negative situation into a positive one (Cranage and Sujan, 2004). Hence, and according to Hoffman, Kelley and Rotalsky (1995), it is imperative "(...) that managers carefully consider failure and recovery issues and have an established service recovery plan to overcome failures when they occur." (p. 49).

2.5.2 Retail Service Recovery Strategies and Measures to Manage Out of Stock Occurrences at Store-Based Retail Formats

The literature evaluation conducted so far has stated that OOS occurrences have significant consequences for retailers resulting from consumer dissatisfaction, and that OOS poses a threat both now and in the future. Therefore, retail service recovery measures play an important role in overcoming these situations and increasing consumer satisfaction (Rothenberger, Grewal and Iyer, 2008). Further, the literature review has shown that OOS occurrences are some of the most displeasing events for consumers, resulting in high dissatisfaction levels (ECR, 2003).

Forbes (2008) found that consumers are significantly less dissatisfied during OOS occurrences as long as they know the reason for such situations: "Consumers realistically expected, and were not upset by, failures which might occur in a traditional store setting i.e. they understood that items might be sold out." (Forbes, 2008: 327). Forbes (2008) states further that consumers appreciate it when the retailer offers the consumer an informed choice as it shows the retailer is taking responsibility for the retail service failure (Cranage and Mattila, 2006; Puccinelli, Chandrashekaran, Grewal and Suri, 2013). Moreover, Gelbrich (2010) found that even when retail service failure occurs due to external circumstances, where the retailer per se is not culpable, retailers are better advised to excuse the retail service failure through self-attributing rather than referencing others. This points to the potential of effective retail service recovery measures. Similarly, Anderson, Fitzsimons and Simester (2006) conducted a quasi-experiment and compared different recovery measures during OOS occurrences in the context of a mail-order home and lifestyle retailer. When a customer phoned to order items, and in the case that an item was not available, five different randomly assessed answers were provided to the customer: "1) Standard response: 'This item is out of stock.'; 2) Supplier problem: 'This item is out of stock because of a problem with our supplier.'; 3) Extremely popular: 'This item is out of stock because it is extremely popular.'; 4) $5 off: 'This item is out of stock, but I can offer you $5 off of your shipping charges if you would like to wait for it.'; 5) 10% off: 'This item is out of stock, but I can offer you a 10% discount on that item if you would like to wait for

it.'" (Anderson, Fitzsimons and Simester, 2006: 1754). The result of this experiment adds weight to the previous statement of "informed choice" information, where the customer is given an explanation of why this product is currently OOS. In combination with the information that the item was sold out due to extreme popularity, the consumer is strengthened in their decisions, which significantly increases the likelihood of ordering and waiting until the new delivery arrives with the retailer (Anderson, Fitzsimons and Simester, 2006). Moreover, they also found that offering financial incentives or discounts convinces the customer to wait for the new arrival of the item, but has significant long-lasting negative effects in terms of negative image and re-order behaviour.

Further to this, Kelley, Hoffman and Davis (1993) listed twelve different recovery measures. While other studies have also named and clustered retail service recovery measures in different ways (e.g. Forbes, 2008), the study by Kelley, Hoffman and Davis (1993) is used here as it is widely cited by other authors, such as Roschk and Gelbrich (2013). Therefore, the recovery measures of Kelley, Hoffman and Davis (1993) are evaluated in relation to the particular OOS retail service failure below. This work excludes Kelley, Hoffman and Davis's (1993) three inappropriate recovery measures ("customer initiated correction", "unsatisfactory correction'" and "failure escalation") as they lead to dissatisfaction and not to satisfaction. Further, this study also excludes Kelley, Hoffman and Davis's (1993) recovery measures of "replacement", "refund" and "store credit", as they are mainly related to the retail service failure of defective goods and cannot be applied to OOS occurrences at the POS. The measure "nothing" will be used for this work as the basis for a reference point whereby the respondents of this study are presented a retail scenario where a sought product is OOS and no recovery measures is provided. The non-monetary recovery measure "correction" and the monetary recovery measures "discount", and "monetary compensation" are promising recovery measures in Kelley, Hoffman and Davis's (1993) investigation, although an application to the particular OOS retail service failure is not sufficiently transferable, as an OOS occurrence implies that the item is not in store. On the contrary, the recovery measures "discount", "correction" and "money

compensation" determine that the customer can obtain the items with a discount following a complaint, which per se conflicts with the OOS retail service failure.

On the other hand, the recovery measures "apology" and "manager/employee intervention" can be transferred to OOS occurrence and could be a suitable measure for lowering customer dissatisfaction in OOS occurrences. With these measures, the retailer takes responsibility for the retail service failure – in this case the OOS occurrence – and apologises for the situation. It has to be mentioned here that, according to Kelley, Hoffman and Davis's (1993) understanding of these measures, no further actions are required, as any further action belongs to another measure (e.g. recommendation of a substitute item). Therefore, these measures lower customer dissatisfaction during OOS occurrences at the POS and lead to higher satisfaction and loyalty (Cranage and Mattila, 2006).

Yet, it also has to be tested whether these measures contribute to the "recovery paradox" phenomenon, turning the negative customer situation into a positive one for the retailer. Further to this, Kelley, Hoffman and Davis's (1993) "correction plus" recovery measure shows a promising approach to turning the particular OOS retail service failure into high customer satisfaction and to contributing to the recovery paradox. Correction plus, according to Kelley, Hoffman and Davis (1993), implies recovery measures beyond the mere correction of the failure by compensating the customer with an additional service, such as manager/employee intervention.

Cranage and Mattila (2006) suggests a combination of both measures as being most promising for overcoming consumer dissatisfaction with OOS occurrences as retail service failures. They recommend combining an apology and short explanation of the occurrences, together with compensation or consumer's added value. Therefore, the non-monetary recovery measure "apology" is adopted in this study as the "basic recovery measure" and "manager/employee intervention" is adopted in this study as a "recovery plus" measure. Moreover, these measures can be separated by either being a proactive or reactive measure. Insofar as a notice is placed direct in the shelf were a product is OOS, the "apology" measure is a proactive approach of dealing with OOS occurrences, whereas the customer request for the support of a "manager/employee" of the store can be defined as a

reactive measure from the retailer. Figure 6 briefly displays the evaluated arguments in order to point out why the chosen recovery measures of "apology" and "manager/employee" are the most appropriate measures for OOS retail service failure. Moreover, Schweikhart, Strasser and Kennedy (1993) found that immediate recovery measures have a significantly better outcome than delayed recovery measures, as they refer to procedural justice. For this study the chosen "apology" and "manager/employee" measures contribute, according to Strasser and Kennedy (1993), to immediate recovery measures, which add weight to the appropriateness of these measures by applying them to OOS retail service failure.

Figure 6: Evaluating Recovery Measures for OOS Retail Service Failure
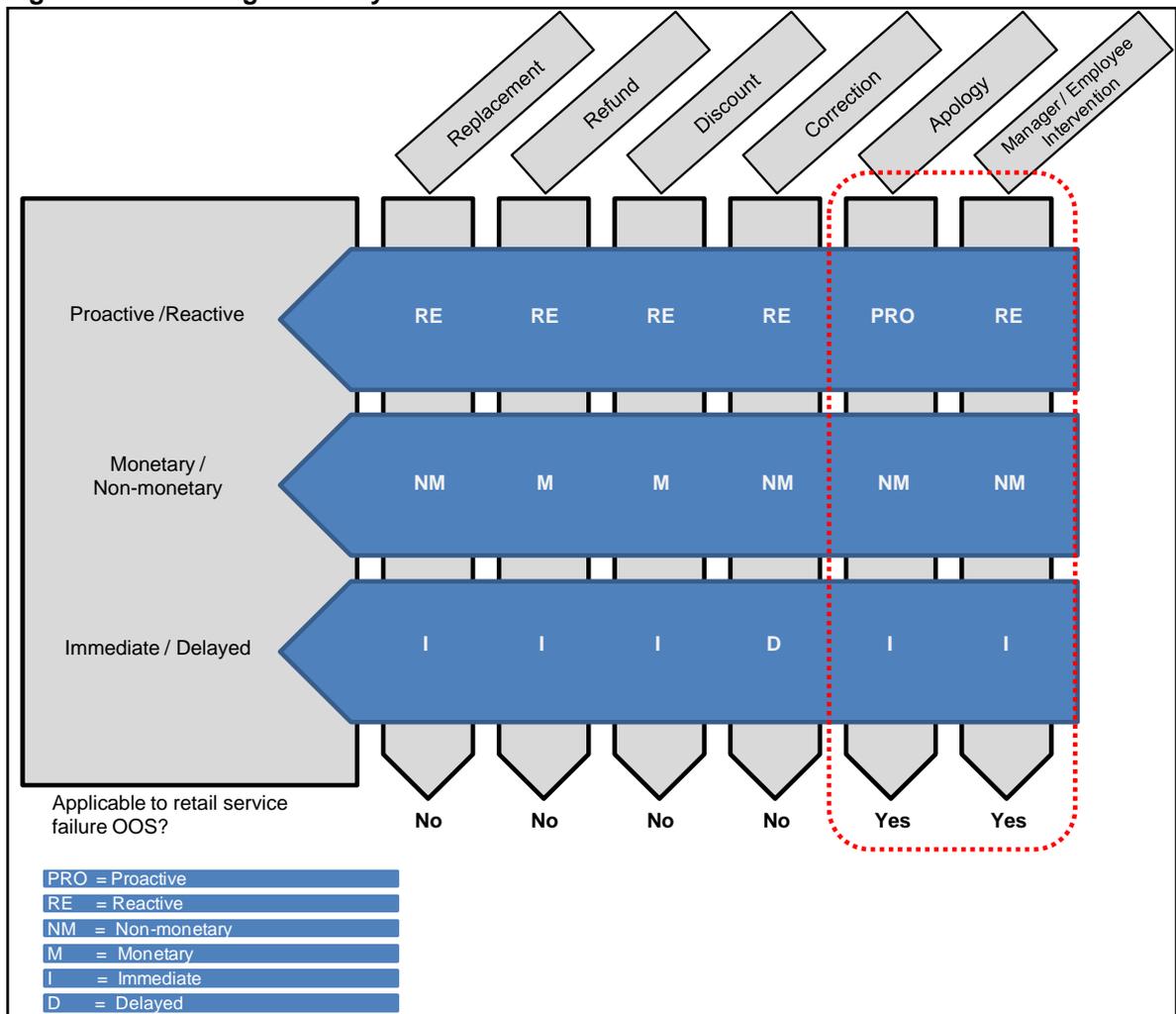
Source: Own design (2016), combining the findings of Kelley, Hoffman and Davis (1993) with Roschk and Gelbrich (2013)

After the potentially suitable measures for recovering from OOS occurrences are derived, these measures have to be defined in more detail. First of all, an "information and apologise measure" is applied as a "basic recovery measure" – for example, by displaying a notice of the OOS occurrence on the shelf to express an apology and to point out that this item will be back soon. Further, the second measure, termed "recovery plus", contributes to Kelley, Hoffman and Davis's (1993) "employee intervention" and offers the service of an employee who is near to the shelf where the customer is searching for the unavailable item. The customer asks the employee to look the item up (e.g. in the retailer's storeroom). The employee responds very professionally, in a friendly and engaged manner, and looks for the item. After the employee returns, the item is still not available, but the employee apologises for the inconvenience caused. This engagement of the employee contributes additionally to the information that the item is not there and provides an excuse for an "additional service" (by the personnel intervention) and is therefore termed in this work as a recovery plus measure. According to Kelley, Hoffman and Davis (1993), this recovery plus measure is a significantly better recovery measure than the basic recovery measure. The general underlying assumption is that it could be useful for retailers to even apply a costly recovery plus measure for important OOS items in order to lower consumer dissatisfaction or even to convert the unavailability occurrence into the recovery paradox phenomenon.

Figure 7: Recovery Measures to OOS Occurrences at the POS
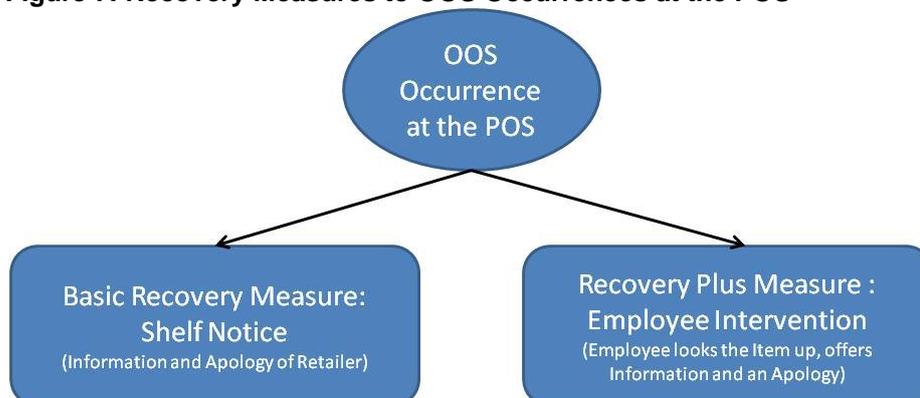
Source: Own design (2016), derived from the measures of Kelley, Hoffman and Davis (1993) in accordance with Rothenberger, Grewal and Iyer (2008)

2.6 Stream 4: Importance of Items

This stream investigates "item importance", as consumer satisfaction during OOS occurrences are related to the importance of a product (Laurent and Kapferer, 1985). The OSA/OOS literature mainly considers the importance of items exclusively from the company's viewpoint. However, the findings of the previous literature streams identified that a consumer's "item importance" does not have to correlate with the company's evaluation of "item importance", due to different purchasing motives. Therefore, this literature review stream explicitly evaluates the importance of items from a consumer's perspective.

2.6.1 Importance of Items: A Consumer's Perspective

The focus of OSA/OOS literature on the importance of items from a company's viewpoint is a significant mismatch with the importance of a product from a consumer's understanding, as the underlying motivational drivers which lead to "item importance" are diverse. For example, retail companies determine the importance of items in relation to sales data (Trautrims, Grant, Fernie and Harrison, 2009). But sales data are generated when the consumer has already bought the products offered which is a temporary mismatch between ascertainment of importance and supply chain reactions. Moreover, this temporary mismatch leads to misinterpreted key value items (KVIs), which again increase OOS levels, as retailers try to overcompensate for the inability to understand consumers by assortment expansion (SKU proliferation leads to OOS occurrence, as shelf space is limited) (Gruen and Corsten, 2007). Trautrims, Grant, Fernie and Harrison (2009) summarises: "(...) while we know what consumer reactions will be, we do not know what KVI's are important to them." (p. 232).

Therefore, the term KVI is not applied in this research, as it does not contribute to an understanding of the "importance of items" from a consumer's perspective. Mantrala, Levy, Kahn, Fox, Gaidarev, Dankworth and Shah (2009) point out that a consumer's preference varies depending on different factors, and is therefore unstable and difficult to predict. They argue further that the importance of an item within a specific situation could vary in another scenario. Thus, a retailer has to

pay attention when it comes to converting a consumer's decision into a retailer's strategic decision, as the once "(...) preferred item gets constructed at the time of choice as a function of the decision circumstances." (Mantrala, Levy, Kahn, Fox, Gaidarev, Dankworth and Shah, 2009: 73). This is important for the further elaboration of this study focusing on OSA/OOS research, because, for example "(…) removing low-preference SKUs will go unnoticed, as there is a low probability that these alternatives belong to a consumer's consideration set and therefore a low probability that they are perceptually scanned." (Broniarczyk, Hoyer and McAlister, 1998: 168). As a consequence, this research takes up the consumer's preferences of items to achieve an understanding of KVIs from a consumer's viewpoint. Hence, the term "key consumer value item" (KCVI) is introduced. This KCVI approach is a missing link in OSA/OOS literature, as it combines the relevance and importance of items with the retail problem of unavailability occurrences. By investigating and understanding the mechanisms behind the motivational aspects that drive the importance of products, retailers could get information to optimise their OSA/OOS strategies. In conclusion, it is vital to understand how the importance of items from a consumer's perspective can be measured and received.

2.6.1.1   Key Consumer Value Item

As KCVI is defined as a "key consumer value item", it is necessary to identify what is "key" for a consumer. The literature refers the importance of items to the research field of consumer involvement literature and, hence, to consumer involvement profiles (e.g. Laurent and Kapferer, 1985; Zaichkowsky, 1985; Beatty, Kahle and Homer, 1988; Mittal and Lee, 1989; Goldsmith and Emmert, 1991). Goldsmith and Emmert (1991) define consumer involvement as "(...) the feelings of interest and enthusiasm consumers hold toward product categories." (p. 363). Mittal and Lee (1989) define the term by the researcher's common thread: "(...) involvement is the perceived value of a 'goal-object' that manifests as interest in that goal-object." (p. 365).

Even though the literature may be consolidated by the term "consumer involvement in a product", the understanding of the underlying influencing factors and drivers of consumer involvement diverges significantly. For example, Zaichkowsky (1985) separates consumer involvement into three different consumer involvement levels: the personal (the inherent interests, values, needs and motives), the physical (the object itself) and the situational levels (temporary relevance). Goldsmith and Emmert (1991) contribute more to the antecedent influencing factors of consumer involvement by considering antecedents such as "(...) interest, perceived risk (with two subcomponents, importance and probability), the rewarding nature of the product, and the perceived ability of the brand to express the subject's status, personality, or identity." (Goldsmith and Emmert, 1991: 365). Mittal and Lee (1989) relate "consumer involvement" and the importance of products to "utilitarian", "sign" and "hedonic" values. Verhoef and Sloot (2006) arrange these findings within new dimensions by naming antecedents related to products (e.g. hedonic vs. utilitarian), brands (e.g. loyalty, strengths), stores (e.g. type, competing stores), situation (e.g. personal use of product, part of the week) and consumer-related antecedents (e.g. shopping delight, frequency of store visits, age, income). These influencing factors condition different involvement profiles; as an example, Laurent and Kapferer (1985) name "enduring involvement" (e.g. values) or "situational involvement" (e.g. risk in a specific situation at a particular price, durability), "solution involvement", "emotional involvement" (e.g. pleasure, arousal) or "rational involvement" (e.g. optimising costs), "personal involvement" or "non-personal involvement" and/or "intrinsic involvement". Laurent and Kapferer (1985) combining personal and emotional involvement with "ego involvement", contributed to motives of personal prestige (e.g. lifestyle items). In order to systematise the information for this research in a useful manner, the previous findings are arranged according to their impact level to determine "the importance of products" in Figure 8 to visualise the different levels of involvement.

Figure 8: Model of Antecedents of Involvement Profiles
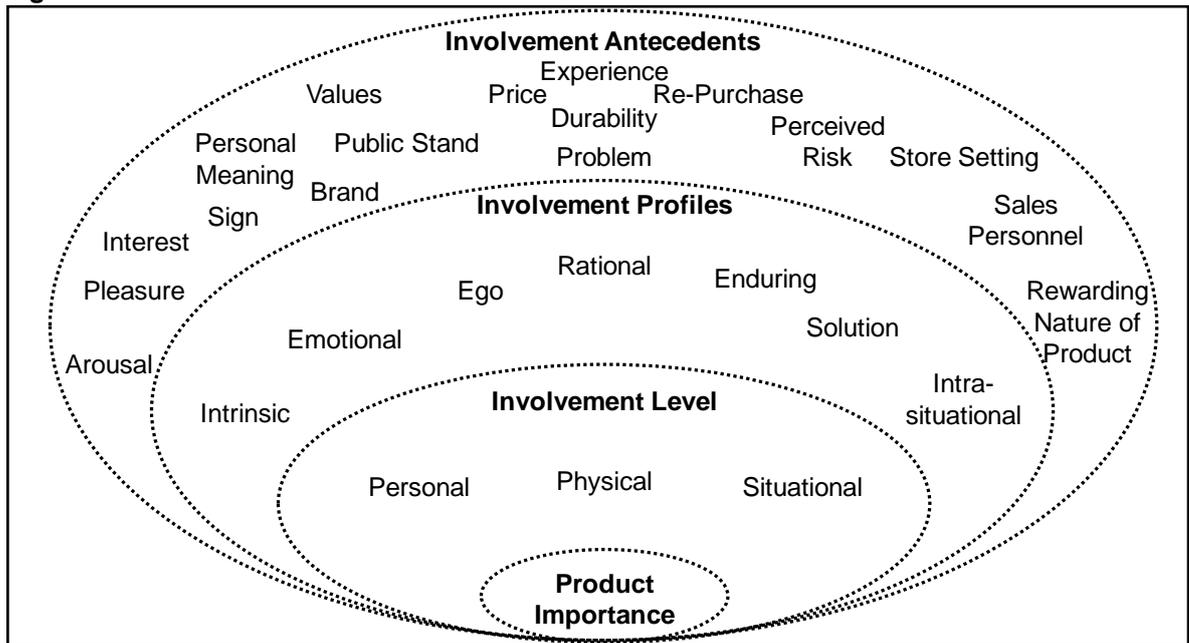
Source: Own design (2016), derived from the findings of Laurent and Kapferer (1985), Zaichkowsky (1985), Beatty, Kahle and Homer (1988), Mittal and Lee (1989) and Goldsmith and Emmert (1991)

Therefore, a KCVI can be defined for this work as follows:

An item is of key importance when consumers are highly involved in the product.

Further, as this work contributes to understanding consumer's reactions to OOS occurrences in relation to consumer satisfaction by applying service recovery measures, antecedents and consumer involvement profiles have to be considered in procedural and systematic ways to identify a KCVI item.

2.6.1.2   Identifying Key Consumer Value Items

The literature provides various models for identifying consumers' involvement in products and measuring their importance to consumers. For example, Zaichkowsky (1985) developed the Personal Involvement Inventory (PII), which defines involvement as a unidimensional construct (Goldsmith and Emmert, 1991) that contributes to the consumer's "involvement level", regardless of whether the consumer's involvement is due to personal, physical and/or situational drivers (Zaichkowsky, 1985). Moreover, "She developed a 7-point (...) Likert scale consisting of 20 word pairs such as important–unimportant, trivial–fundamental, and useless–useful." (Goldsmith and Emmert, 1991: 364). By summing up the item scores, she indicated the importance of products (Zaichkowsky, 1985; Goldsmith and Emmert, 1991). Contrary to Zaichkowsky's (1985) model, Laurent and Kapferer (1985) argue that consumers' involvement could only be measured precisely by considering the antecedents of the consumer's involvement level (Laurent and Kapferer, 1985; Mittal and Lee, 1989; Goldsmith and Emmert, 1991). Hence, Laurent and Kapferer (1985) developed the existing PII approaches further to measure consumer involvement by constructing a "Consumer Involvement Profile Inventory" (CIPI) model. They precisely measured "(...) 5 antecedents of product category involvement: interest, perceived risk (with two subcomponents, importance and probability), the rewarding nature of the product, and the perceived ability of the brand to express the subject's status, personality, or identity." (Goldsmith and Emmert, 1991: 365). Further, the CIPI model measures 16 questions on a 5-point Likert scale by exploring statements by consumers (Goldsmith and Emmert, 1991). Even though Mittal and Lee (1991) generally agree that the CIPI model is a suitable approach for identifying the consumer's involvement with products, they criticise certain weaknesses of the CIPI approach. For example, Mittal and Lee (1991) explain that the CIPI does "(...) not explicitly recognize the distinction between product-involvement and purchase-involvement." (p. 368). In response, Mittal and Lee (1991) developed Mittal's Involvement Scale (MIS), an approach that contributes more to the involvement purchase action per se, whereas Laurent and Kapferer's (1985) approach contributes more to the consumer's importance of products (Goldsmith and

Emmert, 1991). The interconnections between the measurements of involvement and importance are reflected by Jones and Reynolds (2006) as they developed Laurent and Kapferer's (1985) CIPI approach further to obtain a 7-point Likert scale to measure "involvement with store's products": "The products that this store carries are very important to me." (Jones and Reynolds, 2006: 120). In parallel, Voorhees, Brady and Horowitz (2006) developed a multi-item scale to measure the importance of a product by asking, for example, "The purchase of this (...) [product] was very important." (Voorhees, Brady and Horowitz, 2006: 518). Therefore, this research takes up the measurement scales of item importance and involvement with products from Jones and Reynolds (2006) and Voorhees, Brady and Horowitz (2006), as these scales show high scale reliabilities (Cronbach's Alpha for Jones and Reynolds (2006), $\alpha = 0.87$; and for Voorhees, Brady and Horowitz (2006), $\alpha = 0.92$).

2.6.2 Creating Key Consumer Value Items: Assortment Decisions as a Retail Service and Their Impacts on On-Shelf Availability / Out of Stock

One of the retailer's most fundamental strategic decisions is the determination of the products within the assortment that they intend to offer. Retailers have to balance the "variety of products" (number of categories), the "depth within products lines" (the number of SKUs within an assortment) and the "service level" (the quantity of a single item) with each other, to create the optimal mix (Dhar, Hoch and Kumar, 2001; Broniarczyk and Hoyer, 2006; Mantrala, Levy, Kahn, Fox, Gaidarev, Dankworth and Shah, 2009). In addition to these strategic assortment planning decisions, other related decisions have to be made, such as the product life cycle and demand predictability (Fisher, 1997). These decisions have to match a retailer's constraints, restrictions and limitations, for example the available shelf space (Mantrala, Levy, Kahn, Fox, Gaidarev, Dankworth and Shah, 2009). According to the literature, these decisions have diverse and significant impacts on a retailer's OSA/OOS strategy. These factors are addressed in order to derive an understanding of the diverse impacts on the overall research topic: OSA/OOS research.

OOS averages vary significantly within the different product categories investigated (e.g. Gruen, Corsten and Bharadwaj, 2002; McKinnon, Mendes and Nababteh, 2007; Aastrup and Kotzab, 2009). For example, Gruen, Corsten and Bharadwaj (2002) state that consumer responses vary significantly by category, and therefore retailers' decisions about the right level of OOS must be made. According to Fisher (1997), products can be basically classified into two different categories on the basis of their demand patterns: "(...) they are either primarily functional or primarily innovative." (p. 106). Further to this, Fisher (1997) requires for "(...) each category (...) a distinctly different kind of supply chain." (p. 106). "Hence, there are valid economic reasons for these categories to have differentiated OOS rates." (Aastrup and Kotzab, 2010: 159). "The root cause of the problems plaguing many supply chains is a mismatch between the type of product and the type of supply chain." (Fisher, 1997: 106). Herewith, Fisher (1997) defines functional products as those that intended to sate basic necessities and that are temporarily consistent. This demand pattern shows long product life cycles and thus offers a comprehensive amount of demand and availability data, providing a reliable basis for demand forecasts and, therefore, a valid OSA/OOS strategy with low risks of unavailability scenarios.

"Innovative products" are items that are new and provide consumers with an added value when purchasing their offerings (Fisher, 1997). As such, no past sales data is available, which increases the level of unpredictability. Due to the difficulty forecasting demand and deducing the necessary stocks and inventories, the "level of new product introduction" is one further root of OOS occurrences, according to McKinnon, Mendes and Nababteh (2007): "Forecasts of the initial demand for new lines are often inaccurate, making it difficult to manage the shelf replenishment of these products." (p. 263). Therefore, it is vital to understand the nature of the products that retailers sell to their customers and to optimise their supply chain strategy (Fisher, 1997). "Supply chain and category management teams (...) [have to] work closely together to improve coordination of shelf space, promotions, and new product introductions." (Corsten and Gruen, 2004: 28).

Further, a retailer's decisions also include the number of different brands, products and sizes within a specific category. The interdependencies between the given restrictions are significant: For example, on the one hand retailers try to implement more and more products within a category to offer the consumer a broader variety of products to match their demand. On the other hand, as shelf space – and therefore space for the category – is given and limited, an increase in more products leads to reduction of the visibility of a specific product. This again has a direct impact on the inventories, as they must be reduced per SKU within the shelf and the backroom, and this therefore increases the risk of an OOS occurrence (Campo and Gijsbrechts, 2005). Therefore, Campo, Gijsbrechts and Nisol (2004) note that given that "(...) previous decades witnessed a preoccupation with assortment expansion, retailers – being confronted with the cost disadvantages of increasingly wide and deep assortments – have recently turned their attention to efficient downsizing of the assortments." (p. 834). This proposal is in line with other research and findings – for example, the research conducted by Mansoory and Mehra (2010): "Traditional growth models that focused on rolling out more stores and adding more products lines, no longer enjoy the return on investment they once did." (p. 7). Similarly, Broniarczyk, Hoyer and McAlister (1998: 167) state that: "(…) these studies provide preliminary evidence that SKU reduction might not have the feared negative effects and even might result in considerable gains for the retailer".

These findings are contrary to the initial research surrounding consumers' reactions to OOS occurrences, which stated that the unavailability of items results in a loss in sales (e.g. Peckham, 1963; Emmelhainz, Emmelhainz and Stock, 1991). Therefore, this research tries to understand what is important for consumers from a consumer's point of view before the "buying action" takes place at the POS, identifying a more consumer behavioural approach which is seen as a gap in the existing literature (e.g. Chernev, 2003; Scheibenhenne, Greifender and Todd, 2010).

2.6.3   The Importance of Items Derived from Promotions and Their Impacts on Retailers' On-Shelf Availability / Out of Stock Strategies

As a consequence of the aforementioned category management (CM) decisions that affect retailers' availability strategies, promotion management is a key lever, as promoted items demonstrate up to 75% increased OOS rates over items that are not in promotions (ECR Europe, 2003). Similar independent observations within the OSA/OOS research field report, for example, that the OOS levels between promoted and unpromoted items have a ratio of 2:1 (Gruen, Corsten and Bharadwaj, 2002). McKinnon, Mendes and Nababteh (2007) support this by stating that research has found significant correlations between higher OOS levels and promoted items. This is related to the demand pattern of products (Fisher, 1997) and the availability of their historical sales data, which has direct effects on demand forecasts and, therefore, on the availability of products, as their product life cycles have just a short time span and therefore increase unpredictability (Deloitte, 2009). With regard to the average 8% OOS in retail (Gruen and Corsten, 2006), Gruen, Corsten and Bharadwaj (2002) point out that promoted products regularly exceed an OOS level of 10%. The losses for retailers can be immense: Promotions create higher OOS rates (lost sales) and result in a bullwhip effect (overstocking) (Huchzermeier and Iyer, 2006).

Contrary to this indication, Gruen, Corsten and Bharadwaj (2002) report that an experimental study found that a higher average in-stock level also causes higher sales. This indicates that getting the right level of OSA/OOS for promoted items is even harder to handle than is usually the case in the retail business. A further argument is cited by Fernie and Grant (2008), who suggest that promotions can also be associated with reduced OOS levels, which are related to the increased attention span to the promoted items. However, the majority of the literature indicates that promotions result in increased OOS levels.

Furthermore, the nature of promotions affects OSA/OOS levels. According to McKinnon, Mendes and Nababteh (2007), the character of the promotion is a key determinant that impacts the OSA/OOS strategy of a retailer and which has to be matched with the overall availability strategy. Further, retailers also worsen this situation by rapidly changing intended promotions. In addition, the ECR Europe

(2003) study shows that the promoted item itself has a decisive impact on OSA/OOS levels. According to this study, there are two groups of promotions. Usual product groups (with high demand and insufficient stock room facilities) and slow sellers (less frequent deliveries and longer lead times) are particularly affected by OOS when promoted (ECR Europe, 2003). Besides these managerial implications of promotions for retailers and for their supply chains, one further important aspect is that promotions gain more consumer attention. This is related to the fact that a promotion often attracts consumers to visit a certain POS to participate due to this added value. This results in higher consumer expectation levels. When a promotion is unavailable, the dissatisfaction level of consumers is significantly higher than in comparison to unpromoted items (ECR Europe, 2003). Hence, it can be presumed that promotional items also have a higher item importance to consumers, as they offer an additional value for customers.

2.7   Recap of the Literature Streams

This section recaps the major findings from each reviewed literature stream and provides an overview of the literature which focuses on the phenomenon of OOS occurrences in store-based retailing.

Out of Stock Occurrences as Retail Service Failures

- OOS is a retail service failure that includes all the defects and mistakes during a customer's retail experience (Kelley, Hoffman and Davis, 1993) and that results in "direct losses" (e.g. no purchase) and in "indirect losses" (e.g. loyalty), as consumer's rate "good OSA" as important (Gruen, Corsten and Bharadwaj (2002).

- Even though investigations into the OOS phenomena of retailers and manufacturers through academic research have improved OOS levels to a general average of roughly 8% (e.g. Gruen, Corsten and Bharadwaj, 2002; ECR Europe, 2003; Sloot, Verhoef and Franses, 2005; Gruen and Corsten, 2007; McKinnon, Mendes and Nababteh, 2007) and even when the pioneer UK grocery market improved availability up to 97,3% (IGD, 2012), OOS is a problem in the present and will continue to be one for the foreseeable future (Pizzi and Scarpi, 2013).

- As OSA/OOS research is mainly conducted within the food subindustry of retail, the findings of the literature are hardly transferable to other retail subindustries or to other "non-food" product groups (Fernie and Grant, 2008).

- The OSA/OOS literature also shows that little attention has been given to approaches into how to manage OOS occurrences (Aastrup and Kotzab, 2010).

Consumer Reactions to Out of Stock Retail Service Failure

- OOS occurrences are a major threat for store-based retailing, as consumers can respond with extensive reactions, such as store switching or negative WOM (Parasuraman, Zeithaml and Berry, 1988; Puccinelli, Goodstein, Grewal, Price, Raghubir and Stewart, 2009; Verhoef, Lemon, Parasuraman, Roggeveen, Tsiros and Schlesinger, 2009).

- In addition to "how" consumers react, this literature review stream evaluates the "why" of consumer reactions to OOS occurrences. Consumer behaviour is impacted by buying behaviour type (e.g. beliefs and attitudes towards products) (Laurent and Kapferer, 1985), cost consideration (e.g. opportunity, transaction and substitution cost) (Campo, Gijsbrechts and Nisol, 2000) and personal motives (e.g. brand equity) Sloot, Verhoef and Franses (2005).

- The relationship of consumers' reactions (in particular to OOS retail service failures) and the importance of a product to consumers is also a shortcoming within the existing OSA/OOS literature (e.g. Verhoef and Sloot, 2005).

Service Recovery Measures and Their Impacts on Consumer Decisions in Out of Stock Occurrences

- Retail service recovery strategies involve all activities and actions that a retailer undertakes during retail service failures to lower or to overcome these situations (Kelley, Hoffman and Davis, 1993).

- Effective recovery measures applied to retail service failures improve consumer satisfaction significantly. On the other hand, recovery measures that are insufficiently applied to retail service failures can result in a situation that is even worse than the perception of the original retail service failure (McCollough, Berry and Yadav, 2000; Komunda and Osarenkhoe, 2012).

- Potentially effective retail service recovery measures for the particular retail service failure OOS have been developed. In particular, the following two service recovery measures emerge as promising approaches for managing OOS occurrences at the POS: a basic recovery measure (contributing to the literature's "information and apologise" measure) and a recovery plus measure (contributing to the literature's "employee intervention" measure).

The Importance of Items

- The OSA/OOS literature focuses on the importance of items from a company's perspective and shows that this approach is not sufficient, as the company's point of view does not have to – and often does not – match the consumer's evaluation of item importance (Trautrims, Grant, Fernie and Harrison, 2009).

- The consumer's viewpoint is of major importance to understanding the different consumer reactions during OOS occurrences (Singh, 1990). This work focuses on KCVIs (Mantrala, Levy, Kahn, Fox, Gaidarev, Dankworth and Shah, 2009).

- This section defines what "key" means for a consumer. The literature refers here to the research into consumer involvement with products. An item is of key importance when consumers are highly involved with the product (Laurent and Kapferer, 1985; Zaichkowsky, 1985).

- The literature has developed several approaches to measuring the importance of products to consumers and consumer's involvement with products. These approaches are based on the development of KCVIs and identifying which items are most likely to cause the highest dissatisfaction during OOS occurrences, as well as those which are the most likely to have negative consequences for retailers (Zaichkowsky, 1985; Beatty, Kahle and Homer, 1988; Mittal and Lee, 1989; Goldsmith and Emmert, 1991).

- By considering the importance of items to consumers and by applying effective recovery measures, it could be possible to lower consumer dissatisfaction. This leads to reduced consumer dissatisfaction levels and to a holistically meaningful approach for retailers.

3   Hypotheses

3.1   Introduction

This chapter presents the hypotheses that provide the basis for the empirical study. The gaps that have been detected in the literature are combined with the previously stated research questions in order to construct research hypotheses and to depict an overall conceptual research model.

By definition, a hypothesis must be testable, measurable and falsifiable to ensure rigour. Moreover, a hypothesis can be understood as an educated guess based on existing theories, literature research and working knowledge (Saunders, Lewis and Thornhill, 2009). The formulation of the research hypotheses is a precondition of answering the research questions (Saunders, Lewis and Thornhill, 2009). As Thiétart et al. (2001) discussed, it is often applicable in research to derive a set of hypotheses instead of a single testable hypothesis.

3.2   Hypothesis 1 – The Occurrence of the Retail Service Failure Out of Stock Negatively Affects Consumer Satisfaction

OOS retail service failure, as one of the most displeasing retail service failures to consumers, leads to particular consumer dissatisfaction (e.g. Smith and Bolton, 2002; ECR Europe, 2003). Thus, the first hypothesis starts with this basic relation of "OOS" as an independent occurrence that has a dependent, presumably negative impact on consumer satisfaction. Theoretical support is based upon consumer satisfaction theory. Here, consumer satisfaction is defined as the "(...) evaluation of the perceived discrepancy between prior expectations (...) and the actual performance of the product [or service] (...)" (Tse and Wilton, 1988: 204). Oliver (1980) links the outcome of cognitive dissonance directly to consumer satisfaction by stating that "(...) satisfaction increases as the performance/expectation ratio increases." (p. 460). Therefore, this hypothesis is generally supported by the disconfirmed expectancy and expectation disconfirmation theories, which are both based on the cognitive dissonance theory of Festinger (Festinger, 1957/1985; Cardozo, 1965; Oliver, 1980; Devlin, Gwynne

and Ennew, 2003). Cognitive dissonance is defined as an unpleasant emotional condition resulting from a specific event where diverse cognitions do not match each other. It exists when an individual has spent significant effort in achieving a certain aim and then perceives that this aim is not achievable and that, therefore, the effort was worthless (Festinger, 1957/1985). Transferring this to the research into OOS as a retail service failure, OOS occurrences result in cognitive dissonance, as consumers make the effort to purchase a specific item and receive a negative effect when there is an unavailability occurrence.

Therefore, Hypothesis 1 is formulated as follows:

Hypothesis 1: OOS affects Consumer Satisfaction

> *(H1): The occurrence of OOS in store-based retail formats negatively affects consumer satisfaction.*

3.3 Hypothesis 2 – Consumer Evaluation of Item Importance and the Reactions of Out of Stock Occurrences

LaTour and Peat (1979) state that the "(...) degree of consumer satisfaction/dissatisfaction varies widely among individuals as well over product and service categories." (p. 431). Theoretical support is based on the prospect theory of Kahneman and Tversky (1979). Prospect theory combines the consumer's individual importance and the degree of CSD: "Prospect theory holds that customers evaluate utility gains and losses from their purchases not according to a change in some absolute quantity [as e.g. the traditional consumer behaviour theories do], but relative to a reference point (...)" (Morrell and Jayawardhena, 2010: 137). The reference point "(…) usually corresponds to the current (…) position, in which (…) gains and losses coincide with the actual amounts that are received or paid. (…) [The] location of the reference point, and the consequent coding of outcomes as gains or losses, can be affected by the formulation of the offered prospects, and by the expectations of the decision maker." (Kahneman and Tversky, 1979: 274). Further, prospect theory explains that choices by individuals that are processed under conditions of uncertainty are in relation to their expectations and their prospects. Furthermore, prospect theory claims that

customers do not only act in a rational manner, as, for example, they perceive losses more intensely than gains; this is termed "loss aversion" (Kahneman and Tversky, 1979; Morrell and Jayawardhena, 2010). Such perceived gains and losses results from cognitive bias and individual preferences. Transferring prospect theory to the context of this research explains why consumers are more dissatisfied during OOS occurrences of products that are highly important to them. Their reference point could perhaps result from promotion activity and therefore increase the importance of the product to consumers (e.g. due to different reasons such as "must have", "brand new item", "limited offer" or "price discount"). This again leads to the argument that diverse stimuli impact an individual's reference point and, therefore, impact the outcome of a specific situation – in this study, the consumer's evaluation of item importance impacts the consumer's reference point. OOS occurrences in store-based retail formats are perceived by consumers as an uncertain situation where they have to make a decision when their preferred item is not available. This limited choice causes uncertainty, which is directly linked to prospect theory: the higher the consumers' evaluation of the importance of a specific item, the higher their reference point is and, consequently, the higher their dissatisfaction is. Therefore, retailers have to consider that their evaluation of item importance can differ significantly from the consumer's evaluation, as OOS is presumably more intensely perceived by consumers, resulting in higher consumer dissatisfaction.

Therefore, Hypothesis 2 is formulated as follows:

Hypothesis 2: Importance of Item and Consumer Satisfaction

> *(H2): The more important the product is for the consumer, the higher the negative impact of an OOS occurrence on consumer satisfaction.*

3.4   Hypotheses 3, 4 and 5 – Influencing Consumers' Reactions to Out of Stock Occurrences with Service Recovery Measures

The evaluation of consumers' reactions to a retail service recovery measure can be grounded on justice theory (e.g. Blodgett, Hill and Tax, 1997; Wirtz and Mattila, 2004; Chebat and Slusarczyk, 2005; Río-Lanza, Vázquez-Casielles and Díaz-Martín, 2009). Within justice theory, the consumer wants to perceive regret and compensation on behalf of the retailer for the inconvenience caused (Smith, Bolton and Wagner, 1999; Wirtz and Mattila, 2004). By analogy, Blodgett, Hill and Tax (1997) summarise justice theory as a "(...) broad, multifaceted construct, encompassing three dimensions: distributive justice, interactional justice, and procedural justice." (p. 186). Distributive justice is linked to the perceived level of fairness of the recovery result of a retail service recovery measure. Procedural fairness considers the retail service recovery process itself (Blodgett, Hill and Tax, 1997; Wirtz and Mattila, 2004; Chebat and Slusarczyk, 2005). Interactional fairness involves the treatment during the recovery process (Blodgett, Hill and Tax, 1997; Wirtz and Mattila, 2004; Chebat and Slusarczyk, 2005): "(...) it is generally accepted that the three dimensions of justice are independent, it is the combination of these three dimensions that determines complainants' overall perceptions of justice and hence their subsequent behavior." (Blodgett, Hill and Tax, 1997: 190). Relating the concept of justice theory to this research sets the basis for Hypothesis 3, which refers to distributive justice by applying recovery measures to the OOS retail service failure. Hypothesis 4 compares different service recovery measures applied to OOS by referring to the concepts of procedural and interactional justice theory. Hypothesis 5 considers the reactions of consumers to different service recovery measures applied to OOS situations.

Hypothesis 3 – Consumer Reactions to Out of Stock Occurrences with Service Recovery Measures

Following justice theory, it is important to understand consumers' behaviour in a conflict situation (Río-Lanza, Vázquez-Casielles and Díaz-Martín, 2009). A retail service failure is a typical example of a conflict situation (Blodgett, Hill and Tax, 1997). Hence, Hypothesis 3 can be formulated as follows:

Hypothesis 3: Service Recovery Measures and Consumer Satisfaction

> *(H3): The provision of service recovery measures decreases the negative impact of an OOS occurrence on consumer satisfaction.*

Hypothesis 4 – Different Recovery Measures Impact Consumer Satisfaction During Unavailability Occurrences Differently

This section contributes to the differences in service recovery measures and their moderating effect on consumer satisfaction levels. Hence, Hypothesis 4 is formulated as follows:

Hypothesis 4: "Basic Recovery" Measure versus "Recovery Plus" Measure

> *(H4): There is a significant difference between the provision of a basic recovery measure and a recovery plus measure with regards to decreasing the negative impact of an OOS occurrence on consumer satisfaction.*

Hypothesis 5 – The Level of Consumer Satisfaction Impacts Consumer Reactions

Smith and Bolton (2002) argue that customers react differently to the same service failure occurrences. This is related to customers' emotional engagement with the product or service. Hence, Hypothesis 5 is formulated as follows:

Hypothesis 5: The Impact of Consumer Satisfaction Level on Reactions

> *(H5): The level of consumer satisfaction in an OOS situation affects the behaviour and evaluations of the consumer.*

3.4.1   The Research Model

Constructing a research model is a feasible approach, as a model is "(...) a simplified representation of a process or a system that is designed to explain and/or simulate a real situation." (Thiétart et al., 2001: 57). This research project applies a research model that combines the findings of the literature review and the research hypotheses. The research model forms the basis on which the work discussed how retailers should manage their OOS occurrences at the POS to optimise consumer satisfaction by considering the importance of items for a consumer. Figure 9 illustrates the different components and their relations and interconnections with each other.

Figure 9: Research Model (Relationships of the Research Question Components)
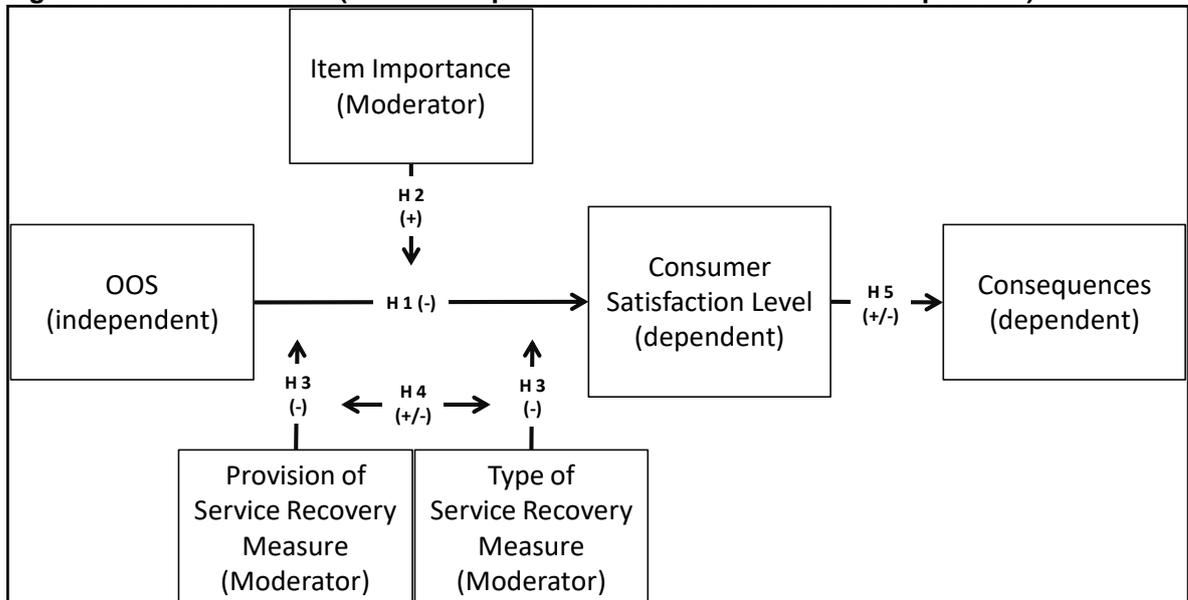
Source: Own design (2016)

4   Methodology

4.1   Introduction

Before the hypotheses presented above can be tested, a research methodology must be established. Saunders, Lewis and Thornhill (2009) argue that its structure should begin with the methodological foundations and the research philosophy upon which the research is based (Section 4.2) before their implications are adopted within the research design (Section 4.3).

4.2   Methodological Foundation and Philosophical Underpinnings

4.2.1   Developing the Research Design and Deriving the Research Purpose

Thiétart et al. (2001: 111) state: "The research design is the framework through which the various components of a research project are brought together: research question, literature review, data, analysis and results." However, before the research design is established, it needs to be placed in context; that is, the purpose of the research needs to be clarified.

Research purpose

Patton (2002: 213) argues that a clear purpose is the first step of the research process: "Decisions about design, measurement, analysis, and reporting all flow from purpose." According to Saunders, Lewis and Thornhill (2009), the research purpose can essentially be expressed through three different procedures: exploratory, descriptive and explanatory studies. This characterisation is generally accepted and widely used within research, even when the naming of these procedures varies. For example, Phillips and Pugh (2010) divide the research procedures into explanatory, testing-out and problem-solving research. From here on, the characterisation of the different research procedures will follow that of Saunders, Lewis and Thornhill (2009). Exploratory research is a type of research that attempts to gain insights into and an understanding of a new problem about which little is known (Saunders, Lewis and Thornhill, 2009; Phillips and Pugh, 2010).

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Given this definition, it can be said that this research procedure is not applicable for this study, as the nature of the OOS problem has already been discussed by researchers (see Chapter 2). Descriptive studies aim to provide an accurate profile of persons, phenomena or situations (Saunders, Lewis and Thornhill, 2009). As such, the descriptive procedure is also not applicable to this research and therefore not considered any further. Explanatory studies "(...) establish causal relationships between variables (…) [and are more about] studying a situation or a problem in order to explain the relationships between variables." (Saunders, Lewis and Thornhill, 2009: 140). Explanatory research tries to construct chains of causes and effects (Thiétart et al., 2001). Thus, the design of this study falls into the category of explanatory research, as the research questions focus on causal relationships (e.g. the importance of a product to the consumer and consumer satisfaction). In the following, an explanatory procedure will be used to develop a quantitative understanding of and, as such, a quantitative argument for the study's hypotheses (Williams and May, 1996).

In order to link the research purpose to the research, Thiétart et al. (2001) suggest "thinking backwards" to develop this research design: "Imagining the expected or even the desired result often makes it possible to refine a research question and to determine appropriate research methods." (p. 119). The use of this procedure is reinforced by Punch (2011) in his recommendation: "(…) I believe that the best way to [build the research design] is to focus on what we are trying to find out (…) before we focus on how we will do the research (...)" (p. 5). Therefore, the design for this research project is constructed following Saunders, Lewis and Thornhill's (2009) "research onion", modified according to the "backwards technique" of Thiétart et al. (2001).

Figure 10: Deriving the Research Design
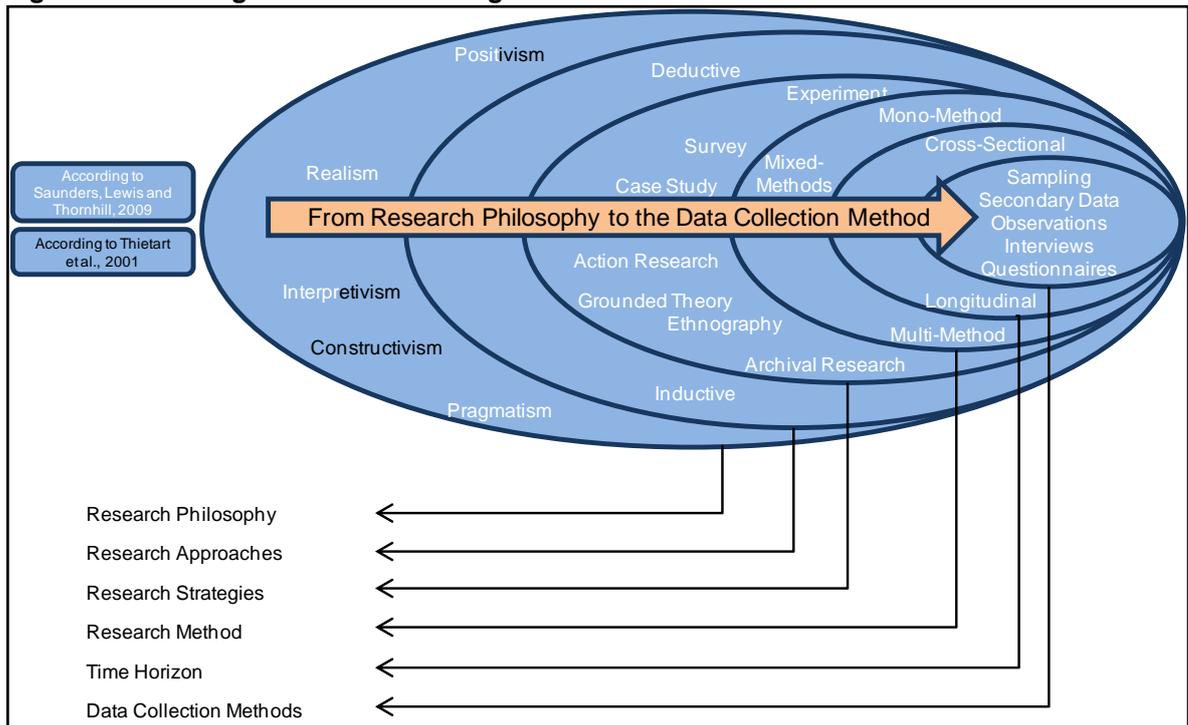
Source: The "research onion" from Saunders, Lewis and Thornhill (2009) with adjustments according to Thiétart et al. (2001)

The design combines components such as the research questions, literature review, data analysis and results with the research philosophy in order to embed these components into the particular models of interpreting, understanding and knowing the world (Williams and May, 1996).

Research philosophy

Saunders, Lewis and Thornhill (2009) arrange the research philosophy according to three basic perspectives: ontology (the study of existence), epistemology (the study of what constitutes acceptable knowledge) and axiology (the study of values in research). The initial position for deducing the philosophical paradigms is a question of the interpretation of reality: "Does reality exist independently of the observer, or is our perception of reality subjective." (Thiétart et al., 2001: 14–15). The answer to this question gives rise to two different interpretations of reality resulting from different ontological and epistemological concepts: on the one hand, reality is accepted as objective and exists; on the other hand, it can only be interpreted in the context of the subject and therefore it does not exist per se.

Thiétart et al. (2001) refer here to three major philosophical theories – positivism, interpretivism and constructivism – to constitute a reference point upon which scientists can define the epistemological position of their research. The fact that this classification is not fixed can be confirmed by studying further sources of philosophical concepts. For example, Saunders, Lewis and Thornhill (2009) name four different research philosophies: positivism, realism, interpretivism and pragmatism. Hart (2010) generally separates between positivism and interpretivism, as these concepts state clear oppositional approaches. In the following, the classification of concepts and the definition of philosophical theories follow Hart's (2010) understanding. Thus, the paradigms of positivism and interpretivism are balanced with each other under the focus of their model of the nature of reality, their model of the nature of the subject –object link and their vision of the social world (Thiétart et al., 2001).

Under an epistemological view, the philosophical theories vary enormously. Interpretivists see dependences between the object and the subject. For them, reality does not exist per se; it has to be interpreted in the context of the researcher and/or by the surroundings of the research field: "(…) reality will never be independent of the mind, (…) of the person observing or testing it." (Thiétart et al., 2001: 16–17). In contrast, the positivists' explanation of knowledge references ontological theses, where the knowledge object has its own essence – a more science-oriented view. It clearly separates the object (the reality; resource) and the subject (the observer; researcher) by emphasising their independence: "(…) the knowledge produced by positivists is objective and contextual – in that it relates to revising existing laws and to an immutable reality that is external to the individual and independent of the context of interaction between actors." (Thiétart et al., 2001: 16). Accordingly, positivists generate knowledge towards explanatory research by considering the data of resources (Saunders, Lewis and Thornhill, 2009). Positivists only recognise research methods that respect formal, deductive logic (Thiétart et al., 2001). Therefore, this research applies a positivistic research philosophy, in the sense that a positivist's philosophy emphasises "(…) quantifiable observations that lend themselves to statistical analysis." (Saunders, Lewis and Thornhill, 2009: 114) and constructs causal relationships (Thiétart et al.,

2001; Saunders, Lewis and Thornhill, 2009). These causal relationships are central to this research project, as the study intends to evaluate consumers' level of dissatisfaction during OOS occurrences and to relate these findings to the debate on OSA/OOS levels.

Research approach

The research approach reflects the research philosophy and refers to the research design: "In general, the quality of a [research] design is partly a question of the overall logic of the research approach taken, and partly of how coherent its various components are." (Thiétart et al., 2001: 112). Basically, the research approach can be separated into two different concepts: inductive and deductive logical arguments. The inductive approach expresses a logical reasoning method that is inferred from a collection of specific observations and enables the researcher to move from these observations to general statements (Ulfig, 1997).

Cassell and Symon (2006) define "induction" as "(…) a set of methodological procedures which attempts to systematically generate theory grounded in observation of the empirical world." (p. 165). Therefore, the inductive approach develops "(…) theory after the data have been collected." (Saunders, Lewis and Thornhill, 2009: 41). Overall, the inductive approach is more often applied when it comes to establishing a qualitative research project (Saunders, Lewis and Thornhill, 2009). In contrast, deduction is a research approach that is applied to derive logical connections between different ideas (variables) from existing theories, and therefore constitutes the opposing concept to induction (Minto, 2005).

The deductive approach is a logic philosophical conclusion of premise, and refers to imperative consequences leading to a "hence" conclusion (Minto, 2005). "Deductive logic (...) uses true premises and the rules of formal inference to establish the truth-value of a proposition (...)" (Thiétart et al., 2001: 25): As a consequence, the starting points for a deductive approach are universal laws and theories, and involve the development of a theoretical hypothesis. This hypothesis is the subject to be tested in an academic research project, and mainly goes hand in hand with quantitative data research (Saunders, Lewis and Thornhill, 2009).

Transposing the inductive and deductive approach onto this research project, it is reasoned that, as this study constitutes logical connections between different ideas from given theories (Minto, 2005), it follows a deductive approach. This is called a hypothetico-deductive approach, which is in accordance with the explanatory quantitative research design already established as well as the positivist understanding of valid research (Punch, 2011).

Research strategy

The research strategy connects the research philosophy and research approach to the data collection method to answer the research questions (Saunders, Lewis and Thornhill, 2009). Thiétart et al. (2001) name three different research strategies: experimentation, ethnography and grounded theory. Ethnography concerns studying people and cultures (Thiétart et al., 2001; Saunders, Lewis and Thornhill, 2009), which is why ethnography is often applied in qualitative research (Patton, 2002; Punch, 2011). As such, ethnography is not applicable for this thesis.

The research concept of grounded theory is "(...) constructing an explanatory theory about a social phenomenon based on the identification of regularities." (Thiétart et al., 2001: 114). Furthermore, grounded theory is a research strategy used to explain behaviour, such as consumer behaviour, whereby theory is developed from data generated by observations, which in turn leads to predictions being tested again, and so forth (Cassell and Symon, 2006; Saunders, Lewis and Thornhill, 2009). Grounded theory is primarily applied within inductive, qualitative research designs (Thiétart et al., 2001; Cassell and Symon, 2006; Saunders, Lewis and Thornhill, 2009; Punch, 2011), and for this reason is also not applied in this thesis.

As the research question for this particular project requires an experiment where hypotheses are transferred to dependent and independent variables that are applied to different groups of consumers, this research project aims to test causal relationships. Therefore, the concept of experimentation is applied for this thesis (Thiétart et al., 2001; Brewer and Hunter, 2006; Saunders, Lewis and Thornhill, 2009; Punch, 2011). Experimentation has to convey realism and generalisability to

non-experimental populations and situations (Brewer and Hunter, 2006). Experiments are an appropriate choice of research strategy in order to test variables within hypotheses that enable inference from the experiment group to a known population. Even though experiments contribute to both quantitative and qualitative research, the "experimentation" research strategy is mainly applied within a quantitative hypothetico-deductive research design (Philips and Pugh, 2010; Punch, 2011).

Research method

Research methods can be divided into mono- and mixed-method approaches (Punch, 2011). A mono-method approach specifically uses one applied research method, independently of whether the research design is quantitative or qualitative. A mixed-method approach combines quantitative and qualitative research methods. Here, the literature criticises Punch's (2011) rather basic differentiation, as research is more complex than this. Saunders, Lewis and Thornhill (2009) distinguish between mono and multiple methods when the research methods must be decided, and allocate multi-method and mixed-methods subordinate statuses under the umbrella of multiple methods. This research project measures different consumer behaviour patterns in a quantitative manner – for example the importance of the product to the consumer and the level of consumer satisfaction during OSA/OOS occurrences – and therefore applies a mono quantitative research method. Moreover, this procedure is in accordance with the quantitative hypothetico-deductive research strategy already established (Saunders, Lewis and Thornhill, 2009).

Time horizon

Generally, two different opposing time horizons can be selected for a research design: the cross-sectional and the longitudinal. The longitudinal time span observes the same individuals two or more times, where these observations are typically a long time apart (Kirk, 2013). In contrast, the time horizon of a cross-sectional study is similar to a series of "snapshots" (Saunders, Lewis and Thornhill, 2009). In accordance, Kirk (2013) defines a cross-sectional study as a research strategy where two or more groups are evaluated at the same time. Generally, the choice of the applicable time horizon is linked to the intention and

the nature of the research project (Thiétart el al., 2001). Given that an experiment focuses on a particular problem at a particular time by comparing two or more groups with each other, effectively constituting a "snapshot" of the experimental context, this study applies a cross-sectional time horizon.

Data collection method

Before the data collection method can be developed in order to answer the questions of this research project, a more general question remains as to whether applicable secondary data are available or whether new primary data must be gathered. Secondary data involve information that has already been collected for other purposes, and which can be taken to contribute to the research questions of a current project (Saunders, Lewis and Thornhill, 2009). In contrast, primary data are information that is specifically gathered to directly answer a research question. The decision of whether to use secondary or primary data has to be considered with regards to the ontological status of the research design, as well as to accessibility or flexibility, for example (Thiétart et al., 2001). Applying these parameters to the research design discussed so far reveals the necessity for specific new research project information. This is due to the fact that determining the relationship between the importance of a product to the consumer and the level of consumer satisfaction during OSA/OOS occurrences represents a new approach: "primary data gives researchers the opportunity to experience directly the 'reality' that they have chosen to study." (Thiétart et al., 2001: 73). To gather primary data, the literature provides diverse data collection methods (e.g. structured observation, standardised interviews, questionnaires, surveys, experimental methods) (Thiétart et al., 2001; Brewer and Hunter, 2006; Saunders, Lewis and Thornhill, 2009; Punch, 2011; Kirk, 2013). Relating the findings of this research design to the characteristics of the collection techniques, experimentation emerges as the applicable data collection method. According to Kirk (2013), an experiment involves "(...) the manipulation of one or more variables by a researcher to determine the effect of this manipulation on another variable." (p. 3). Further, an experiment enables the research to test causal relationships within hypotheses by manipulating the independent variable and inferring the causality on the dependent variables (Brewer and Hunter, 2006; Kirk, 2013).

4.2.2   Ethical Considerations

Ethical responsibilities in research include "(...) overarching principles of academic integrity and honesty, and respect for other people." (Punch, 2006: 56). Ethics covers a wide area of standards, from general requirements, such as compliance with basic human rights, to general ethical research guidelines (Brewer and Hunter, 2006; Cassell and Symon, 2006). Ethics ensure "(...) the privacy of possible and actual participants (...) [and the] voluntary nature of participation (...)" (Saunders, Lewis and Thornhill, 2009: 185). Research, in an ethical understanding, avoids the deception and manipulation of participants and assures data confidentiality (Cassell and Symon, 2006; Saunders, Lewis and Thornhill, 2009). Ethics guide the behaviour and the objectivity of the researcher to achieve bias-free writing and to avoid plagiarism (Punch, 2006).

To ensure the ethical compliance of this study, the Ethical Review Checklist of the University of Surrey has been used (University of Surrey, 2015). Completion of this Ethical Review Checklist indicated that no specific ethical issues arise within this research work. A short consultation with the Ethical Committee of the faculty was necessary to interpret the passage "Do you plan to provide financial payments or (…) [do you] plan to offer incentives which may unduly influence participants' decision to participate?" (University of Surrey, 2015), as this research intends to gather data via a research agency that provides respondents with a voucher with a value of around 1.80 Euros. As this compensation falls much below the minimum wage, provision of this voucher was agreed to not be considered an ethical issue. The head of the DBA programme confirmed that, according to the evaluation of the Ethical Committee of the faculty, no ethical issues exist. Therefore, according to the Ethical Review Checklist, all questions are negatively answered, indicating that no ethical issues arise (see Appendix B). The Ethical Review Checklist was also used for the pre-tests to avoid ethical issues. In this case, all questions according to the checklist were also negatively answered for the pre-test, and thus no specific ethical issues exist.

4.3   Empirical Research Design

The following section develops the conceptual model as a starting point to link the hypotheses to the experimental research designs, which is carried out as follows.

4.3.1   Defining the Conceptual Model

The following conceptual model illustrates the interconnections and linkages between OOS retail service failure and consumer satisfaction, as well as the impacts on retailers in terms of evaluative and behavioural short- and long-term consequences. Moreover, the conceptual model contributes to the literature, proposing that consumers perceive and behave differently during OOS occurrences regarding the consumers' importance they give to the item they intended to buy. Therefore, this conceptual model considers the consumer's evaluation of item importance and applies effective recovery measures, developed through the literature review, to lower consumer dissatisfaction during OOS occurrences.

Figure 11: Conceptual Model
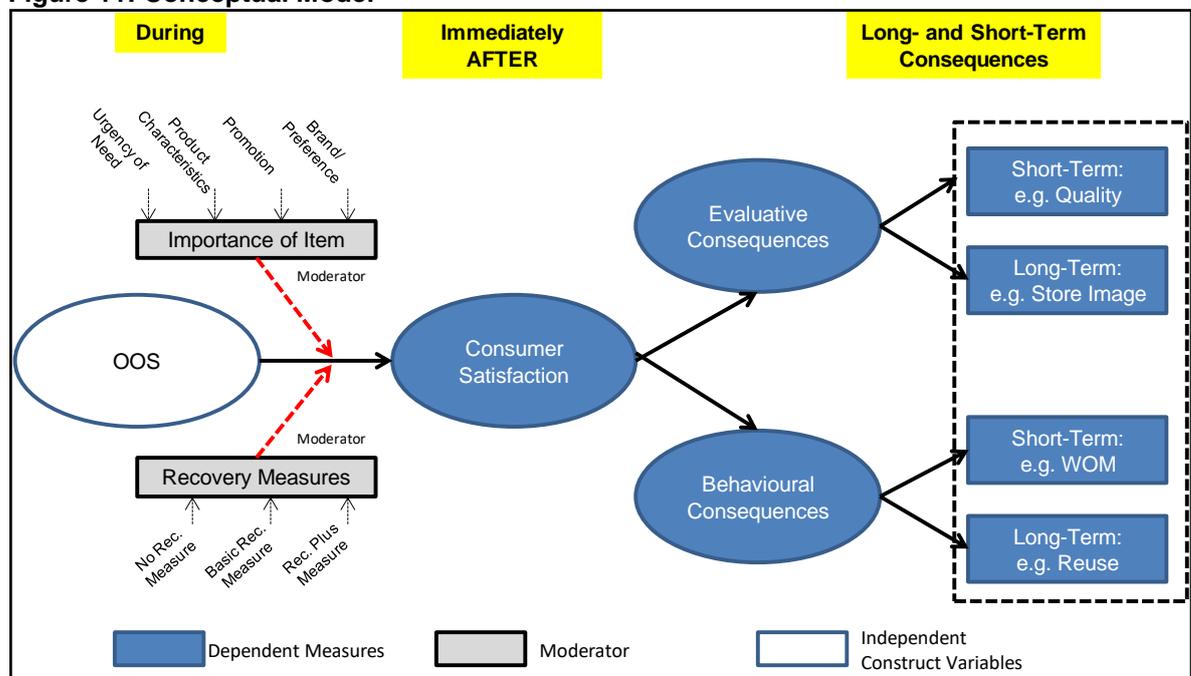
Source: Own design (2016)

The conceptual model illustrates the dependencies of the model's components in greater detail, as this understanding is of significant importance for the further elaboration of the experimental setting. Generally, as the components within Figure 11 are linked to each other via variables, the literature separates variables into dependent and independent variables: "A variable that we think is a cause is known as an independent variable" (Field, 2013: 7). Complementary to this, a "(...) dependent variable changes in response to changes in other variables." (Saunders, Lewis and Thornhill, 2009: 367). With regard to the conceptual model (Figure 11) the occurrence of an OOS situation is the independent variable, and the consumers' reaction to it constitutes the dependent variable. In addition to this, further variables, which can be termed moderator variables as they modify the intensity of a relationship, are considered (e.g. applying recovery measures to OOS settings) (Thiétart et al., 2001).

Furthermore, the variable "importance of item" has a moderating effect on consumer satisfaction level as well as on consumer consequences during OOS occurrences. Recovery measures are variables that have a moderating effect on the variable of consumer satisfaction and therefore also an effect on consumer consequences. For the experimental setting, these variables need to be manipulated to learn about their impacts on consumer satisfaction and their levels of correlation (e.g. consumer consequences for retailers) in order to understand how consumers respond to these stimuli.

4.3.2   Experimental Design

This research work contributes generally to the service recovery literature, and in particular to the OSA/OOS research field, by undertaking an experimental research project. Therefore, the preparation and the setting of this experiment are of enormous importance, as experiments are typified by high costs and risk, and are therefore not easily repeatable (Verbeke, Farris and Thurik, 1998). According to Kirk (2013), an experimental design is "(…) a plan for assigning subjects to experimental conditions and the statistical analysis associated with the plan." (p. 30). Saunders, Lewis and Thornhill (2009) state that an experimental design has to specify the sample selection, the allocation of samples to known populations, the setting of the experimental conditions and the planned changes in variables. Moreover, Thiétart et al. (2001) state that "(…) experimental methods (…) can [often] be limited in terms of external validity." (p. 180). To ensure the validity of a research project, it is necessary to establish control variables (Saunders, Lewis and Thornhill, 2009; Field, 2013; Kirk, 2013). In a more precise understanding, Thiétart et al. (2001) link the term "control variable" to internal validity by stating that control variables contribute to "(...) the degree to which a concept is (...) capable of influencing other variables of influence." (p. 198). Hence, this research makes use of this "control variable" in order to control the experiment whether the respondents understand the derived experimental settings, which is in line with authors such as Field (2013) and Kirk (2013). Moreover, Field (2013) notes that the experimental control is required in order "(...) to reduce the error variance and obtain unbiased estimates of treatment effects." (p. 621).

As a result of these considerations, the description of the experimental design starts with the research hypotheses; however, the experimental model is built upon the previously depicted conceptual model and constitutes the underlying framework of the experimental research design.

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Table 1: Linking Hypotheses to Experimental Design

	Hypothesis	Independent Variable	Dependent Variable (Measure)		Manipulation	Experimental Group	Control Group
1)	The occurrence of OOS in store-based retail formats negatively affects consumer satisfaction.	OOS	Consumer satisfaction level		OSA vs. OOS without recovery measures	OOS without recovery measures	OSA
2)	The more important the product is for the consumer, the higher the negative impact of an OOS occurrence on consumer satisfaction.	OOS	Consumer satisfaction level	a)	High importance stimuli vs. normal importance setting	High importance stimuli (brand / promotion)	Normal importance setting
				b)	Different high importance stimuli	High importance stimulus "brand"	High importance stimulus "promotion"
				c)	Different products	Hedonic product	Utilitarian product
3)	The provision of service recovery measures decreases the negative impact of an OOS occurrence on consumer satisfaction.	OOS	Consumer satisfaction level		OOS without recovery measure vs. OOS with recovery measures	OOS with recovery measures	OOS without recovery measures
4)	There is a significant difference between the provision of a basic recovery measure and a recovery plus measure with regards to decreasing the negative impact of an OOS occurrence on consumer satisfaction.	OOS	Consumer satisfaction level		Provision of different recovery measures	"Basic recovery measures"	"Recovery plus measure"
5)	The level of consumer satisfaction in an OOS situation affects the behaviour and evaluations of the consumer.	CSD	Consumer consequences		Comparison of all scenarios		

Source: Own design (2016)

Before the experiment is devised, this research must be embedded into its setting. The literature review of this study (see Chapter 2) revealed that consumer' reactions to OOS occurrences vary between hedonic and utilitarian products (e.g. Dhar and Wertenbroch, 2000; Ruiz-Molina, Gallarza-Granizo and Gil-Saura, 2015). Therefore, this study considers two products from the grocery retail industry, where *milk* contributes to utilitarian and *wine* to hedonic product characteristics (e.g. Combris, Lecocq and Visser, 1997; Unwin, 1999; Oczkowski, 2001; Sloot, Verhoef and Franses, 2005).

The experimental model therefore compares two different products (hedonic/utilitarian) under the influence of three different importance stimuli (the high importance stimulus "brand" / the high importance stimulus "promotion" / the normal importance setting) in four different shopping contexts (OSA / OOS without recovery measures / OOS with basic recovery measures / OOS with recovery plus measures). This means that the conceptual model contributes to a 2×3×4 experiment and therefore evaluates 24 different experimental settings.

Figure 12: Experimental Model

Importance of Item				Availability	Unavailability / Recovery Actions / Measures		
					No Recovery Measures	**Basic** Recovery Measure	Recovery **PLUS** Measure
	Hedonic	High Importance Item	Brand / Preference	Experimental Setting 1	Experimental Setting 2	Experimental Setting 3	Experimental Setting 4
			Promotion	Experimental Setting 5	Experimental Setting 6	Experimental Setting 7	Experimental Setting 8
		Normal Importance Item		Experimental Setting 9	Experimental Setting 10	Experimental Setting 11	Experimental Setting 12
	Utilitarian	High Importance Item	Brand / Preference	Experimental Setting 13	Experimental Setting 14	Experimental Setting 15	Experimental Setting 16
			Promotion	Experimental Setting 17	Experimental Setting 18	Experimental Setting 19	Experimental Setting 20
		Normal Importance Item		Experimental Setting 21	Experimental Setting 22	Experimental Setting 23	Experimental Setting 24

Source: Own design (2016)

4.3.3 Sampling

A sample has to be defined in order to provide the most reliable data set with which to answer the hypotheses: "Sampling techniques provide a range of methods that enable (…) [a researcher] to reduce the amount of data (…) [needed] to collect (...) data from a sub-group rather than all possible cases or elements (...)" (Saunders, Lewis and Thornhill, 2009: 210). The sampling process concerns precisely choosing the necessary data set as a suitable representation of the population (Thiétart et al., 2001). Kirk (2013) refers to sampling distribution as the technique that allows the population as a whole to be inferred from a sample – from the particular to the general. Therefore, this section defines the sampling process, first by defining the most appropriate approach, followed by the sampling frame, the sample size and the sampling method. An evaluation of the specific sampling tool is also covered within this section.

Generally, two sampling approaches are differentiated in the literature: probability and non-probability sampling (Thiétart et al., 2001; Saunders, Lewis and Thornhill, 2009). Probability sampling refers to an approach where "(...) each case being selected from the population is known and is usually equal for all cases." (Saunders, Lewis and Thornhill, 2009: 213). Probability sampling enables a researcher to infer from the sample set to the general population, as the population is known and the data set is a representative model of that population (Thiétart et al., 2001). For non-probability sampling, the data set chosen from the population is not precisely known and not randomly allocated to the research (Thiétart et al., 2001). This research asks consumers within an experimental laboratory setting about their satisfaction levels with and the related consequences of a described OOS retail service failure in a store-based retail format. Therefore, the respondents cannot be sampled randomly, that is, through the quota sampling method, which is a non-random sampling procedure that is frequently applied in surveys (Brewer and Hunter, 2006; Saunders, Lewis and Thornhill, 2009).

"The sampling frame (...) is a complete list of all cases in the population from which (...) [the] sample will be drawn." (Saunders, Lewis and Thornhill, 2009: 214). In the case that no suitable list exists, the population must be shaped around the research project. As this research project specifically looks at the consumer behaviour of German consumers in grocery stores, the population consists of all German consumers that have ever bought an item in a retail store.

The sample size is of significant importance, as the generalisation from the sample to the population is directly related to the number of data sets: "(...) sampling is (...) a compromise between the accuracy of (...) findings and the amount of time and money (...) invest[ed] in collecting, checking and analysing the data." (Saunders, Lewis and Thornhill, 2009: 218). To ensure valid data from which generalisability can be inferred, the data set must refer to the confidence level. This is the degree of sureness that the data set constitutes to the overall population (Kirk, 2013). Further, the amount of data impacts the margin of error, which is the tolerance level of accuracy for estimations and inferences. In addition, different types of analysis require different amounts of data, as for some statistical calculations the models need a minimum threshold of data cases. The decision on the sample size is directly related to statistics: "(...) the larger the absolute size of a sample, the more closely its distribution will be to the normal distribution and thus the more robust (...) [the results] will be." (Saunders, Lewis and Thornhill, 2009: 218). This coherence is termed the "central limit theorem". As the confidence level in research is normally a 95 per cent level of certainty or above (Thiétart et al., 2001; Saunders, Lewis and Thornhill, 2009; Field, 2013), the application of Cohen's effect size index, as recommended by Field (2013), indicates that each of the 24 different settings must have at least 100 to 200 data sets. Hence, the minimum amount of data necessary for this research project is in the range of 2,400 to 4,800 qualified data sets (Pallant, 2010; Field, 2013; Kirk, 2013; Dillmann, Smyth and Christian, 2014). Comparable service failure research that has used non-probability sampling techniques also applied 150 qualified data settings for each scenario (e.g. Pizzi and Scarpi, 2013). To achieve this number of qualified and valid answers, the actual sample size has to be higher, as the response rate must also be considered. The control variables will significantly influence the response

rate, as they test whether the respondents understand the survey questions. In case respondents do not adequately answer the control variables, they are screened out. This is necessary to avoid biased questionnaires. The data collection only stops when the minimum requested number of valid and qualified answers is collected.

This experimental setting applies a questionnaire-based survey procedure, following other research that has investigated OOS retail failure and retail service recovery measures (e.g. Parasuraman, Zeithaml and Berry, 1988; Kelley, Hoffman and Davis, 1993; Campo, Gijsbrechts and Nisol, 2000; Swanson and Kelley, 2001; Wirtz and Mattila, 2002; Pizzi and Scarpi, 2013). Furthermore, the quota sampling technique allows for a compounded sample – for example sorted by gender, age and employment – and therefore contributes to validity (Pizzi and Scarpi, 2013).

To achieve a generalisable sample, the relevance group for this sample is set according to research that has investigated consumer behaviour in the retail industry. An appropriate quota plan includes 20- to 60-year-old consumers in a two-thirds women and one-third men sample (Kupka, 2014). Nevertheless, even when this sampling technique is implemented using a robust and controllable tool, the control of biases is important (Saunders, Lewis and Thornhill, 2009). Therefore this research carefully focuses on the selection bias problem (Thiétart et al., 2001). For it to be minimised, this research determines a large sample size and applies careful bias testing, following examples from the literature (e.g. Field, 2013; Kirk, 2013), by applying statistical methods – for example, the Kolmogorov–Smirnov normality test and Levene's test – to identify and avoid sampling bias issues.

4.3.4 Collecting Primary Data: Applying the Web-Questionnaire to a Laboratory Research Setting

The previous section on the study's philosophical underpinnings generally argues for the application of a questionnaire-based experimental research design (see Chapter 4.2.1). Punch (2006) name "settings", "questions", "standardised measuring instruments" and "ad hoc rating scales" as suitable questionnaire data collection tools. Saunders, Lewis and Thornhill (2009) define the term "questionnaire" as "(…) a general term to include all techniques of data collection in which each person is asked to respond to the same set of questions in a predetermined order." (p. 360). Furthermore, a questionnaire can generally be conducted via structured interviews, telephone questionnaires or web-questionnaires (Saunders, Lewis and Thornhill, 2009). In particular, web-questionnaires are frequently used for the collection of quantitative data, as the sample sizes are generally larger and therefore contribute to validity and reliability; as such, they constitute one of the most commonly used tools for collecting data (Thiétart et al., 2001; Punch, 2006; Saunders, Lewis and Thornhill, 2009; Pallant, 2010). Even though the theory generally differentiates between questionnaires and experimentation as separate quantitative data collection tools, both methods can be combined for a laboratory experimental research settings, where manipulated questionnaires are compared to each other (Cranage and Mattila, 2006; Punch, 2006; Saunders, Lewis and Thornhill, 2009). Therefore, this study applies a web-based questionnaire, existing of the description of different settings, questions and retail scenarios.

4.3.5 Measurement

According to Thiétart et al. (2001), "(...) the object of measurement (...) is to establish indicators that correspond to a given concept." (p. 137). Field (2013) notes that "measurement" is the correlation of "what" is analysed and the "numbers" that constitute this measure, which is determined by variables. Moreover, variables can be separated into categorical and continuous variables (Field, 2013). Categorical variables are distinct categories that cannot be measured numerically, such as binary, nominal and ordinal variables (Saunders, Lewis and Thornhill, 2009). Continuous variables are concerned with obtaining a distinct score, for example by applying an interval or ratio variable (Field, 2013). As this research asks for different consumers' evaluations, the measurement must be carried out with continuous variables, particularly with the use of interval scales such as Likert or bipolar scales. Furthermore, every hypothesis will be measured with multi-item measures depending on the characteristics of the question, which is in accordance with other research (e.g. Laurent and Kapferer, 1985; Smith, Bolton and Wagner, 1999; Zhu, Nakata, Sivakumar and Grewal, 2013). The measures within this study are evaluated with seven-point Likert scales, which is also in accordance with the literature (e.g. Laurent and Kapferer, 1985; Parasuraman, Zeithaml and Berry, 1988; Smith, Bolton and Wagner, 1999; Smith and Bolton, 2002; Cranage and Mattila, 2006; Gelbrich, 2010; Pizzi and Scarpi, 2013; Zhu, Nakata, Sivakumar and Grewal, 2013), as five-point or seven-point Likert scales are appropriate measures for gathering consumers' attitudinal and behavioural evaluations of different stimuli (such as item importance, OOS and recovery measures). Regarding the conceptual model, the following measures all contribute to a seven-point Likert scale (except the additional CSD measure, which is measured by a nine-point Likert scale).

Further, to achieve the numerical result of the level of measurement, the applied variables have to be coded (Field, 2013). Saunders, Lewis and Thornhill (2009) emphasise that in cases where a Likert scale is used, the different ranking scales should be coded in consecutive sequence in order to quantify and to measure the results and to compare them among each other.

Coding in a numeric, consecutive sequence, in particular in cases where a web-survey/questionnaire is used, is convenient for transferring the data in an analysable structure into an appropriate statistical tool. Field (2013) emphasises the importance of also coding all data within an experimental fieldwork, such as the different groups within the experiment.

A table of measurement scales and their sources is provided below.

Table 2: Table of Measurement Antecedents and Sources

Measurement	Term	Scale	Type	Sources (according to)
Item importance	Product would mean a lot to you	Acceptance scale	Seven-point Likert	Blodgett, Granbois and Walters (1993) Voorhees, Brady and Horowitz (2006)
	By comparing products, this product would be important	Acceptance scale	Seven-point Likert	Blodgett, Granbois and Walters (1993) Voorhees, Brady and Horowitz (2006)
	The purchase of this product would be important	Acceptance scale	Seven-point Likert	Voorhees, Brady and Horowitz (2006)
Manipulation check of shopping situation scenario	Five-item matrix question about the explained shopping situation	Acceptance scale	Seven-point Likert	Gilbert and Jackaria (2002) Gelbrich (2010)
Common Method Bias Marker (CMBM)	Four-item matrix question about attitude to advertisement	Acceptance scale	Seven-point Likert	Barksdale and Darden (1927)
Manipulation check of (un)availability scenario	Six-item matrix question about the explained shopping situation	Acceptance scale	Seven-point Likert	Gilbert and Jackaria (2002) Gelbrich (2010)
Consumer (dis)satisfaction	(Dis)satisfaction	Acceptance scale	Nine-point Likert	Swanson and Kelly (2001)
	Pleased with service	Acceptance scale	Seven-point Likert	Bougie, Pieters and Zeelenberg (2003)
	Contented with service	Acceptance scale	Seven-point Likert	Bougie, Pieters and Zeelenberg (2003)
	Happy with service	Acceptance scale	Seven-point Likert	Bougie, Pieters and Zeelenberg (2003)
	Expectations fulfilled	Acceptance scale	Seven-point Likert	Hess, Ganesan and Klein (2003)
Evaluative consequences	Short-term: appropriate service	Acceptance scale	Bi-polar scale	Swanson and Kelly (2001)
	Short-term: fairness	Acceptance scale	Bi-polar scale	Smith, Bolton and Wagner (1999)
	Short-term: deserved better treatment	Acceptance scale	Bi-polar scale	Smith, Bolton and Wagner (1999)
	Long-term: lasting success	Acceptance scale	Bi-polar scale	Lemon, White and Winer (2002)
	Long-term: re-purchase	Acceptance scale	Bi-polar scale	Blodgett, Hill and Tax (1997)
	Long-term: coming back	Acceptance scale	Bi-polar scale	Jones and Reynolds (2006)
Behavioural consequences	Short-term: say good things	Acceptance scale	Bi-polar scale	Maxham and Netemeyer (2002)
	Short-term: warn others	Acceptance scale	Bi-polar scale	Gelbrich (2010)
	Short-term: to tell somebody else not to shop	Acceptance scale	Bi-polar scale	Blodgett, Hill and Tax (1997)
	Long-term: visit another retailer	Acceptance scale	Bi-polar Scale	Gelbrich (2010)
	Long-term: loyalty	Acceptance scale	Bi-polar Scale	Roschk and Gelbrich (2013)
	Long-term: visit another store of my grocery retailer	Acceptance scale	Bi-polar Scale	Gelbrich (2010)
Manipulation check of product characteristics	Four-item matrix question about hedonic product characteristics	Acceptance scale	7-point Likert	Oliver (1981) Hirschman and Holbrook (1982) Beatty, Kahle and Homer (1988) Mittal and Lee (1989) Batra and Ahtola (1990) Knox and Walker (2001)
	Three-item matrix question about utilitarian product characteristics	Acceptance scale	7-point Likert	Campo, Gijsbrechts and Nisol (2003) Laurent and Kapferer (1985)
Measurement of feedback	Two-item matrix question about the described scenarios are realistic	Acceptance scale	7-point Likert	Gelbrich (2010)

Source: Own design (2016)

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The importance of a product to a consumer is measured according to the literature and is taken from a three-item matrix question using a seven-point Likert scale, where the respondent can choose values from "completely disagree" to "completely agree" (The purchase *of your product* **would mean a lot to you** / Compared to most of the products that you usually buy at *your grocery store*, **your product** **would be a very important purchase for you**) (Blodgett, Granbois and Walters, 1993). In additon, these questions are enhanced by Voorhees, Brady and Horowitz's (2006) suggestion by directly questioning the importance of an item from the consumer's viewpoint (**The purchase** of *your product* **would be very important to you**).

Following this, manipulation checks (MC) are some of the most critical points in research for achieving a valid, reliable and accurate result (Field, 2013). Accordingly, the differentiating variables of the scenarios are formulated following examples in the literature (e.g. Gilbert and Jackaria, 2002; Gelbrich, 2010) to ensure that the respondents have a clear understanding of the scenario they have to evaluate.

Williams, Hartmann and Cavazotte (2010) suggest implementing a common method bias marker (CMBM) in the survey, which is an additonal question that does not directly impact the dependent variables but that is generally linked but theoretically independent to the topic of the survey. Here, this research asks for the respondents' personal attitudes towards advertisements. Hence, the question is embedded between the respondents' evaluation of the importance of the item and the future explanation of the research setting. The CMBM question is a multi-item scale consisting of four questions, which are measured on seven-point Likert scales that follow the scale developed by Barksdale and Darden (1972).

The literature emphasises measuring CSD directly as a performance indicator (McCollough, Berry and Yadav, 2000; Szymanski and Henard, 2001; Gelbrich, 2010). The CSD measurement questions have been formulated in accordance with the literature (e.g. Smith, Bolton and Wagner, 1999; McCollough, Berry and Yadav, 2000; Wirtz and Mattila, 2004; Río-Lanza, Vázquez-Casielles and Díaz-Martín, 2009; Pizzi and Scarpi, 2013; Roschk and Gelbrich, 2013).

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A general question is presented to the respondents which they must evaluate via a nine-point Likert scale between the endpoints "very dissatisfied" and "very satisfied" (Smith, Bolton and Wagner, 1999; McCollough, Berry and Yadav, 2000; Pizzi and Scarpi, 2013; Web Surveys, 2015). In addition, other researchers (e.g. Westbrook, 1980; Westbrook and Oliver, 1981; Bougie, Pieters and Zeelenberg, 2003; Hess, Ganesan and Klein, 2003) recommend not measuring CSD with a single item; they emphasise using multi-measure items to refer to CSD, as single item measurements can commonly yield skewed distributions (Westbrook, 1980). This is reinforced by McCollough, Berry and Yadav (2000), who emphasise combining both measures – using a CSD single-item bipolar measure that asks the respondents for their satisfaction/dissatisfaction level and then asks for further detail, with a specified multi-item measure for satisfaction antecedents – to ensure reliability. A four-item matrix question asks the respondents to respond to a multi-item scale in addition to the previously conducted nine-point Likert scale, particularly for customer satisfaction. Here, the approved three-item multi-item scale from Bougie, Pieters and Zeelenberg (2003) in particular is adapted (You would be **pleased** with this level of service / You would be **contented** with this level of service / You would be **satisfied** with this level of service). This scale is anchored on a seven-point Likert scale from "completely disagree" to "completely agree" to ensure the reliability of the satisfaction measure. Additionally, a fourth measure is added (In this shopping situation, your **expectations** in terms of service would be **fulfilled**), which is also used to measure satisfaction by Hess, Ganesan and Klein (2003).

The measurement of consumer reactions for retailers due to OOS occurrences is determined by four matrix questions, each consisting of three questions that must be evaluated by the respondents by explaining the oppositional answers via a bipolar scale anchored at the endpoints (−3/+3). In accordance with the literature (e.g. Smith, Bolton and Wagner, 1999; Swanson and Kelley, 2001; Millán and Esteban, 2004), the evaluative short-term consequences are formulated by asking the respondents how they would rate their purchase occasion (You would find this level of service **highly inappropriate–highly appropriate** / You would find this level of service **very unfair–very fair** / You would consider that you **did not**

deserve a much better service–**did** deserve a much better service). The evaluative long-term consequences are measured by asking the respondents about their rating of the store's lasting success, their loyalty and their repatronage (For you, this level of service would make *your grocery store* much **less** attractive–much **more** attractive / Given this level of service, you would be very **unlikely** to visit *your grocery store* again–be very **likely** to visit *your grocery store* again / Given this level of service, you would definitely **not look forward** to visiting *your grocery store* again–definitely **look forward** to visiting *your grocery store* again) (Blodgett, Hill and Tax, 1997; Lemon, White and Winer, 2002; Jones and Reynolds, 2006). Behavioural, short-term consequences are measured, following Blodgett, Hill and Tax (1997), Maxham and Netemeyer (2002) and Gelbrich (2010), by asking the respondents about their behavioural consequences, such as their WOM behaviour (Given this level of service, you would be very likely to say **bad things–good things** about *your grocery store* / Given this level of service, you would be very **likely–unlikely** to warn other people not to visit *your grocery store* again / Given this level of service, you would be sure to tell your friends and relatives **not to shop–to shop** at *your grocery store*). Finally, the behavioural long-term consequences are measured, following Gelbrich (2010) and Roschk and Gelbrich (2013), by asking the respondents about their patronage and re-purchase behaviour (Given this level of service, you would be very **likely–unlikely** to purposely visit the store of another retailer / Given this level of service, you would be very **unlikely–likely** to be loyal to *your grocery store* in the future / Given this level of service, you would be very **likely–unlikely** to visit another store belonging to *your grocery retailer*).

Further, the understanding of the respondents' evaluations of product characteristics is measured. According to Laurent and Kapferer's (1985) CIPI approach (see Chapter 2.6.1.2), the measurement of item importance can be achieved more precisely by asking respondents about their involvement antecedents and value drivers. The literature separates involvement antecedents into hedonic and functional drivers (Babin, Darden and Griffin, 1994). This research takes both these different antecedent groups and derives seven-point Likert matrix question items to measure the respondents' valuations of the

importance of a product. The first four questions contribute to the hedonic characterisation of a product, looking at attributes such as the following: The *product* appeals to all of your **senses** / Drinking the *product* means **vivid indulgence** / Drinking the *product* is associated with **desire** / Drinking the *product* means **pleasure** (e.g. Oliver, 1981; Hirschman and Holbrook, 1982; Beatty, Kahle and Homer, 1988; Mittal and Lee, 1989; Batra and Ahtola, 1990; Knox and Walker, 2001). Complementarily, three additional items contribute to the functional involvement level (The *product* is mainly to **quench thirst** / The *product* is a **functional product** / The *product* is a **means to an end**) (e.g. Campo, Gijsbrechts and Nisol, 2003; Laurent and Kapferer, 1985).

At the end of the questionnaire a measurement of feedback to the survey is carried out to set the gathered data in the context of each respondent's mindset. According to the literature (e.g. Gelbrich, 2010), this can be measured using a seven-point Likert scale anchored at "completely disagree" to "completely agree" (The description of the shopping situation **was a realistic description** / The described shopping situation **is likely** to happen in real life).

4.3.6 Designing the Questionnaire

This section considers the design of the questionnaire. For explanatory purposes, and in order to arrange the hypotheses in a consecutive manner, the structure is as follows.

Figure 13: Structure of the Experimental Setting
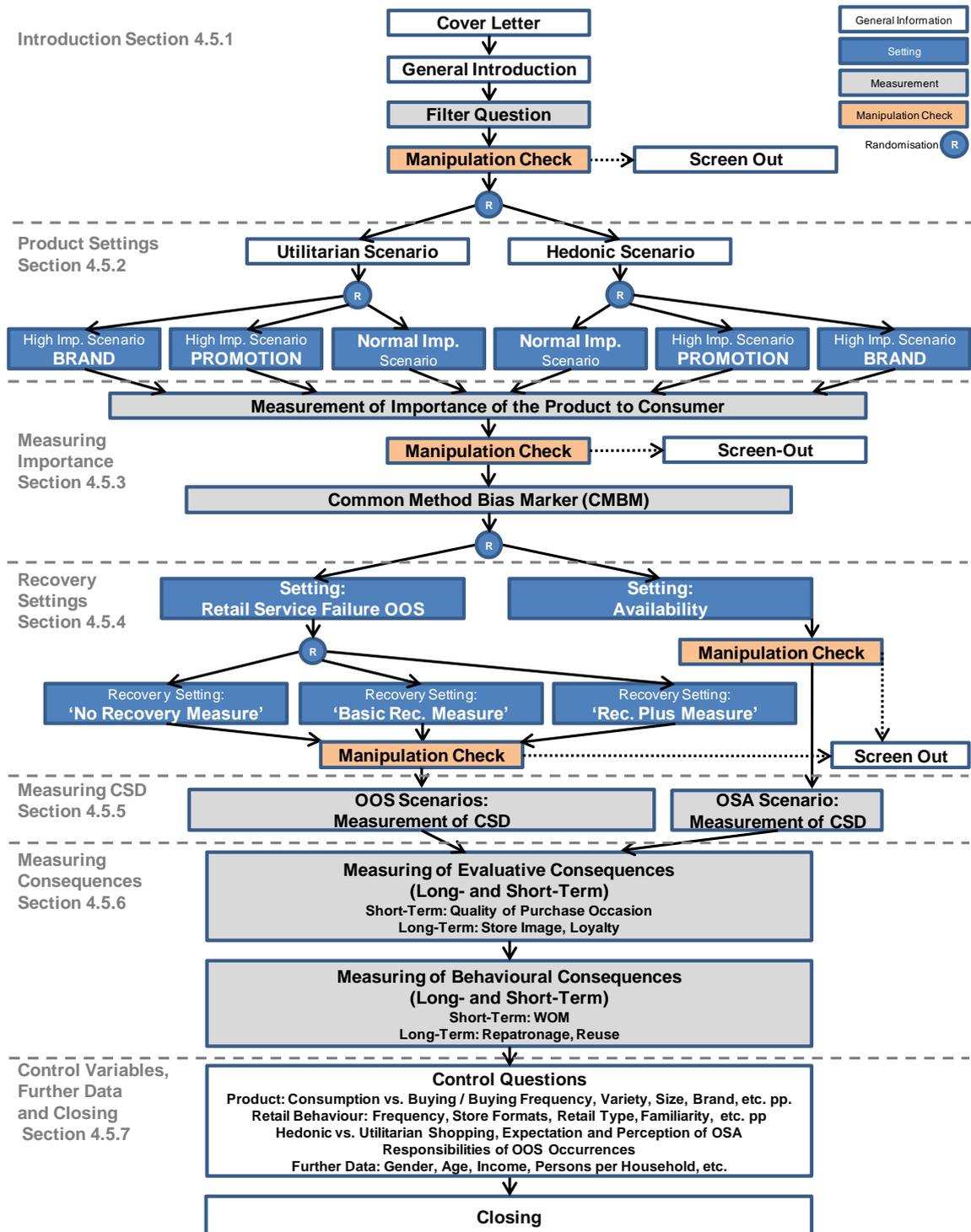
Source: Own design (2016)

4.3.7 Introduction to the Experimental Setting

According to the literature (e.g. Lemon, White and Winer, 2002; Saunders, Lewis and Thornhill, 2009; Dillmann, Smyth and Christian, 2014), the cover letter is the respondents' first important look at the questionnaire and therefore influences the response rate significantly (Dillmann, Smyth and Christian, 2014). The cover letter provides information on what the research is about, why it is useful, the respondents' responses being valued, the time needed, confidentiality and/or anonymity, and how the results will be used (Saunders, Lewis and Thornhill, 2009; Dillmann, Smyth and Christian, 2014).

Figure 14: Introduction into Survey

Shopping Behaviour and Consumer Satisfaction in Grocery Stores

UNIVERSITY OF SURREY

Dear participant,

This research aims to find out how you feel and how you behave in a very specific shopping situation at a grocery store.

The information that you provide will be treated in the strictest confidence. This survey takes between 17 and 21 minutes to complete. Try to answer the questions at a time when you are least likely to be disturbed. Do not spend too much time on any one question. Your first thoughts are usually best!

Even if you feel some of the items covered may not apply directly to your shopping experiences, please do not ignore these questions. Your answers are essential in drawing an accurate picture of the issues that are important for improving the shopping experience in grocery stores.

I hope that you find the questionnaire interesting. Thank you for supporting my research.

Patric Spethmann

Source: Own design (2016)

4.3.7.1   Explanation: Research Information

The second step of the questionnaire is to illustrate the research context to the respondents. As this research is laboratory experimental research, the respondents must be informed that they should step into the role of the consumer within the experimental setting, independently of whether they have ever faced such a retail experience in reality.

Figure 15: Research Information

Before you start, here are some notes regarding the survey.

In this questionnaire I will present you with a very specific shopping situation. It does not matter whether you have faced similar situations before. Just read the story around this quite real shopping situation and reflect on it by answering the questions posed.

Source: Own design (2016)

4.3.7.2   Filter Question

Even though it is not directly necessary for the respondents to have already faced a comparable retail situation, it is of significant importance that the respondents buy *wine* and *milk* from a grocery store, as the characteristics of these products are typical of hedonic and utilitarian products, and therefore significantly drive the value of this research (e.g. Combris, Lecocq and Visser, 1997; Unwin, 1999; Oczkowski, 2001; Sloot, Verhoef and Franses, 2005). Hence, following the general introduction section, a filter question is necessary to ensure the validity of the derived answers (Saunders, Lewis and Thornhill, 2009).

Figure 16: Filter Question

Please indicate whether or not you sometimes buy the following products in grocery stores.

Please choose one of the following:

○ You sometimes buy **wine** from a grocery store.

○ You sometimes buy **milk** from a grocery store.

○ You sometimes **buy both** milk and wine from a grocery store.

○ You **never buy** wine or milk from a grocery store.

Source: Own design (2016)

In cases where a respondent has never bought wine and milk, it is difficult to respond to the utilitarian and hedonic characteristics of these products adequately. Even though the terms "hedonic" and "utilitarian" originate from consumer behaviour theory and express the differentiation between consumer thinking, buying and behavioural processes in retail situations (see Chapter 2.4.2), the literature also transfers these terms directly to products and goods, as some product decisions are more closely related to "utilitarian" factors while others are impacted by "hedonic" influences (e.g. Dhar and Wertenbroch, 2000). Ruiz-Molina, Gallarza-Granizo and Gil-Saura (2015) found that the value dimensions of hedonic and utilitarian buying behaviour contribute differently to customer satisfaction and store loyalty. Further, they recommend that "(...) in [a] highly competitive environment such as retailing, it becomes crucial to identify which value drivers (...) influence store loyalty (...)" (Ruiz-Molina, Gallarza-Granizo and Gil-Saura, 2015). Related to this understanding, "hedonic goods" "(...) provide more experiential consumption, fun, pleasure, and excitement (...) whereas utilitarian products are primarily instrumental and functional (...)" (Dhar and Wertenbroch, 2000: 60). Additionally, the differentiation between these product groups is necessary because, as the literature review demonstrated, the consumer's satisfaction level and reaction to OOS occurrences is directly related to the product's characteristics (see Chapter 2.4). Hence, this research examines reactions to two goods, where wine is chosen to represent a hedonic product and contribute to a hedonic dimension (e.g. Combris, Lecocq and Visser, 1997; Unwin, 1999; Oczkowski, 2001) and milk is seen as a utilitarian product (Sloot, Verhoef and Franses, 2005).

Following this, situations in which respondents state that they are buyers of milk in grocery stores are directly linked to the utilitarian setting, and situations where they buy wine directly linked to the hedonic setting. In situations where the respondents state that they are buyers of both wine and milk in grocery stores, they are randomly allocated to one of the groups automatically by the survey tool. Where respondents state that they buy neither wine nor milk, they are screened out.

Figure 17: Screen Out

I am very sorry!

Regrettably, you do not meet the requirements for this survey.

I sincerely thank you for your time.
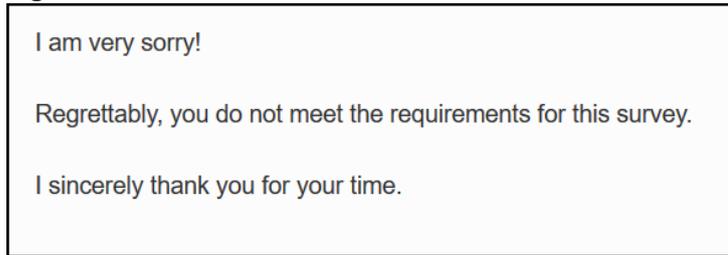
Source: Own design (2016)

4.3.8   Explanation: Research Settings

When respondents are allocated either to the utilitarian or to the hedonic setting of the experimental structure, these groups are then subdivided into different settings that contribute to the concepts of item importance (see Chapter 2.6.1). The literature review identified that the buyer's involvement does not only depend on whether the product's characteristics are of a "hedonic" or "utilitarian" nature; the importance of products can be increased by stimuli in addition to basic demand, such as by brand or by promotional aspects. Hence, the hedonic and the utilitarian settings are each subdivided into a hedonic/utilitarian brand scenario, a hedonic/utilitarian promotion scenario and a hedonic/utilitarian neither-brand-nor-promotion scenario (termed a hedonic/utilitarian basic-importance scenario).

Figure 18: Hedonic Setting: Normal Importance Scenario

You start your weekly shopping trip to your preferred grocery store. This is the store where you buy most of your groceries. Let us call it *your grocery store*.

This evening you plan to have dinner together with your partner, some friends or perhaps to have a pleasant evening by yourself. As always when you have such a dinner, you have wine on your shopping list. You like wine. You plan to surprise your partner and friends or perhaps to reward yourself with a special dinner and you want to complement the dinner with this wine.

Moreover, *your grocery store* has a broad range of different wines. You have tried several wines within the last few years and from these you chose one particular wine – let us call it *your wine*. From your point of view you like *your wine* because this wine meets most of your requirements for wine such as taste, character and price level.

In particular, you like the type *of your wine,* which is independent of a specific brand. In other words, the brand of *your wine* is not important at all to you.

So, you visit *your grocery store* and go to the wine section in order to put some of *your wine* into your shopping cart or basket.

Source: Own design (2016)

Figure 19: Hedonic Setting: High Importance Scenario (Brand Loyalty)

You start your weekly shopping trip to your preferred grocery store. This is the store where you buy most of your groceries. Let us call it *your grocery store*.

This evening you plan to have dinner together with your partner, some friends or perhaps to have a pleasant evening by yourself. As always when you have such a dinner, you have wine on your shopping list. You like wine. You plan to surprise your partner and friends or perhaps to reward yourself with a special dinner and you want to complement the dinner with this wine.

Moreover, *your grocery store* has a broad range of different wines. You have tried several wines within the last few years and from these you chose one particular wine – let us call it *your wine*. From your point of view you like *your wine* because this wine meets most of your requirements for wine such as taste, character and price level.

In particular, you are very loyal to *your wine* and to *your wine's* brand and therefore you are not willing to buy another wine from another brand.

So, you visit *your grocery store* and go to the wine section in order to put some of *your wine* into your shopping cart or basket.

Source: Own design (2016)

Figure 20: Hedonic Setting: High Importance Scenario (Promotion)

You start your weekly shopping trip to your preferred grocery store. This is the store where you buy most of your groceries. Let us call it *your grocery store*.

This evening you plan to have dinner together with your partner, some friends or perhaps to have a pleasant evening by yourself. As always when you have such a dinner, you have wine on your shopping list. You like wine. You plan to surprise your partner and friends or perhaps to reward yourself with a special dinner and you want to complement the dinner with this wine.

Moreover, *your grocery store* has a broad range of different wines. You have tried several wines within the last few years and from these you chose one particular wine – let us call it *your wine*. From your point of view you like *your wine* because this wine meets most of your requirements for wine such as taste, character and price level.

In particular, you like the type *of your wine* which, is independent of a specific brand. In other words, the brand of *your wine* is not important at all to you.

You received coupons for wine from *your grocery store* a couple of days ago and included among these is a coupon for *your wine*. It is a 'buy one – get one free' promotion. As you usually drink *your wine* several times a year, this promotion is highly attractive to you.

So, you visit *your grocery store* and go to the wine section in order to put some of *your wine* into your shopping cart or basket.

Source: Own design (2016)

Figure 21: Utilitarian Setting: Normal Importance Scenario

You start your weekly shopping trip to your preferred grocery store. This is the store where you buy most of your groceries. Let us call it *your grocery store*.

Tomorrow morning you plan to eat cereals with milk for breakfast or to drink your coffee/tea with milk for your breakfast. As always when you plan to have breakfast the next morning, you have milk on your shopping list since there is none left in your fridge. You like milk. More explicitly, you do not have any milk at home and you would be unhappy not having milk for your cereals or to have to drink your coffee/tea without milk.

Moreover, *your grocery* store has a broad range of different milks. You have tried several milks within the last few years and from these you chose one particular milk – let us call it *your milk*. From your point of view you like *your milk* not because of its brand, but because this milk meets most of your requirements for milk taste, level of fat content and price.

In particular, you like the type *of your milk,* which is independent of a specific brand. In other words, the brand of *your milk* is not important at all to you.

So, you visit *your grocery store* and go to the milk aisle in order to put some of *your milk* into your shopping cart or basket.

Source: Own design (2016)

Figure 22: Utilitarian Setting: High Importance Scenario (Brand Loyalty)

You start your weekly shopping trip to your preferred grocery store. This is the store where you buy most of your groceries. Let us call it *your grocery store.*

Tomorrow morning you plan to eat cereals with milk for breakfast or to drink your coffee/tea with milk for your breakfast. As always when you plan to have breakfast the next morning, you have milk on your shopping list since there is none left in your fridge. You like milk. More explicitly, you do not have any milk at home and you would be unhappy not having milk for your cereals or to have to drink your coffee/tea without milk.

Moreover, *your grocery store* has a broad range of different milks. You have tried several milks within the last few years and from these you chose one particular milk – let us call it *your milk*. From your point of view this milk meets most of your requirements for milk such as taste, level of fat content and price.

In particular, you are very loyal to *your wine* and to *your wine's* brand and therefore you are not willing to buy another wine from another brand.

So, you visit *your grocery store* and go to the milk aisle in order to put some of *your milk* into your shopping cart or basket.

Source: Own design (2016)

Figure 23: Utilitarian Setting: High Importance Scenario (Promotion)

You start your weekly shopping trip to your preferred grocery store. This is the store where you buy most of your groceries. Let us call *it your grocery store.*

Tomorrow morning you plan to eat cereals with milk for breakfast or to drink your coffee/tea with milk for your breakfast. As always when you plan to have breakfast the next morning, you have milk on your shopping list since there is none left in your fridge. You like milk. More explicitly, you do not have any milk at home and you would be unhappy not having milk for your cereals or to have to drink your coffee/tea without milk.

Moreover, *your grocery store* has a broad range of different milks. You have tried several milks within the last few years and from these you chose one particular milk – let us call it *your milk*. From your point of view you like *your milk* because this milk meets most of your requirements for milk such as taste, level of fat content and price.

In particular, you like the type *of your milk* which is independent of a specific brand. In other words, the brand of *your milk* is not important at all to you.

You received coupons for milk from *your grocery store* a couple of days ago and included among these is a coupon for *your milk*. It is a 'buy one – get one free' promotion. As you usually use *your milk* several times a month, this promotion is highly attractive to you.

So, you visit *your grocery store* and go to the milk aisle in order to put some of *your milk* into your shopping cart or basket.

Source: Own design (2016)

4.3.9   Measuring: Importance of the Product to the Consumer

This section of the survey asks specifically for the respondents' evaluations of item importance based on the descriptions of the experimental settings they receive. Hence, this part contributes to Hypothesis 2, which focuses on the correlation between item importance and consumer satisfaction. The respondents are thus asked for their general evaluation of item importance based on the established experimental scenarios.

Figure 24: Importance of Item
(Here: Hedonic Setting)

Source: Own design (2016) (Questions adapted from Blodgett, Granbois and Walters, 1993; Voorhees, Brady and Horowitz, 2006)

4.3.9.1 Manipulation Check

As a laboratory experiment necessarily creates different settings so that they can be compared with each other, the variables where the experimental setting varies are referred to as manipulator variables or manipulation checks (Field, 2013; Kirk, 2013). Thus, the manipulation for this research is randomly allocated by a survey system that places the respondents in one of the 24 different scenarios. This procedure follows the literature that has investigated correlating studies (e.g. Blodgett, Hill and Tax, 1997; Smith, Bolton and Wagner, 1999; Gelbrich, 2010; Cranage and Mattila, 2013; Pizzi and Scarpi, 2013; Smith, 2013). To ensure that all respondents have a precise understanding of the research setting and of the importance of the product, a manipulation check question has been devised.

Figure 25: Manipulation Check: Understanding of the Experimental Scenario
(Here: Hedonic Setting)

Source: Own design (2016) (Questions adapted from Gilbert and Jackaria, 2002; Gelbrich, 2010)

4.3.9.2 Common Method Bias Marker

The literature (e.g. Podsakoff, MacKenzie, Lee and Podsakoff, 2003; Williams, Hartmann and Cavazotte, 2010; MacKenzie and Podsakoff, 2012) emphasises the need for a common method bias marker (CMBM) to evaluate the respondents' level of bias within the survey. Generally, a common method bias can occur for different reasons, such as "(...) systematic trait/construct variance due to features (...) of interest, (...) systematic error variance due to characteristics of the specific method (...) and random error variance." (MacKenzie and Podsakoff, 2012: 542). Williams, Hartmann and Cavazotte (2010) name the "(...) respondent's consistency motifs, transient mood states, illusory correlations, item similarity, and social desirability (...)" (pp. 477–478) as reasons for common method bias occurrences in research. MacKenzie and Podsakoff (2012) blame, for example, "(...) a lack of verbal skills, education, or cognitive sophistication (...)" (p. 545), a lack of experience in thinking about the research topic, complex or abstract questions, item ambiguity, double-barrelled questions and/or questions that are related to retrospective recall abilities as reasons for common method bias occurrences. Consistently, Williams, Hartmann and Cavazotte (2010), as well as MacKenzie and Podsakoff (2012), agree that common method bias is a threat to research, as it dilutes the data and therefore impacts the validity and reliability of research.

**Figure 26: Common Method Bias Marker Question**

	1 completely disagree	2	3	4	5	6	7 completely agree
Before we continue with further questions on the shopping situation described **please state your personal opinion to product advertisement in general.** Please evaluate the following statements from 1 = completely disagree to 7 = completely agree							
Most product **advertisement is believable.**	○	○	○	○	○	○	○
Manufacturers' advertisements are reliable sources of information about the quality and performance of products.	○	○	○	○	○	○	○
Generally, **advertised products are more dependable** than unadvertised ones.	○	○	○	○	○	○	○
Manufacturers' **advertisements usually present a true picture** of the products advertised.	○	○	○	○	○	○	○

Source: Own design (2016) (Questions adapted from Barksdale and Darden, 1972)

4.3.9.3　Filtering: On-shelf Availability and Out of Stock Groups

This study measures the level of consumer satisfaction when consumers are confronted with an OOS occurrence, and how the level of satisfaction varies when recovery measures are applied. In addition, a control group that faces the availability of the desired product (OSA) is needed to provide a reference point against which the consumer satisfaction outcome can be compared. Therefore, the survey system at this point randomly allocates one quarter of the participants to the OSA scenario in order to compare the groups to each other. Hence, the remaining three quarters of the respondents are allocated to the other three OOS scenarios.

Figure 27: Filtering and Randomisation of Respondents

Source: Own design (2016)

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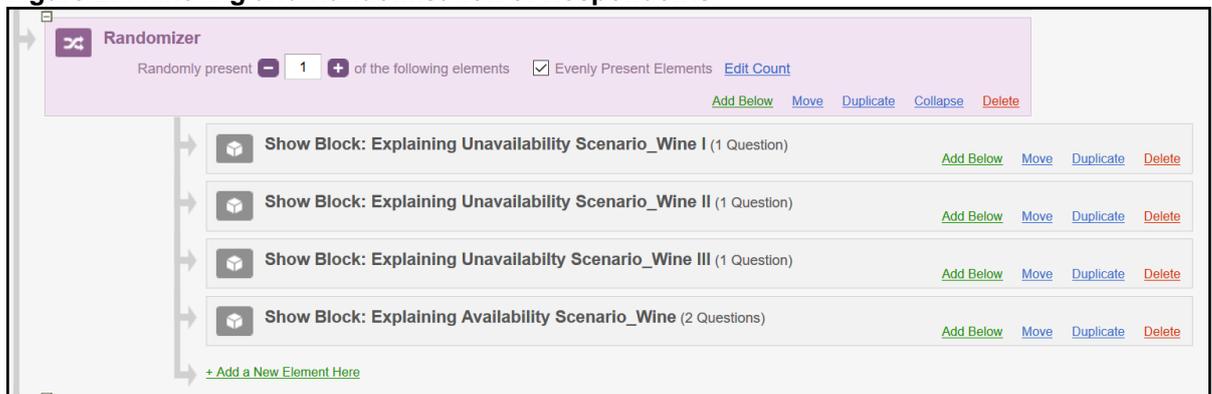
4.3.10 Explanation: Availability as a Retail Service and Unavailability as a Retail Service Failure

4.3.10.1 Explanation: Availability (On-shelf Availability) as a Retail Service

After the experimental settings are explained to the respondents, the importance of the product to the consumers is measured. Hence, the questionnaire proceeds with the explanation section, where the availability – the OSA situation – is first provided to the consumer.

Figure 28: Explaining the Availability Scenario
(Here: Hedonic Scenario)

Please think of the shopping situation described before and imagine the following:

With *your wine* in mind you are now entering *your grocery store* and you are heading directly to the shelf where you have bought *your wine* several times before. *Your wine* is at its usual place on the shelf. **Your wine is available.**

You take *your wine* off the shelf and put it into your cart or basket.
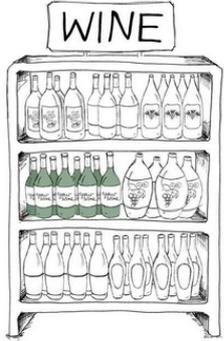
Source: Own design (2016)

Similarly, the comparable setting for the utilitarian group can be seen as follows:

Figure 29: Explaining the Availability Scenario
(Here: Utilitarian Scenario)

Please think of the shopping situation described before and imagine the following:

With *your milk* in mind you are now entering *your grocery store* and you are heading directly to the shelf where you have bought *your milk* several times before. *Your milk* is at its usual place on the shelf. **Your milk is available.**

You take *your milk* off the shelf and put it into your cart or basket.

Source: Own design (2016)

4.3.10.2   Explanation: Unavailability (Out of Stock) as a Retail Failure

Similarly to the OSA setting, the majority of the participants are allocated to the unavailability (OOS) situations. Furthermore, the OOS scenarios are subdivided into different retail service recovery settings as follows.

Figure 30: Explaining the Unavailability Scenario
(Here: Utilitarian Scenario)

Please think of the shopping situation described before and imagine the following:

With *your milk* in mind you are now entering *your grocery store* and you are heading directly to the shelf where you have bought *your milk* several times before **but *your milk* is not on the shelf**.

Source: Own design (2016)

4.3.10.3   Explanation: Retail Service Recovery Measures

The respondents contributing to the OOS scenarios must be separated again into three different groups, as this research aims to evaluate consumer satisfaction levels in response to different service recovery measures. Hence, after completing the previous OOS scenario, the survey system randomly separates every third respondent to one of the three different OOS recovery scenarios:

Figure 31: Recovery Measure – No Measure
(Here: Hedonic Scenario)

Now, *your wine* is not on the shelf. So, you are looking around the shelves and the other aisles, in case it has been put somewhere else – but you still cannot find it.

As you cannot find any information about *your wine's* availability or otherwise, you come to the conclusion that it is currently not available.

WINE

Source: Own design (2016)

Figure 32: Recovery Measure – Basic Recovery Measure
(Here: Hedonic Scenario)

Now, *your wine* is not on the shelf. So, you are looking around the shelves and the other aisles, in case it has been put somewhere else – but you still cannot find it.

At the place *your wine* is supposed to be you see a notice that reads:

"Sorry, this product is currently unavailable - we are aware of this and have reordered this item. We apologise for any inconvenience caused."

Source: Own design (2016)

Figure 33: Recovery Measure – Recovery Plus Measure
(Here: Hedonic Scenario)

Now, *your wine* is not on the shelf. So, you are looking around the shelves and the other aisles, in case it has been put somewhere else – but you still cannot find it.

Consequently you ask a member of store staff whether *your wine* is available somewhere else in the store, for example in another area of the store or the backroom / the storage area of the store. The employee checks elsewhere and subsequently goes to the backroom to look for the item. The employee returns a couple of minutes later and says: "Sorry, this product is indeed unavailable - we apologise for any inconvenience caused."

Source: Own design (2016)

The comparable utilitarian scenarios can be found in Appendix A.

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4.3.10.4 Manipulation Checks

According to the previously described scenarios, a manipulation check is carried out in order to ensure that the respondents have understood which retail situation they face. Therefore, the differentiating variables (e.g. the availability of the product, the type of recovery measure) are requested, following examples from the literature (e.g. Gilbert and Jackaria, 2002; Gelbrich 2010).

Figure 34: Manipulation Check (Understanding of Retail Service [Failure] Scenarios)
(Here: Utilitarian Setting, Unavailability Scenario with Recovery Plus Measure)

Source: Own design (2016)

4.3.11 Measurement: Consumer Satisfaction/Dissatisfaction

Following the experimental scenarios, this research uses a measurement of the CSD level as its central variable, which is collected via a nine-point single-item and seven-point multi-item Likert scale (see Chapter 4.3.5).

Figure 35: Measuring CSD – Nine-point Single-item Likert Scale
(Here: Utilitarian Setting, Unavailability Scenario with Recovery Plus Measure)

Source: Own design (2016)

Figure 36: Measuring CSD – Seven-point Multi-item Likert Scale
(Here: Utilitarian Setting, Unavailability Scenario with Basic Recovery Measure)

Source: Own design (2016)

4.3.12   Measuring: Consumer Consequences from Out of Stock Situations

According to the research question, this survey also focuses on consumer consequences resulting from OOS retail service failures, in particular on the differences in the separate experimental settings. Therefore, this part of the survey contributes on the one hand to Hypothesis 3, which investigates the correlation between service recovery measures and consumer satisfaction, and on the other hand to Hypothesis 4, which looks at the differences between the different recovery measures. According to the literature review, consumer behaviour must be considered from short- and long-term perspectives as well as from behavioural and evaluative perspectives (see Chapter 2.5.1). The measures were chosen as outlined in the measurement section (see Chapter 4.3.5).

Figure 37: Consumer Evaluative Consequences – Short Term
(Here: Utilitarian Setting, Unavailability Scenario with Basic Recovery Measure)

Source: Own design (2016) (Measures adapted from Oliver and Swan, 1989; Smith, Bolton and Wagner, 1999; Swanson and Kelley, 2001)

Figure 38: Consumer Evaluative Consequences – Long Term
(Here: Utilitarian Setting, Unavailability Scenario with Basic Recovery Measure)

Source: Own design (2016) (Measures adapted from Blodgett, Hill and Tax, 1997; Lemon, White and Winer, 2002; Jones and Reynolds, 2006)

Figure 39: Consumer Behavioural Consequences – Short Term
(Here: Utilitarian Setting, Unavailability Scenario with Basic Recovery Measure)

To summarise: You were confronted with the **unavailability** of *your milk*, you were **informed about the unavailability** of *your milk* through a **notice on the shelf that also included an apology**.
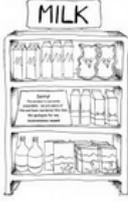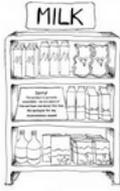
How would you rate your reaction to this **level of service (= the unavailability of *your milk* + information about the unavailability of *your milk* through a notice on the shelf that also included an apology)** in *your grocery store* between -3 to +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
Given this level of service you would... be very likely to say **bad things** about *your grocery store* (-3)	○	○	○	○	○	○	○	be very likely to say **good things** about *your grocery store* (+3)
Given this level of service you would... be very **likely** to warn other people not to visit *your grocery store* again (-3)	○	○	○	○	○	○	○	be very **unlikely** to warn other people not to visit *your grocery store* again (+3)
Given this level of service you would... be sure to tell your friends and relatives **not to shop** at *your grocery store* (-3)	○	○	○	○	○	○	○	be sure to tell your friends and relatives **to shop** at *your grocery store* (+3)

Source: Own design (2016) (Measures adapted from Blodgett, Hill and Tax, 1997; Maxham and Netemeyer, 2002; Gelbrich, 2010)

Figure 40: Consumer Behavioural Consequences – Long Term
(Here: Utilitarian Setting, Unavailability Scenario with Basic Recovery Measure)

Source: Own design (2016) (Measures adapted from Gelbrich, 2010; Roschk and Gelbrich, 2013)

4.3.13   Control Variables, Further Data and Closing

The following further information is asked of the respondents in order to ensure "(...) that the outcome being measured (the dependent variable) is caused by the predicted phenomena alone (the independent variable) rather than extraneous unpredicted variables." (Saunders, Lewis and Thornhill, 2009: 589). This additional information takes the form of "control variables" and remains unchanged through the study process (Thiétart et al., 2001).

Figure 41: Control Variables – Retail Store

Dear participant, thank you for your evaluation of the shopping situation described.

To better evaluate your answers, I would like to ask you to give some more information about **your real life shopping behaviour.** I need this to compare different groups of shoppers.

Source: Own design (2016)

The literature research of this work emphasises obtaining data about consumer behaviour during OSA scenarios in store-based retail formats in Germany.

The respondents are asked about their particular buying and consumer behaviour towards the product presented in their survey (milk or wine).

Figure 42: Control Question
(Here: Utilitarian Setting)

At the beginning of the questionnaire you stated that you buy milk in grocery stores.

Please choose the applicable answer from the following:

○ You buy milk in grocery stores - but **you do not drink it** yourself.
○ You buy milk in grocery stores - and **you also drink it** yourself.

Source: Own design (2016)

Further to the utilitarian setting, the respondents are asked about their buying and consuming behaviour with regards to milk, how regularly they buy milk in grocery stores and how many units (litres) they usually buy per shopping trip. In cases where the respondents answered at the beginning "You buy milk in grocery stores – and you also drink it yourself", the respondents are asked how frequently they drink milk in a typical month. Moreover, the respondents are specifically asked to provide more information about the milk product they buy by answering which kind of milk they prefer to buy: whole milk, semi-skimmed, skimmed, long-life or other special kinds of milk, such as probiotic, lacto-free or soy milk. These data are important given that, for example, the abovementioned special milks (probiotic/lacto-free/soy milk) could contribute more to hedonic buying behaviour than to utilitarian behavioural characteristics, and must therefore be taken out of the data analysis to avoid diluting the sample results. Finally, for this utilitarian control group, the respondents are asked about the importance to them of additional characteristics of milk, such as organic or not, region (Hill and Lynchehaun, 2002), brand preferences, price, promotions and product advertisement (Termorshuizen, Meulenberg and Wierenga, 1986).

Accordingly, the hedonic control question section likewise asks the respondents whether they buy wine in grocery stores and consume wine or whether they buy wine in grocery stores and do not consume wine themselves. Furthermore, the respondents are asked about their buying behaviour with regards to *wine*: how regularly they buy wine in grocery stores and how many units (bottles) they usually buy per shopping trip. As with the utilitarian scenario groups, the respondents are asked how frequently they consume wine in a typical month. Further, the respondents are asked whether they prefer to buy the standard size unit of one "normal" glass bottle (0.7/0.75/1.0 litre) or whether they prefer units with bigger or smaller contents or with varying packaging material, such as cartons. Moreover, the respondents are asked about the importance of additional characteristics of wine, such as region (d'Hauteville and Sirieix, 2009; Mora and Moscarola, 2010), brand/label/wine grower and grape (Mora and Moscarola, 2010) and price, quality, promotion and product advertisement (Bruwer and Wood, 2005). All the survey questions can be found in Appendix A.

4.3.13.1 Manipulation Checks of Product Characteristics

In addition to the previously described questions, asking for the respondents' buying and consumption behaviour according to either a utilitarian (milk) or a hedonic (wine) product, this manipulation check question item complements the previously gained data about the respondents' behaviour. This check is necessary to find out whether the respondents indeed rate both products differently.

Figure 43: Manipulation Check - Product Characteristics
(Here: Hedonic Setting).

Source: Own design (2016)

4.3.13.2 Further Control Questions/Data

To increase the rigour of this thesis, the participants are asked for further personal data at the end of the questionnaire. Generally, Miller and Salkind (2002) suggest asking for further data at the end of the survey because the participants are generally more interested in the survey topic than when the survey starts with personal data collection. Miller and Salkind (2002) further suggest that the likelihood of achieving more precise results increases and the likelihood of the survey being aborted decreases. Even though other research asks for participants' data at the beginning of the questionnaire, the suggestion of Miller and Salkind (2002) is followed in this case, as the involvement of the participants in the experiment is of particularly high value for an experimental research setting. Therefore, the following information is requested, in accordance with literature

(e.g. Miller and Salkind, 2002; Saunders, Lewis and Thornhill, 2009; Pallant; 2010; Dillmann, Smyth and Christian, 2014): the respondent's gender, age, persons per household, the ages of the persons within the household, whether the respondent is the main shopper in the household, the typical amount spent on a shopping trip, the net household income and their post code.

Following this information, two matrix questions ask specifically about the respondents' buying behaviour: whether they contribute more to hedonic shopping behaviour or to utilitarian. These matrix questions are derived according to Babin, Darden and Griffin (1994), and ask several questions about how the respondents feel and behave in shopping situations.

Figure 44: Control Question – Hedonic vs Utilitarian Shopping Behaviour Part 1

Source: Own design (2016) (Questions adapted from Babin, Darden and Griffin, 1994)

Figure 45: Control Question – Hedonic vs Utilitarian Shopping Behaviour Part 2

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
You accomplish **just what you want** to on a shopping trip.	○	○	○	○	○	○	○
While shopping, you **just find what you are looking for.**	○	○	○	○	○	○	○
You are **disappointed when you have to go to another store** to complete your shopping.	○	○	○	○	○	○	○
You are delighted if the **shopping trip is over quickly**.	○	○	○	○	○	○	○
You typically feel that your shopping **trips are successful.**	○	○	○	○	○	○	○
Mostly, you **cannot buy what you really want** on a shopping trip.	○	○	○	○	○	○	○
When you shop you **look for price promotions and promotional offers** rather than looking for particular products.	○	○	○	○	○	○	○
You consider yourself a **bargain hunter.**	○	○	○	○	○	○	○
When buying products **price is the most important** for you.	○	○	○	○	○	○	○
You mainly **buy products with well-known brand** names.	○	○	○	○	○	○	○
It is important to you to **buy products of high quality.**	○	○	○	○	○	○	○

Source: Own design (2016) - (Questions adapted from Babin, Darden and Griffin, 1994)

4.3.13.3 Closing

After the respondents have completed the survey, the closing page thanks them for participating and for providing their answers (e.g. Saunders, Lewis and Thornhill, 2009; Dillmann, Smyth and Christian, 2014).

Figure 46: Closing

We thank you for your time spent taking this survey.
Your response has been recorded.

Source: Own design (2016)

4.4 Technical Transformation

According to the literature (e.g. Saunders, Lewis and Thornhill, 2009; Dillmann, Smyth and Christian, 2014), the technical transformation of the previously discussed research design takes place within an html-based web survey, as these tools provide the essential capabilities that are needed when assessing experimental fieldwork. In particular, the "back" and "forward" buttons increase the likelihood of high-quality results, as respondents have the possibility of moving back to a described scenario and evaluating the scenario with refreshed thoughts, which is important in cases where a respondent pauses the survey (Dillmann, Smyth and Christian, 2014). Further, as the experimental research design requires filtering as well as randomisation techniques to ensure an equal distribution of the participants to the individual experimental scenarios, a web-based survey tool offers sophisticated and useable techniques for transferring the research design into an adequate survey (Dillmann, Smyth and Christian, 2014). For the technical transformation of this experimental research survey, the survey provider Qualtrics was chosen, as it represents a "state-of-the-art" survey tool (HS-LU, 2015). With a modular html-based survey system, each question can be transferred through the question type, for example, Likert scales, bipolar scales and scaling questions. In the following figure, the survey flow of the technically transformed research design is partially presented to illustratively demonstrate the survey flow.

Figure 47: Survey Flow Qualtrics (extract)
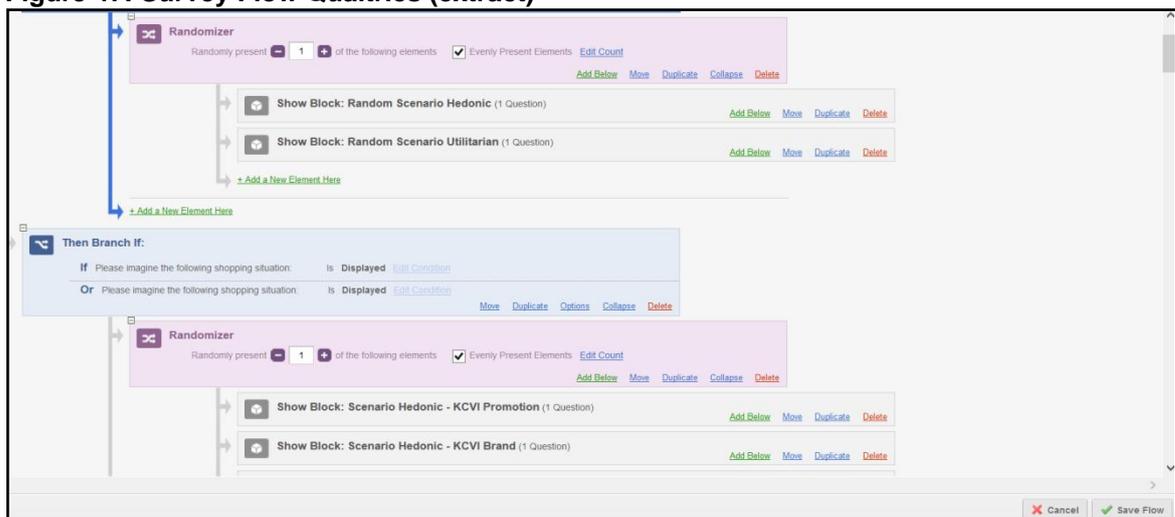
Source: Own design (2016)

"Forced answer" technology ensures that questions will be answered in an expected manner, which plays a key role, for example, by starting the randomisation of experimental scenarios, screen-out procedures and branch display logic to show only the respondents' information that is for their experimental setting. Even when the literature (e.g. Dillmann, Smyth and Christian, 2014) discusses forced answer technology critically, as the enforcement of answering questions could lead to higher abortion rates due to respondents feeling uncomfortable when they have to answer questions that they do not want to or cannot answer, this research applies forced answer technology generally to contribute to data quality.

Further, the literature (e.g. Dillmann, Smyth and Christian, 2014) critically discusses progress bars or question number indicators, which show the respondents their progress in the survey in order to encourage them to complete it and to decrease the likelihood of break-offs in the middle of the survey. Within this study, the displaying of progress bars or naming the number of questions is not included as the survey is experimental, which indicates that diverse parts (blocks) of the survey have slightly different nuances that are randomly allocated to the respondents. Therefore, the total number of questions is much higher than the respondent actually has to answer, as participants are answering only one scenario, while the research design offers 24 different experimental settings. Furthermore, a "save and continue" possibility is provided to the respondents to increase the likelihood of them finishing the survey, even if the respondents' time does not allow them to finish the survey in one session (Dillmann, Smyth and Christian, 2014). The complete questionnaire is attached in Appendix A. For further information about Qualtrics, refer to Qualtrics' homepage (www.qualtrics.com).

4.5   Validity, Reliability and Generalisability

The quality criteria for research validity from a positivist understanding are verification, confirmation and logical consistency (Thiétart et al., 2001). According to Thiétart et al. (2001), verification can best be achieved through practical experience, which is in accordance with the experimental setting applied in this research project. The degree of confirmation refers to statistical probabilities that express the likelihood of the research findings being true, analogous to a quantitative research procedure that applies statistical measures, which is also the case for this particular research project. This section considers internal validity (which concerns whether the findings are really about what they appear to be about), reliability (whether the same results can be achieved by repeating the test) and generalisability (transferring the findings to other settings) to frame an evaluation of this project's research quality (Saunders, Lewis and Thornhill, 2009).

Reliability measures the repeatability of tests by excluding the influence of any random errors (Brewer and Hunter, 2006). Random errors occur when the object of investigation is measured "(...) by an instrument which is subject to vagaries (...)" (Thiétart et al., 2001: 202). Reliability "(...) is whether an instrument can be interpreted consistently across different situations." (Field, 2013: 12). In addition to random errors, non-random errors can occur that dilute the reliability and therefore the validity of measurement. The degree of reliability can be measured statistically, for example, by using Cronbach's Alpha, which measures the internal cohesion of a scale. That is to say, reliability within quantitative research is primarily about the reliability of the measuring instrument (Diamantopoulos and Schlegelmilch, 2004). In order to assure the reliability of this research study, and in addition to statistical instruments such as Cronbach's Alpha, a precise description of the experimental design, in accordance with a clearly organised, visible procedure and straightforward data evaluation, will assure the repeatability – and hence the reliability – of this research according to statistical requirements.

Validity focuses on the causality of relationships between two variables and whether the instrument in question measures what it sets out to measure (Field, 2013). Threats to validity are generally separated into threats affecting internal validity and external validity (Kirk, 2013).

Internal validity is "(...) designed to evaluate the veracity of the connections by researchers in their analyses." (Thiétart et al., 2001: 207). Further, Thiétart et al. (2001) mention that the applicable special measurement technique can only be established with regards to the primary data setting. Experimentation contributes to high internal validity, as the manipulation and the control of variables, in combination with randomly assigned subjects to the experimental and control conditions, offer good opportunities to test alternative theoretical interpretations (Brewer and Hunter, 2006). However, Saunders, Lewis and Thornhill (2009) point out that experimentation can be affected by researcher bias; this could turn out to be misleading when researchers stick too closely to a chosen research method (Williams and May, 1996). To ensure internal validity for this research project, the research design is built on clear methodological approaches that represent the core of the previous sections of this chapter.

External validity in quantitative research mainly concerns the amount of data gathered in relation to the overall population (Thiétart et al., 2001). External validity is also referred to as "generalisability", as it considers whether the extent of the corresponding research is equally applicable to other settings (Saunders, Lewis and Thornhill, 2009). To increase external validity, this study requires a pre-test to sensitise subjects to the research topic and to increase the effectiveness of the treatment (Kirk, 2013). Further, the history effect, which is related to "(...) specific events which occur between the first and second measurement." (Ohlund and Yu, 2016) is a potential threat to external validity. To avoid the history effect, this work applies a cross-sectional time horizon. Furthermore, external validity is increased by using an experimental laboratory environment, which minimises threats of settings and conditions, and the methodological research setting that has been developed strengthens external validity and contributes to potential generalisability (Kirk, 2013). The following table provides an overview of the applied quality instruments.

Table 3: Overview of the Quality of Instruments for Thesis

	Internal Validity	Reliability	External Validity (Generalisability)
Definition	Internal validity is about the quality of research, whether an instrument measures what it sets out to measure and whether the study provides a plausible argument on which to base the research findings and conclusions.	Reliability measures the repeatability of tests by measuring the influences of random errors. Reliability measures whether an instrument can be interpreted consistently across different situations.	Generalisability refers to the extent to which a scale is applicable and interpretable in different research settings.
Sources (examples given)	Thietart et al., 2001; Saunders, Lewis and Thornhill, 2009; Field, 2013; Kirk, 2013	Diamantopoulos and Schlegelmilch, 2004; Brewer and Hunter, 2006; Saunders, Lewis and Thornhill, 2009; Field, 2013	Thietart et al., 2001; Saunders, Lewis and Thornhill, 2009; Kirk, 2013
Measures Taken in Study	Application of an experimental setting to increase internal validity	Applying approved item scales from existing literature	Qualitative pre-testing
	Twenty-four different experimental settings increase internal validity	Applying multi-item scales	Quantitative pre-testing
	Large data sets are gathered to increase internal validity	Measuring Cronbach's Alpha	Minimising threats by the application of a laboratory experimental environment
	Randomisation is applied within the experimental setting	Applying Kolmogorov-Smirnow Test	Reducing the history effect by applying a cross-sectional time horizon
	Control questions are applied to ensure internal consistency	Applying Levene Test	Quota sampling according to statistical sampling rules
	A common method bias marker is applied		

Source: Own design (2016)

4.6   Pilot Testing/Pre-testing

To ensure the assessment of validity and to diagnose problems within the survey, the literature emphasises conducting pre-studies or pre-testing prior to the administering of the survey (e.g. Thiétart et al., 2001; Saunders, Lewis and Thornhill, 2009; Dillmann, Smyth and Christian, 2014). Moreover, "(...) pre-test and pilot cases aim to assess the feasibility of the research through evaluating the reliability and validity of the data collection tools used (...)" (Thiétart et al., 2001: 126). As the terms of such testing vary between "pilot testing" and "pre-testing" within the literature, the term "pre-testing" is adopted henceforth. In particular, pre-testing is vital for experimentation surveys, as it is important for the design of the experiment to prove whether the experimental groups will work out (Thiétart et al., 2001). The procedure for the pre-test is related to the research design. Saunders, Lewis and Thornhill (2009) suggest carrying out the experimental survey with a small group and testing whether the information gathered is meaningful or not. The number of respondents that are necessary for conducting a valid pre-test varies. Saunders, Lewis and Thornhill (2009) suggest that just ten participants could be sufficient to gain the necessary data for a survey, but indicate further that a survey in an experimental setting requires significantly more participants. Comparable research has applied 120 participants in five experimental conditions (Pizzi and Scarpi, 2013). In contrast, Thiétart et al. (2001) emphasise conducting qualitative interviews and/or expert interviews to detect wording errors. Moreover, Dillmann, Smyth and Christian (2014) and Blodgett, Hill and Tax (1997) suggest conducting – for experimental surveys in particular – both an interview surrounding the survey questions to detect wording and scenario errors and further testing of the resulting information by administering the survey to a small group. Therefore, this experimental research follows the suggestion of Dillmann, Smyth and Christian (2014) and Blodgett, Hill and Tax (1997) by initially applying the survey questions to an expert group and by conducting interviews and, lastly, by providing the survey to the pre-test participants. The questionnaire is modified as much as necessary until the questions and the experimental settings are clear for the participants and the results are consistent, internally and externally valid and reliable.

4.6.1 Qualitative Pre-Testing

Qualitative pre-testing was carried out in February 2015. Twelve people (a convenience sample) were asked to participate in the survey by going through the survey on the computer, observed by author. The participant was asked to read the survey out loud, so that wording problems and/or sentence problems could be detected. The author marked on a print version elements of the survey where the participant was obviously confused or had problems. In conclusion, the author asked the participants about general understanding as well as some control questions, and the participant was confronted with the observed findings. Some of the findings are discussed here.

Wording errors mostly occurred in research formulations, for example words such as "lifestyle", "vis-a-vis" and "stand". The questions were reformulated by simplifying the wording and rechecked.

In particular, logical errors occurred during multiple-answer and single-answer questions. Some control questions, for the hedonic as well for the utilitarian block, gave pre-formulated answers where the participant had to choose the most applicable single answer. It was not possible to choose more than one answer, as there is, from a technical understanding, only one "most" applicable choice. This caused the interviewees some stress and they felt uncomfortable, as they wanted to give several answers because they were not sure what their "most applicable answer" would be or they did not understand the instruction "please select the most applicable answer" correctly. Hence, these questions were transferred into a ranking question to give freedom of choice.

Another finding was that the last questions, where the respondent had to rate whether the described scenario is realistic or not, somewhat confused the respondents, as it was not clear whether these questions referred to the (un)availability situation or the recovery measure scenarios in the survey. Therefore, this question was moved and rephrased for each scenario.

Dillmann, Smyth and Christian (2014) emphasise adding a forward and backward field, as people forget parts of the described scenario once they move forward. This assertion was strengthened, as this phenomenon was also observed during the pre-test. Additionally, the survey is designed to be stopped and continued at any time, which is also recommended by Dillmann, Smyth and Christian (2014) and increases the possibility of qualitative results; however, this must be observed by the researcher, as answers could be partially diluted.

One of the most important findings was that the participants sometimes had problems distinguishing between the experimental scenarios and the "real life" control questions, for example how frequently the participants visit grocery stores. Therefore, the structure of the survey, as well as the explanation of the settings, was optimised by avoiding switching between the settings and by highlighting the experimental scenarios with drawings to support the participants' imagination.

In addition, the qualitative pre-test showed that asking for satisfaction via only one acceptance scale was not sufficient, as the pre-test found, similarly to the literature (e.g. Gelbrich, 2010; Roschk and Gelbrich, 2013), that the reasons for satisfaction/dissatisfaction can be diverse. Hence, more information can be obtained by also asking about the attendant factors that influence CSD levels. This being the case, the former singular satisfaction/dissatisfaction question is backed up by three following matrix questions that ask specifically for other factors in order to obtain information about why the participants feel satisfied/dissatisfied.

4.6.2   Quantitative Pre-Testing

After the qualitative pre-testing revealed that the flow and formulation of the questions were judged as satisfactory with minor adjustments, the survey was extensively pre-tested in an experimental web-survey field. A convenience sample of $N = 26$ Master's and MBA students was asked to participate in the survey. The pre-test was undertaken in June 2015. In order to increase the data validity for the pre-test, it became necessary to reduce the experimental survey for the pre-test from 24 scenarios to four scenarios. Adapted from the previously conducted literature review, four theoretical, clearly deviating scenarios were chosen. A 2×2 experiment was established that contributed to a "hedonic (wine)" product with a promotion (representing a high importance item) and a "utilitarian (milk)" product without any special setting (representing a normal importance item). Further, a "no recovery" and a "basic recovery" scenario were chosen. Hypothetically, this should be sufficient to establish whether the survey in general and the measurement scales in particular are functional.

Figure 48: Reduced Experimental Scenarios for the Pre-Test

Source: Own design (2016)

Moreover, as the pre-test was undertaken by students of the University of Surrey in England, the survey had to be adjusted with minor adaptations, as the survey was originally developed for German consumers. Hence, some facts, such as the currency and the units of measurement, had to be adjusted.

In addition, a feedback question was inserted at the end of the survey to give the pre-test participants the possibility of adding comments and/or giving general feedback.

Figure 49: Feedback Function for the Survey Pre-Test
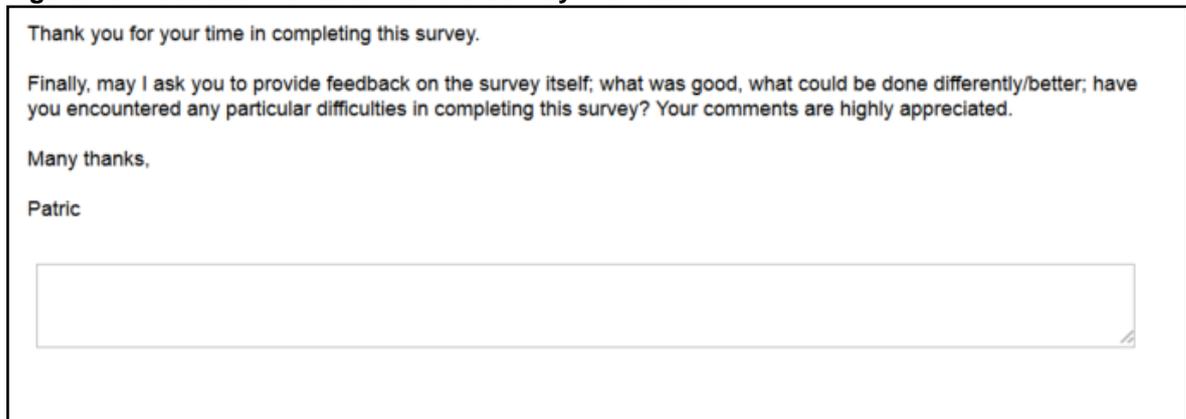
Thank you for your time in completing this survey.

Finally, may I ask you to provide feedback on the survey itself; what was good, what could be done differently/better; have you encountered any particular difficulties in completing this survey? Your comments are highly appreciated.

Many thanks,

Patric

Source: Own design (2016)

In general, the pre-test resulted in positive feedback; the participants obviously had no problems conducting the survey in terms of technical and formal understanding, the flow of questions and/or wording problems: "(...) [the] questionnaire was easy to complete and realistic in its approach." (Respondent, 2015). The pre-test gave further valuable indications of how to improve the experimental settings. So, for example, the pre-test found that some respondents obviously had problems understanding that the "no recovery" scenario had no further explanation, which is in itself a retail failure. However, with respect to the fact that the respondents were asked to evaluate the service that the retailer had provided at the store, some respondents were irritated and replied that their scenario did not explain any service recovery measure. For the final version of the survey instrument, the scenario was adjusted for this reason in order to avoid irritation. In general, the respondents stated that the survey was slightly too lengthy; as a result, the survey was reviewed and modified.

Further, 26 respondents participated in the pre-test, where four data sets had to be excluded in the first step during the screening and clearing process, as the respondents obviously did not complete the survey or answered insufficiently. Thus the remaining data set of 22 useful qualitative respondents, distributed

between four different scenarios, is insufficient for obtaining significant data from a statistical understanding, but is sufficient for the purposes of a pre-test in order to obtain a preliminary indication of the data. The randomiser allocated 11 respondents to the "no recovery" scenarios and the remaining 11 respondents to the "recovery" scenarios, which indicates that the randomisation process is functional. Moreover, 14 respondents participated in the utilitarian normal importance (milk) setting and eight people within the hedonic high importance (wine) setting. This is related to the fact that not all respondents were randomly allocated to the settings, as the respondents were asked at the beginning of the questionnaire whether they buy only one product (wine or milk) from grocery stores rather than being a buyer of both products (wine and milk). In the case a respondent stated that they bought only one product (wine or milk) in grocery stores, the survey system directed the respondent directly to the appropriate research setting. The core question is whether there is a difference between the CSD levels of consumers with regards to "their" product that they intended to buy and whether they are influenced by having service recovery measures – or not – in OOS situations. Therefore, the main dependent variable to analyse is the CSD level of each setting in comparison to the others. Herein, the pre-test already provided valuable data, which indicate that the hypotheses raised could generally be strengthened. The following analyses were undertaken with SPSS software: applying descriptive analyses, the comparison of means, non-parametric tests such as the Mann–Whitney U Test and scale reliability measures such as Cronbach's Alpha. Notably, the original CSD within this quantitative pre-testing was a scale, where the respondents could rate the CSD level from 0 to 100. Here, the CSD level of the utilitarian (normal importance) scenario had a mean of 44.0 in comparison to the hedonic (high importance) product group with 34.6 – which implies that an unavailability occurrence of an item that has lower personal involvement is a lot less dissatisfying for consumers, whereas products with higher personal ratings of importance impact CSD levels a lot more. Complementarily, consumers who faced no recovery measure (independently of the product) had a mean CSD level of 36.6, and respondents who faced the basic recovery measure had a CSD level of 44.6.

Specifically, the CSD levels of all four scenarios can be seen in the following table.

Figure 50: Pre-Test Outcome of CSD

	No Recovery	Basic Recovery
Utilitarian Product (Milk) – Normal Importance Setting	N=8 Mean=39,50	N=6 Mean=50,17
Hedonic Product (Wine) – High Importance Setting (Promotion)	N=3 Mean=29,00	N=5 Mean=38,00

Source: Own design (2016)

A Mann–Whitney U Test revealed no significant difference in the CSD levels of the recovery scenarios (Md = 50.00, N = 11) and the no recovery scenarios (Md = 37.00, N = 11), U = 49.500, z = −0.728, p = 0.467, r = −0.16 (small effect size) (Pallant, 2010). A further Mann–Whitney U Test also revealed no significant difference in the CSD levels of the milk scenarios (Md = 42.50, N = 14) and the wine scenarios (Md = 30.00, N = 8), U = 33.000, z = −1.581, p = 1.14, r = −0.32 (medium effect size) (Pallant, 2010). These findings must be considered bearing in mind the small number of respondents in each scenario. Moreover, the results of the utilitarian (normal importance) product setting with the basic recovery measure showed clearly higher results in comparison to the hedonic (high importance) product setting. The interpretation is in accordance with the previously stated findings: A product that has high importance to a consumer during an OOS occurrence where no recovery measures are performed distinctly affects CSD level. In comparison, a product with a lower involvement/importance level along with a recovery measure provides higher CSD levels. The comparison of the means of the importance-related multi-item control questions showed higher values for the hedonic (high importance) product in comparison to the utilitarian (normal importance) product setting.

The pre-test provided interesting insights, which must be considered before the actual experiment is undertaken. For example, the pre-test shows that the no recovery measure scenario obviously irritates the respondents, which is in

accordance with the feedback they gave. Here, the no recovery explanation had to be reconsidered and adjusted. Additionally, the CSD measurement scale had to be reworked. According to the feedback of the respondents, and in accordance with the data analyses, the survey had to be streamlined and shortened, as the data showed some diluting effects at the end of the survey. The survey revealed valuable findings concerning how to arrange, name and code the questions further, as the analyses revealed some difficulties in adopting the data and converting it into proper analyses. According to Dillmann, Smyth and Christian (2014), the survey should also be tested for mobile device suitability, as more and more respondents participate in surveys using a mobile device. Accordingly, this pre-test was also conducted on various tablet computers and smartphones with different systems, including iOS and Android. The test shows the applicability for tablets and smartphones. With regard to the amount of text within this survey, the completion of the survey by smartphone is per se possible but not recommended by the author, as the text can hardly be read on a small smartphone screen.

4.7   Administering the Experiment

Before the administering of the experiment is explained, the translation process of the survey is stated as the experiment is carried out in Germany. Since the scales and questions were derived from publications written in English, a back-translation procedure was applied to ensure linguistic equivalence of the questionnaires in German (Behling and Law, 2000). This translation process was in close cooperation with one of the supervisors of this study. Further, this research project applies a web-survey with randomly applied experimental research settings, described in scenarios that have to be answered by the respondents through the completion of a questionnaire. The advantages of a web-administered survey can be summarised (according to Saunders, Lewis and Thornhill, 2009). As this research projects asks for a relatively high number of respondents, who are then randomly allocated to one of the 24 experimental settings, the major advantage of a web-administered survey is allocating these questionnaires in a statistically random way, free of interviewer bias. Furthermore, controllability and transparency are also major advantages, as the confidence that the right person has answered

is high (by proper validation through manipulation checks), which is important for ensuring high generalisability. The research agency Lightspeed GMI was chosen, as other research has experienced the delivery of high-quality data and the provision of good administrative support from them (e.g. Spethmann, 2009). The Qualtrics URL for this research was provided by Lightspeed GMI in November 2015 to set up the data-gathering process and to determine the respondent samples. After the research agency checked the experimental survey for technical applicability, the survey had to be enhanced through certain technical features. An embedded data file ensured the anonymity of the respondents by tracking them with a cryptic number, which ensured anonymity on the one hand but also ensured that the respondents could be rewarded. This procedure is in accordance with the literature (e.g. Dillmann, Smyth and Christian, 2014), as the rewarding of respondents participating in web-based surveys increases the quality and participation level. Moreover, a control variable had to be agreed upon to count the respondents who completed the survey. At different points in the survey, screen-out links are implemented, as some respondents are screened out in cases where they do not meet the requirements of the study (e.g. when a respondent does not buy wine or milk at grocery stores). The screened-out respondents are redirected by a link to a page from the research agency, where the respondents are given information about why they were screened out. Those respondents also get some kind of reward from the research agency for their willingness to participate. The end of the survey is also electronically linked via a redirect link to the research agency to count complete responses. This research was administered from 17 to 27 November 2015. The data-gathering process was carried out within different steps, with very close coordination between the researcher and the research agency. The process began with a "soft launch" process, where the first 100 respondents provided information and the researcher checked the data to see whether the distribution and the technical application showed any faults. Then, according to this procedure, more and more respondents were exponentially requested and each step was validated by the researcher and discussed with the research agency. This procedure was completed five times until the required number of complete responses was achieved.

4.8 Conclusion

To conclude the results established in the methodological and research design chapter, the following table provides an overview of the characteristics of this research work.

Figure 51: Overview of the Methodological and Research Design Characteristics

Research Purpose	Explanatory
Research Philosophy	Positivism
Research Approach	Hypothetico-deductive
Research Strategy	Experiment, Survey
Research Choice	Mono Method
Time Horizon	Cross-sectional
Data Collection Method	Questionnaire (Online)
Independent Variables	OOS/OSA Recovery Measures Product Involvement Stimuli
Dependent Variables	Importance of Product to Consumer Level of Consumer Satisfaction/Dissatisfaction Consumers' Consequences at OSA/OOS on Retailers
Character of Experiment	2*3*4 (24 Experimental Settings)
Survey Tool	Qualtrics
Pre-testing (Qualitative)	Interview Convenience Sample February 2015
Pre-testing (Quantitative)	Online Survey Convenience Sample (Students from University of Surrey) 2*2 June 2015
Research Institute	GMI Lightspeed
Location of Survey	Germany
Time of Data Gathering	17 to 27 of November 2015
Sampling Method	Quota-sampling
Amount of Data Gathered	3,773 Completes (Relevant Set: 3,353)
Analysis Methods	Correlation *t*-Test ANOVA

Source: Own design (2016)

5   Data Analysis and Results

This section presents the applied analysis approach and the results. The following sections contribute to each hypothesis separately (see Chapter 3). After a short introduction (Section 5.1), the preparation of the data file is presented (Section 5.2), followed by the results of the descriptive analyses (Section 5.3). The data analyses and hypothesis testing are the focus of Section 5.4. Section 5.5 concludes the results.

5.1   Introduction

The following section provides a short introduction to the applied statistical methods. Generally, the data analysis is related to comparing groups to each other or comparing – in more detail – the means of groups to each other, due to the experimental being arranged so that 24 different settings exist (Field, 2013; Kirk, 2013). As the experiment obtains numerical data, the literature emphasises independent samples or paired t-tests to compare the differences in the means of two groups or settings by measuring the spread of the scores (Saunders, Lewis and Thornhill, 2009; Kirk, 2013). "If the likelihood of any difference between these two groups occurring by chance alone is low, this will be represented by a large t statistic with a probability less than 0.05." (Saunders, Lewis and Thornhill, 2009: 456). This is called statistical significance (Diamantopoulos and Schlegelmilch, 2004; Saunders, Lewis and Thornhill, 2009). As t-tests refer to parametric statistical methods, the data for t-tests must generally be normally distributed and/or consist of a large data set (Rowntree, 2000; Saunders, Lewis and Thornhill, 2009; Field, 2013). In cases that parametric statistical methods cannot be applied, the literature emphasises the use of non-parametric statistical methods, for example the Mann–Whitney U test or the Kruskal–Wallis test (Diamantopoulos and Schlegelmilch, 2004; Saunders, Lewis and Thornhill, 2009).

In the case that parametric statistics can be applied, the literature recommends applying an analysis of variance (ANOVA) to compare three or more groups to each other (Diamantopoulos and Schlegelmilch, 2004; Saunders, Lewis and Thornhill, 2009; Pallant, 2010; Field, 2013). If groups are compared within one category of independent variable, a "one-way between-group ANOVA" is applied, while a "two-way between-group ANOVA" is applied for groups that have two categories of independent variables (Pallant, 2010). The ANOVA does not reveal which group is different; it only indicates that at least one group is different (Diamantopoulos and Schlegelmilch, 2004). Post hoc tests provide further evidence of which groups significantly vary (Pallant, 2010). In terms of preconditions, the basis for running an ANOVA is, in analogy to the *t*-tests, to achieve numeric and normally distributed data and/or large data sets (Diamantopoulos and Schlegelmilch, 2004). Otherwise, non-parametric tests must be applied – for example, the Kruskal–Wallis one-way ANOVA (Diamantopoulos and Schlegelmilch, 2004).

Furthermore, correlation analysis will also be applied, as this research work explicitly considers any link between the respondents' evaluations of item importance and their related CSD levels in various shopping situations. "Correlation analysis is used to describe the strength and direction of the linear relationship between two variables." (Pallant, 2010: 128). The Pearson *r* correlation coefficient is applied whenever it is meaningful for this analysis. Further, *r* represents a value between +1 and −1, where +1 represents a perfect positive and −1 a perfect negative correlation (Rowntree, 2000). A value of zero represents no correlation.

5.2 Preparing the Data File

The literature (e.g. Pallant, 2010; Field, 2013; Kirk, 2013) emphasises developing the data file in a step-by-step manner. As not all gathered data are usable for the data analysis, the following Figure 52 shows how the data set is generated. 20,965 respondents began the survey and succeeded in answering the first questions and settings. At this point, 68 test respondents had to be removed. These 68 data sets include four of the author's own previews, which were carried out for testing purposes, and 64 soft-launch test respondents who were used to check the final technical applicability of the survey tool. A total of 835 respondents were not suitable for this research, as the research requires a certain understanding of retail shopping behaviour in grocery stores; if respondents stated that they buy neither milk nor wine in grocery stores, they were screened out.

Figure 52: Establishing the Data Set
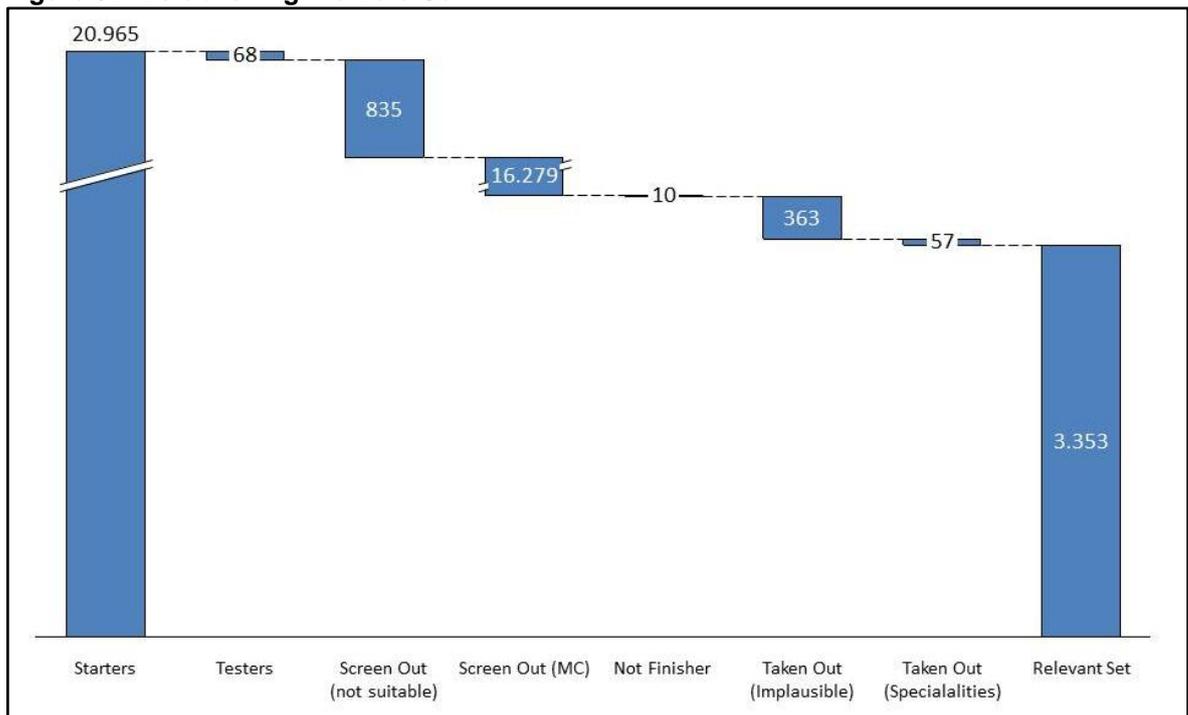
Source: Own design (2016)

Additionally, the vast majority of further data were also screened out, as the respondents answered manipulation checks (MCs) negatively. The MCs were provided immediately after the experimental scenarios of the survey were explained to the respondents and repeated the essential content of the scenarios

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(see e.g. Chapter 4.3.9.1). Interestingly, the percentage of those respondents who passed the MCs came to around 20%, which was anticipated and estimated by the research agency from their experience and historical data. As a result, 16,279 starters were screened out by MCs. Further, ten respondents did not finish the survey. 3,773 respondents completed the survey but this number had to be further reduced for varying reasons: A total of 363 respondents were removed due to fact that they failed the implausibility check.

CSD was measured by two items: with a single-item nine-point bipolar scale and a multi-item seven-point Likert scale. In the aforementioned cases, in so far as both scales showed diametrical results (such as a CSD of *nine* on the single-item scale, which refers to "completely satisfied", and a CSD of *one* on the multi-item scale for "totally disagree"), the respondents were removed, as the data was obviously not logical. Data sets were only taken out for values higher or lower than the point of indifference, which were constituted by the mid-points of each scale (*four* on a seven-point Likert scale and *five* on a nine-point bipolar scale).

Furthermore, another 50 respondents were screened out, as they stated that they buy special types of milk, such as milk made of oats, spelt or almonds. According to the literature review, the milk settings are intended to represent a utilitarian product that could easily be substituted by other products. These special types of milk represent outliers, as this basic understanding of utilitarian and easily substitutable products does not apply to them. Accordingly, seven respondents from the hedonic setting were also excluded, as these data were not logical (e.g. the respondents stated at the beginning of the survey that they buy wine in grocery stores and within the questions "which types of wine they buy" they stated, that they "do not buy wine"). These outliers and the special types of milk are grouped together as "specialities". Therefore, the set for further data evaluation constitutes 3,353 data sets, named the *relevant set*.

## 5.3	Descriptive Statistics

## 5.3.1	Characterisation of Respondents

Descriptive data present the general distribution of the sample. 59.1% of the 3,353 respondents are women and 40.9% are men. According to the research agency, this distribution is close to being nationally representative (Liebhaber, 2015). Notably, the gathered control variables are used with focus on this analysis and consider therefore the relevant variables to present the findings in the precise context.

Further, as this work is derived in such a way that the hedonic experimental scenarios are represented by the product *wine* and the utilitarian scenarios by *milk*, it needs be confirmed whether the respondents associate hedonic characterisations with wine and utilitarian characterisations with milk. Therefore, the gathered data are used with focus on this analysis, to proof whether *milk* contribute to utilitarian-, and *wine* contribute to hedonic product characteristics and thus the data are not used to present the effects of product characteristics as they are not the focus of this analysis. Hence, the MCs contributing to hedonic and utilitarian product characteristics are analysed by undertaking a comparison of means. The results indicate that respondents rate the hedonic attributes significantly higher within the *wine* (hedonic) setting ($M = 5.35$) than within the *milk* (utilitarian) setting ($M = 3.87$). In comparison, the respondents rate the utilitarian attributes significantly higher for the product *milk* within the utilitarian setting ($M = 3.61$) than for *wine* within the hedonic setting ($M = 1.95$). See the table in Appendix C.

The respondents are distributed across the 24 different experimental settings according to the following table.

Table 4: Distribution of Respondents by Scenario

				Availability	Unavailability / Recovery Actions / Measures		
					No Recovery Measure	**Basic** Recovery Measure	Recovery **PLUS** Measure
				N 953	*N* 918	*N* 734	*N* 748
Importance of Item *N* 3353 *Ø-IMP.* 5,23	**Hedonic Scenarios (Wine)** *N* 1586 *Ø-IMP.* 5,17	**High Importance Item** *N* 1111 *Ø-IMP.* 5,33	**Brand / Preference** *N* 618 *Ø-IMP.* 5,37	Exp. Setting 1 *N* 182 CSD_S 7,97 CSD_M 6,20	Exp. Setting 2 *N* 158 CSD_S 3,08 CSD_M 1,91	Exp. Setting 3 *N* 131 CSD_S 5,63 CSD_M 4,51	Exp. Setting 4 *N* 147 CSD_S 6,10 CSD_M 5,06
			Promotion *N* 493 *Ø-IMP.* 5,27	Exp. Setting 5 *N* 132 CSD_S 7,80 CSD_M 6,03	Exp. Setting 6 *N* 137 CSD_S 2,66 CSD_M 1,84	Exp. Setting 7 *N* 106 CSD_S 5,28 CSD_M 4,07	Exp. Setting 8 *N* 118 CSD_S 5,78 CSD_M 4,83
		Normal Importance Item *N* 475 *Ø-IMP.* 4,82		Exp. Setting 9 *N* 127 CSD_S 7,45 CSD_M 5,80	Exp. Setting 10 *N* 136 CSD_S 3,43 CSD_M 2,19	Exp. Setting 11 *N* 116 CSD_S 5,51 CSD_M 4,39	Exp. Setting 12 *N* 96 CSD_S 5,50 CSD_M 4,65
	Utilitarian Scenarios (Milk) *N* 1767 *Ø-IMP.* 5,29	**High Importance Item** *N* 1232 *Ø-IMP.* 5,48	**Brand / Preference** *N* 725 *Ø-IMP.* 5,64	Exp. Setting 13 *N* 212 CSD_S 8,17 CSD_M 6,25	Exp. Setting 14 *N* 198 CSD_S 2,95 CSD_M 1,53	Exp. Setting 15 *N* 156 CSD_S 5,52 CSD_M 4,35	Exp. Setting 16 *N* 159 CSD_S 4,90 CSD_M 4,11
			Promotion *N* 507 *Ø-IMP.* 5,26	Exp. Setting 17 *N* 142 CSD_S 7,90 CSD_M 5,96	Exp. Setting 18 *N* 130 CSD_S 3,08 CSD_M 2,08	Exp. Setting 19 *N* 113 CSD_S 5,57 CSD_M 4,42	Exp. Setting 20 *N* 122 CSD_S 5,09 CSD_M 4,30
		Normal Importance Item *N* 535 *Ø-IMP.* 4,83		Exp. Setting 21 *N* 158 CSD_S 7,72 CSD_M 5,89	Exp. Setting 22 *N* 159 CSD_S 3,42 CSD_M 2,27	Exp. Setting 23 *N* 112 CSD_S 5,23 CSD_M 4,19	Exp. Setting 24 *N* 106 CSD_S 5,09 CSD_M 4,13

Source: Own elaboration (own data, own calculation, 2016)

Table 4 presents the distribution of *N* within the settings and also the means of each cluster, where *CSD_S* denotes the CSD level measured on the single-item nine-point bipolar scale and *CSD_M* states the mean of the multi-item satisfaction scale measured on the seven-point Likert scale. The term *Ø-IMP* expresses the mean of item importance measured in the settings by the mean of the multi-item importance scale. The CSD levels and the importance levels are the units of analysis within the upcoming sections of this part of the work. The SPSS tables are included in Appendix C.

5.3.2   Assessing Normality

To determine the applicable statistical tools for further data analysis, it is necessary to test for normality (see Chapter 5.1). Pallant (2010) and Field (2013) emphasise recognising normality through preliminary analysis and using descriptive data. A plotted table gives the researcher an initial indication of whether the skewness and/or kurtosis of values provide information about the distribution of scores (Pallant, 2010).

Therefore, the data is analysed with regard to whether a normal distribution exists. The tables for assessing normality for all scenarios are in Appendix C. The following analysis is conducted to illustrate how the procedure and the interpretation of this test is implemented. This research primarily analyses consumers' CSD levels; therefore, a group – for example the settings which belong to the hedonic (wine) product group that faces an unavailability occurrence at the store where no recovery measure was offered, is composed. Thus, this group combines the experiment settings two, six and ten (see Table 4). This group is termed "CSD_W_ALL_NR_Single". For interpretation purposes, "W" refers to the product group "wine" (hedonic setting) and "ALL" refers to all three groups (the high importance setting "promotion", the high importance setting "brand loyalty" and the "normal importance setting"). The abbreviation "NR" refers to the "no recovery" settings. The term "single" refers to the nine-point bipolar single-item scale, as. CSD is measured by two different scales (a nine-point bipolar single-item scale and a seven-point Likert, four-item, multi-measure scale). Specifically,

experimental setting two contributes to the "brand/preference high importance setting", setting six belongs to the "promotional high importance setting" and setting ten belongs to the "normal importance setting". To perform the applicable statistical analysis, the test for normality must be conducted at this point. The following interpretation of this section follows Tabachnick and Fidell (2001), Pallant (2010) and Field (2013).

Table 5: Preliminary Analysis – Case Processing Summary
(Here: the group of all hedonic experimental settings which face no recovery measure is analysed (experimental settings two, six and ten))

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
CSD_W_ALL_NR_Single Item	431	12,9%	2922	87,1%	3353	100,0%

Source: Own data (own calculation, 2016)

First of all, the case processing summary must be checked with regard to whether all cases are included in this analysis and whether the total sum of cases is correct. Table 6 shows a summary of the descriptive data statistics. Importantly, the mean must be compared to the 5% trimmed mean, where SPSS removes the top and bottom 5% of all cases. In cases where these means vary substantially, extreme values must be checked (Pallant, 2010). Within the examples used here, the corresponding means do not vary substantially (Pallant, 2010). From this it can be concluded that extreme values do not play a decisive role. However, skewness and kurtosis show that the spread of cases deviates from the Gaussian bell shape; therefore, normality must be evaluated in more detail.

Table 6: Assessing Normality – Case Processing Summary

Descriptives

			Statistic	Std. Error
CSD_W_ALL_NR_Single Item	Mean		3,06	,075
	95% Confidence Interval for Mean	Lower Bound	2,91	
		Upper Bound	3,20	
	5% Trimmed Mean		3,01	
	Median		3,00	
	Variance		2,406	
	Std. Deviation		1,551	
	Minimum		1	
	Maximum		9	
	Range		8	
	Interquartile Range		2	
	Skewness		,282	,118
	Kurtosis		-,595	,235

Source: Own data (own calculation, 2016)

Kolmogorov–Smirnov (K–S) test is recommended for testing normality in numbers (Saunders, Lewis and Thornhill, 2009; Pallant, 2010; Field, 2013). The K–S test compares "(...) the cumulative proportions of the observed values in each category with the cumulative proportions in the same categories for the specified population." (Saunders, Lewis and Thornhill, 2009: 453). Hence, the K–S analysis compares the scores in the sample to a normally distributed set of values with the same mean and standard deviation (Kirk, 2013). If the test value is higher than 5% ($p > 0.05$), it is deemed non-significant, which implies that "(...) the distribution of the sample is not significantly different from a normal distribution." (Field, 2013: 185).

Table 7: Assessing the K–S to test Normality

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CSD_W_ALL_NR_Single Item	,144	431	,000	,911	431	,000

a. Lilliefors Significance Correction

Source: Own design (2016)

Within the example given above (Table 7), the significance value represents a value of 0.000. However, as noted by Pallant (2010), this is common in large samples and does not necessarily indicate the use of parametric or non-parametric statistics. According to Field (2013), parametric statistics can be applied to large samples, although they violate the significance test of K–S. Further, Field (2013) refers to the central limit theorem and argues that the denomination of a *large* sample can already be used for samples larger than 30 data sets. Referring to this research and relating the interpretation of Field (2013) to this work indicates that the current project has gathered large data samples (N_{min} = 96 qualified respondents [setting 12], N_{max} = 212 [setting 13]). In total, N = 3,353 / 24 settings yields a mean of ~140 respondents. Hence, following the recommendations in the literature (e.g. Diamantopoulos and Schlegelmilch, 2004; Field, 2013) parametric statistics can be applied to this research.

The procedure of descriptive preliminary analysis has the benefit of allowing this research to analyse the data very closely; as a result, outliers or bias can be detected, and even corrective actions are made possible – for example, trimming, winsorising (limiting of extreme values) or other robust methods (Field, 2013; Kirk, 2013) can be utilised. Outliers can significantly influence parametric analysis (Pallant, 2010), and any detected outliers must be checked and interpreted. In particular, the CSD scales mentioned beforehand are examined. The data are not trimmed or winsorised in this study, as the outlier check detected very few. These data are not excluded, as the 5% trimmed means do not vary too much from the untrimmed means, meaning that the effects of extreme values or outliers are only small. The tables for all data can be found in Appendix C.

5.3.3 Scales

As the numerical data is gathered by seven-point (or nine-point) scales, the internal consistency – the reliability of these scales – must also be tested. A commonly suggested measure is Cronbach's alpha, α, "(...) which is the most common measure of scale reliability." (Field, 2013: 708). Cronbach's alpha considers the variance and the covariance of specific items to each other and reveals therefore to what extent the items on a scale present that scale. Commonly, α > 0.7 is considered an internally consistent measure (Pallant, 2010; Field, 2013). Notably, the size of the scale directly impacts Cronbach's alpha, and therefore the result of this measurement must be considered in connection to the size of the scale. A measure of α > 0.7 on a seven-point Likert scale would be a good and acceptable result (Pallant, 2010). In cases where Cronbach's alpha is below 0.7, the inter-item correlation must be considered in order to provide valid information about whether the scale is reliable or not (Pallant, 2010). Accordingly, the scales applied within this research show high internal consistency for the mean multi-item measure of item importance (α = 0.93), the multi-item measure of CSD (α = 0.98) and the multi-item scales of evaluative short-term consequences (α = 0.92), evaluative long-term consequences (α = 0.89), behavioural short-term consequences (α = 0.92) and behavioural long-term consequences (α = 0.78). As the literature emphasises to measure CSD directly as a performance indicator via a single item scale (Szymanski and Henard, 2001; Gelbrich, 2010) and to strengthen this scale by also measuring CSD with a multi-item scale (McCollough, Berry and Yadav, 2000), this work compares the single item nine-point Likert scale with the mean of the multi-item seven-point Liker scales. Moreover, the remarkably strong internal consistency of the multi-item scale used to measure CSD significantly correlates with the CSD single-item nine-point bipolar scale (Pearson correlation coefficient = 0.89; Spearman's rho = 0.90). The correlation coefficients show a very strong relationship. Therefore, the following data analyses use the nine-point bipolar scale as a performance indicator to measure CSD directly (all SPSS calculations can be found in Appendix D).

5.4   Hypothesis Testing

5.4.1   Transferring the Research Hypotheses into the Statistical Hypotheses

As the research question must be answered through the quantitative research approach of laboratory experimentation, the research hypotheses must be converted into testable hypotheses. According to Thiétart et al. (2001), this translation process from the theoretical to the empirical realm "(...) involves the 'translation' of concepts into data (...)" (Thiétart et al., 2001: 134). This process is in accordance with research elsewhere in literature. For example, Kirk (2013) states: "The first step in evaluating a scientific hypothesis is to express (...) [it] in the form of a statistical hypothesis." (p. 49).

Therefore, the research hypotheses from Chapter 3 are taken up and deconstructed into their single independent and dependent variables, which again form the basis for testable statistical hypotheses. Related to this, every statistical hypothesis represents a relationship and contributes to the overall research hypothesis. Thereby, each statistical hypothesis is related to the hypothesis-testing rules (Kirk, 2013), formulated as an experimental hypothesis and as a null hypothesis. The experimental (or alternative) hypothesis (H_1) contends that a certain prediction will have a certain effect, whereas the null hypothesis (H_0) reverses that the prediction is incorrect and does therefore not exist (Field, 2013). Generally, hypotheses are formulated in such a way that "(...) if one is true, the other must be false." (Kirk, 2013: 50). Moreover, "(...) the null hypothesis is the one whose tenability is actually tested." (Kirk, 2013: 50). In the case that the null hypothesis is rejected, only the experimental hypothesis remains tenable and thus must be logically true.

5.4.2 Data Analysis: Hypothesis 1 – The Effect of Unavailability on Consumer Satisfaction

This section analyses whether an unavailability occurrence impacts the respondents' CSD levels. This analysis has frequently been undertaken in previous studies, but it must also be undertaken here to ensure that this survey and the experimental settings were built up meaningfully and that the existing research results can be transferred to the current research setting and repeated as a basis for this study. Therefore, the availability settings are compared to the unavailability settings without recovery measures.

Table 8: Data Analysis: Hypothesis 1 – The Effect of OOS on CSD

				Availability	Unavailability / Recovery Actions / Measures		
					No Recovery Measure	Basic Recovery Measure	Recovery PLUS Measure
				N 953	*N* 918	*N* 734	*N* 748
Importance of Item *N* 3353 Ø-IMP. 5,23	hedonic Scenarios (Wine) *N* 1586 Ø-IMP. 5,17	High Importance Item *N* 1111 Ø-IMP. 5,33	Brand / Preference *N* 618 Ø-IMP. 5,37	Exp. Setting 1 *N* 182 CSD_S 7,97 CSD_M 6,20	Exp. Setting 2 *N* 158 CSD_S 3,08 CSD_M 1,91	Exp. Setting 3 *N* 131 CSD_S 5,63 CSD_M 4,51	Exp. Setting 4 *N* 147 CSD_S 6,10 CSD_M 5,06
			Promotion *N* 493 Ø-IMP. 5,27	Exp. Setting 5 *N* 132 CSD_S 7,80 CSD_M 6,03	Exp. Setting 6 *N* 137 CSD_S 2,66 CSD_M 1,84	Exp. Setting 7 *N* 106 CSD_S 5,28 CSD_M 4,07	Exp. Setting 8 *N* 118 CSD_S 5,78 CSD_M 4,83
		Normal Importance Item *N* 475 Ø-IMP. 4,82		Exp. Setting 9 *N* 127 CSD_S 7,45 CSD_M 5,80	Exp. Setting 10 *N* 136 CSD_S 3,43 CSD_M 2,19	Exp. Setting 11 *N* 116 CSD_S 5,51 CSD_M 4,39	Exp. Setting 12 *N* 96 CSD_S 5,50 CSD_M 4,65
	utilitarian Scenarios (Milk) *N* 1767 Ø-IMP. 5,29	High Importance Item *N* 1232 Ø-IMP. 5,48	Brand / Preference *N* 725 Ø-IMP. 5,64	Exp. Setting 13 *N* 212 CSD_S 8,17 CSD_M 6,25	Exp. Setting 14 *N* 198 CSD_S 2,95 CSD_M 1,53	Exp. Setting 15 *N* 156 CSD_S 5,52 CSD_M 4,35	Exp. Setting 16 *N* 159 CSD_S 4,90 CSD_M 4,11
			Promotion *N* 507 Ø-IMP. 5,26	Exp. Setting 17 *N* 142 CSD_S 7,90 CSD_M 5,96	Exp. Setting 18 *N* 130 CSD_S 3,08 CSD_M 2,08	Exp. Setting 19 *N* 113 CSD_S 5,57 CSD_M 4,42	Exp. Setting 20 *N* 122 CSD_S 5,09 CSD_M 4,30
		Normal Importance Item *N* 535 Ø-IMP. 4,83		Exp. Setting 21 *N* 158 CSD_S 7,72 CSD_M 5,89	Exp. Setting 22 *N* 159 CSD_S 3,42 CSD_M 2,27	Exp. Setting 23 *N* 112 CSD_S 5,23 CSD_M 4,19	Exp. Setting 24 *N* 106 CSD_S 5,09 CSD_M 4,13

Source: Own design (2016)

For this analysis, the experimental settings contributing to the availability situations (settings 1, 5, 9, 13, 17 and 21) are grouped together in the "availability group", while the unavailability, no recovery measure settings (settings 2, 6, 10, 14, 18 and 22) are grouped together in the "unavailability (no recovery) group".

Transferring Hypothesis 1 into technical and testable hypotheses results in:

$$H_0: \mu_1 = \mu_2$$
$$H_1: \mu_1 \neq \mu_2$$

Here, μ_1 denotes the "availability group" and μ_2 denotes the "unavailability (no recovery) group". Further, both groups are compared with an independent samples *t*-test, which provides the following results:

Table 9: Data Analysis - The Effect of OOS on CSD

Group Statistics					
	Group	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	1,00	953	7,8678	1,57626	,05106
	2,00	918	3,1013	1,57252	,05190

Independent Samples Test										
		Levene's Test for Equality of ...		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
CSD_ALL_Single	Equal variances assumed	,308	,579	65,5	1869	,000	4,76648	,07281	4,62368	4,90928
	Equal variances not assumed			65,5	1866,705	,000	4,76648	,07281	4,62369	4,90927

Source: Own design (2016)

An independent samples *t*-test is conducted to compare the respondents' CSD levels in availability situations and unavailability occurrences without the provision of any recovery measures (see Table 9). To determine which of the *t*-values is correct for use, the variation of the scores of the two groups ("availability group" and "unavailability group") have to be compared (Pallant, 2010). Within this test equal variances are assumed, which means that the variance (variation) of the scores is the same (Pallant, 2010). There is a significant difference in scores between the "availability group" (*M* = 7.87, *SD* = 1.58) and the "unavailability (no recovery) group" (*M* = 3.10, *SD* = 1.57; *t* (1,869) = 65.5; *p* = 0.000, two-tailed). To indicate the strength of this relationship, Pallant (2010) emphasises using Cohen's (1988) effect size index. Cohen (1988) uses the difference between means to refer to the strength of a relationship between two variables, where a small effect is represented by an eta squared value of less than 0.3, a medium effect size by a value higher than 0.3 and less than 0.5 and a large effect size by a value of more than 0.5. Applying Cohen's (1988) effect size index to these calculations shows a

strong relationship between the variables (eta squared = 0.70). Further interpretation of the effect size is done according to Cohen's (1988) recommendations. Therefore, H_0 is rejected and H_1 is accepted. This procedure is also conducted for all individual data sets (Table 8). As these analyses show comparable results, it is concluded that there is a significant difference in every comparison of the scenarios. The results for all individual data sets are not represented here, but can be found in Appendix E.

5.4.3 Data Analysis: Hypothesis 2 – The Effect of Item Importance on Consumer Satisfaction

This section addresses Hypothesis 2 regarding whether the respondents' outcome in terms of CSD levels is related to the respondents' evaluation of item importance. The unavailability settings without the provision of any recovery measures are analysed and the impact of the evaluation of item importance is evaluated. The following settings are affected.

Table 10: Data Analysis: Hypothesis 2 – The Impact of Item Importance on CSD at OOS

				Availability	No Recovery Measure N 918	Basic Recovery Measure N 734	Recovery PLUS Measure N 748
				N 953			
Importance of Item N 3353 Ø-IMP. 5,23	hedonic Scenarios (Wine) N 1586 Ø-IMP. 5,17	High Importance Item N 1111 Ø-IMP 5,33	Brand / Preference N 618 Ø-IMP 5,37	Exp. Setting 1 N 182 CSD_S 7,97 CSD_M 6,20	Exp. Setting 2 N 158 CSD_S 3,08 CSD_M 1,91	Exp. Setting 3 N 131 CSD_S 5,63 CSD_M 4,51	Exp. Setting 4 N 147 CSD_S 6,10 CSD_M 5,06
			Promotion N 493 Ø-IMP 5,27	Exp. Setting 5 N 132 CSD_S 7,80 CSD_M 6,03	Exp. Setting 6 N 137 CSD_S 2,66 CSD_M 1,84	Exp. Setting 7 N 106 CSD_S 5,28 CSD_M 4,07	Exp. Setting 8 N 118 CSD_S 5,78 CSD_M 4,83
		Normal Importance Item N 475 Ø-IMP. 4,82		Exp. Setting 9 N 127 CSD_S 7,45 CSD_M 5,80	Exp. Setting 10 N 136 CSD_S 3,43 CSD_M 2,19	Exp. Setting 11 N 116 CSD_S 5,51 CSD_M 4,39	Exp. Setting 12 N 96 CSD_S 5,50 CSD_M 4,65
	utilitarian Scenarios (Milk) N 1767 Ø-IMP. 5,29	High Importance Item N 1232 Ø-IMP 5,48	Brand / Preference N 725 Ø-IMP 5,64	Exp. Setting 13 N 212 CSD_S 8,17 CSD_M 6,25	Exp. Setting 14 N 198 CSD_S 2,95 CSD_M 1,53	Exp. Setting 15 N 156 CSD_S 5,52 CSD_M 4,35	Exp. Setting 16 N 159 CSD_S 4,90 CSD_M 4,11
			Promotion N 507 Ø-IMP 5,26	Exp. Setting 17 N 142 CSD_S 7,90 CSD_M 5,96	Exp. Setting 18 N 130 CSD_S 3,08 CSD_M 2,08	Exp. Setting 19 N 113 CSD_S 5,57 CSD_M 4,42	Exp. Setting 20 N 122 CSD_S 5,09 CSD_M 4,30
		Normal Importance Item N 535 Ø-IMP. 4,83		Exp. Setting 21 N 158 CSD_S 7,72 CSD_M 5,89	Exp. Setting 22 N 159 CSD_S 3,42 CSD_M 2,27	Exp. Setting 23 N 112 CSD_S 5,23 CSD_M 4,19	Exp. Setting 24 N 106 CSD_S 5,09 CSD_M 4,13

Source: Own design (2016)

In order to answer Hypothesis 2, the analysis must be conducted in three subsequent steps. First of all, the correlation of the importance of items to CSD is analysed, which is described in the following subsection (5.4.3.1), followed by the analysis of the evaluation of item importance in Section 5.4.3.2. Closing, the third subsection investigates CSD levels relative to the factor of item importance (Section 5.4.3.3).

5.4.3.1 Analysing the Correlation of Item Importance with Consumer Satisfaction

Before the specific experimental settings are investigated in further detail, the general assumption of Hypothesis 2 must be tested. Hypothesis 2 states that there is a relationship between consumers' evaluation of item importance and their level of CSD in different retail situations. Therefore, the effect of the respondents' evaluation of item importance is related to their CSD level in both availability and unavailability (without recovery measures) situations.

Table 11: Data Analysis: Correlation of Item Importance with CSD
(Here: impact of item importance on the availability and unavailability (without recovery measures) scenarios)

Impact of Item Importance to CSD at Availability and at Unavailability (wo Rec. M.) Situations				
		IMP_ALL_ALL	CSD_ALL_ALL_AV_ Single	CSD_ALL_ALL_ NR_Single
IMP_ALL_ALL	Pearson Correlation	1	,438**	-,313**
	Sig. (2-tailed)		,000	,000
	N	3353	953	918
CSD_ALL_ALL_AV_Single	Pearson Correlation	,438**	1	.b
	Sig. (2-tailed)	,000		.
	N	953	953	0
CSD_ALL_ALL_NR_Single	Pearson Correlation	-,313**	.b	1
	Sig. (2-tailed)	,000	.	
	N	918	0	918
**. Correlation is significant at the 0.01 level (2-tailed).				
b. Cannot be computed because at least one of the variables is constant.				

Source: Own design (2016)

The relationship between the respondents' evaluations of item importance and their CSD levels is investigated using the Pearson product-moment correlation coefficient. There is a significant positive correlation with a medium effect size ($r = 0.438$; $N = 953$; $p < 0.000$) between the respondents' evaluation of item importance and CSD levels in the availability scenarios. Additionally, there is a significant negative correlation with a medium effect size ($r = −0.313$; $N = 918$; $p < 0.000$) between the respondents' evaluation of item importance and CSD levels in the unavailability (without recovery measures) scenarios.

5.4.3.2   Analysing the Evaluation of Item Importance

In order to investigate in more detail, this analysis is conducted as follows:

1. First, the respondents' general evaluations of the hedonic against utilitarian settings for all three product importance groups are tested using *t*-tests.

2. Following this, the scenarios with "brand/preference" and "promotion" stimuli are combined as "high importance" settings and compared to the "normal importance" (where the product is needed but not accented with a high brand preference or promotion) settings using *t*-tests:
   a. within the hedonic scenarios,
   b. within the utilitarian scenarios.

3. Within the hedonic and utilitarian settings, each scenario (brand/preference, promotion, normal importance) is compared to the others using ANOVA analysis:
   a. within the utilitarian setting,
   b. within the hedonic setting.

4. To conclude, all comparable scenarios are compared to each other using *t*-tests:
   a. for the "normal importance" scenarios,
   b. for the "high importance" scenarios –
      i. the promotion scenarios,
      ii. the brand/preference scenarios.

Transferring the first step of this analysis into technical and testable hypotheses results in:

$$H_0: \mu_1 = \mu_2$$
$$H_1: \mu_1 \neq \mu_2$$

Here, μ_1 denotes the group contributing to the "hedonic settings" and μ_2 denotes the group contributing to the "utilitarian settings". Further, both groups are compared with an independent samples t-test, which provides results as follows for the hedonic scenarios.

An independent samples t-test is conducted to compare the level of product importance of the general hedonic and the general utilitarian data sets. Within this test, equal variances are not assumed. There is a significant difference in scores between the hedonic product group (M = 5.17; SD = 1.43) and the utilitarian product group (M = 5.28; SD = 1.54; t = −2.130; p = 0.033, two-tailed). The effect size is very small (eta squared < 0.01). Therefore, H_0 is rejected and H_1 is accepted.

The second step of this analysis is for the purpose of analysing whether the different scenarios of the experimental setting vary by the respondents' evaluation of item importance; the "brand/preference" and "promotion" settings are grouped together as the "high importance group". This grouping is in accordance with literature (e.g. Laurent and Kapferer, 1985; Mittal and Lee, 1989; Goldsmith and Emmert, 1991) as brand/preference and promotion are two antecedents that significantly impact on consumer involvement in a product, and which therefore characterise item importance (see Section 2.6.1.1). Transferring this into technical and testable hypotheses states:

$$H_0: \mu_3 = \mu_4$$
$$H_1: \mu_3 \neq \mu_4$$

Here, μ_3 denotes the "normal importance product group" and μ_4 denotes the "high importance product group". Further, both groups are compared with an independent samples t-test, which provides results as follows for the hedonic scenarios.

An independent samples *t*-test is conducted to compare the levels of importance of product groups between the hedonic data sets. Within this test, equal variances are not assumed. There is a significant difference in scores between the "normal importance group" (M = 4.82; SD = 1.58) and the "high importance product group" (M = 5.33; SD = 1.33; t = −6.12; p = 0.000, two-tailed). The effect size is small (eta squared = 0.023). Therefore, H_0 is rejected and H_1 is accepted.

This analysis is also done for the utilitarian data sets:

An independent samples *t*-test is conducted to compare the levels of the "normal importance product group" to the "high importance group" between the utilitarian data sets. Within this test, equal variances are not assumed. There is a significant difference in scores between the "normal importance group" (M = 4.83; SD = 1.74) and the "high importance product group" (M = 5.48; SD = 1.40; t = −7.70; p = 0.000, two-tailed). The effect size is small (eta squared = 0.03). The corresponding calculation tables can be found in Appendix F.

To compare each setting by its "importance" clusters (promotion, brand/preference, normal importance), the third step of this analysis requires a one-way between-group ANOVA with a post hoc test that investigates within each general setting (hedonic/utilitarian) and compares each of the three product clusters to each other according to their importance level.

Table 12: ANOVA - Importance Between Setting
(Here: utilitarian setting)

Post Hoc Tests

Multiple Comparisons

Dependent Variable: IMP_M_ALL
Tukey HSD

Importance Group	Importance Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
1- High Importance (Promotion)	2 - High Importance (Brand-Preference)	-,37689*	,08685	,000	-,5806	-,1732
	3 - Normal Importance	,43294*	,09298	,000	,2148	,6510
2 - High Importance (Brand-Preference)	1 - High Importance (Promotion)	,37689*	,08685	,000	,1732	,5806
	3 - Normal Importance	,80983*	,08550	,000	,6093	1,0104
3 - Normal Importance	1 - High Importance (Promotion)	-,43294*	,09298	,000	-,6510	-,2148
	2 - High Importance (Brand-Preference)	-,80983*	,08550	,000	-1,0104	-,6093

Source: Own design (2016)

Thus, the respondents are divided into these three groups. According to Pallant (2010), the homogeneity of variances (according to Levene) is not assumed, but the robustness of means (according to Welch) can be assumed. The robustness test of means according to Welch is to identify significant differences among the means of more than two groups when the assumption of the homogeneity of variance is violated (Pallant, 2010). According to Table 12, there is a statistically significant difference in the $p < 0.05$ level regarding the importance scores for the three groups: $p = 0.01$. Despite reaching statistical significance, the actual difference in mean scores between the groups is quite small. The effect size calculated using eta squared is 0.048. To identify which of the groups within an ANOVA analysis differ significantly from each other, Tukey's HSD test for post hoc comparisons is applied by comparing the distance of the groups to each other (Pallant, 2010). Thus, applying post hoc comparisons using Tukey's HSD test for this analysis indicate that the mean score for group 1 (promotion) ($M = 5.25$; $SD =$ 1.50) is significantly different from group 2 (brand/preference) ($M = 5.64$; $SD =$ 1.30) and from group 3 (normal importance) ($M = 4.83$; $SD = 1.74$). Moreover, group 2 is also significantly different from group 3.

Similarly, an ANOVA is also conducted to investigate the hedonic product settings and to compare the product groups to each other according to different product importance stimuli (promotion, brand/preference, normal importance). The respondents are divided into these three groups. According to Pallant (2010), the homogeneity of variances (according to Levene) is not assumed, but the robustness of means (according to Welch) can be assumed. There is a statistically significant difference in the $p < 0.05$ level regarding the importance scores for the three groups: $p = 0.000$. Despite reaching statistical significance, the actual difference in mean scores between the groups is quite small. The effect size, calculated using eta squared, is 0.027. Post hoc comparisons using Tukey's HSD test indicate that the mean score for group 1 (promotion) ($M = 5.27$; $SD = 1.37$) is significantly different from group 3 (normal importance) ($M = 4.82$; $SD = 1.58$). However, group 1 does not differ significantly from group 2 (brand/preference) (M = 5.37; $SD = 1.29$). Group 2 differs significantly from group 3, but not from group 1.

Please note that all tables for the ANOVA analysis can be found in Appendix F.

The fourth step of this analysis compares the hedonic product groups to the utilitarian product groups according to the respondents' evaluation of item importance. An independent samples *t*-test is conducted to compare the levels of importance of the hedonic and utilitarian settings for "normal importance product settings". Within this, test equal variances are not assumed. There is no significant difference in scores between the hedonic setting (M = 4.82, SD = 1.58) and the utilitarian setting (M = 4.83, SD = 1.74; t = −0.74; p = 0.941, two-tailed). The effect size is very small (eta squared < 0.01).

Accordingly, an independent samples *t*-test compares the levels of importance of the hedonic and utilitarian settings by means of the "high importance product" ("promotion" and "brand/preference") settings. Within this test, equal variances are assumed. There is a significant difference in scores between the hedonic setting (M = 5.33, SD = 1.33) and the utilitarian setting (M = 5.48, SD = 1.40; t = −2.753; p = 0.006, two-tailed). The effect size is very small (eta squared < 0.01). As there is a significant difference within the hedonic "high importance product groups", further analysis investigates within each particular high importance setting of the hedonic against utilitarian settings.

Therefore, an independent samples *t*-test compares the level of importance of the hedonic and utilitarian settings for "promotional settings". Within this test, no equal variances are assumed. There is no significant difference in scores between the hedonic setting (M = 5.27, SD = 1.37) and the utilitarian setting (M = 5.26, SD = 1.50; t = −0.074; p = 0.941, two-tailed). The effect size is very small (eta squared < 0.01).

Similarly, an independent samples *t*-test also compared the level of importance of the hedonic and utilitarian settings for "brand/preference settings". Within this test, equal variances are assumed. There is a significant difference in scores between the hedonic setting (M = 5.37, SD = 1.29) and the utilitarian setting (M = 5.64, SD = 1.30; t = −3.702; p = 0.000, two-tailed). The effect size is small (eta squared = 0.010).

All *t*-test calculations are available for further information in Appendix F.

5.4.3.3 Analysing the Consumer Satisfaction Levels in Relation to Item Importance

The CSD levels in "unavailability without recovery measures" are evaluated in the same consecutive manner as applied previously. First, the general CSD levels of the hedonic against the utilitarian settings for all three importance groups of the unavailability settings without recovery measures are tested. Transferring this into technical and testable hypotheses results in:

$$H_0: \mu_1 = \mu_2$$
$$H_1: \mu_1 \neq \mu_2$$

Here, μ_1 denotes the group contributing to the "hedonic settings" and μ_2 denotes the group contributing to the "utilitarian settings". Further, both groups are compared with an independent samples t-test, which provides results as follows for the hedonic scenarios.

An independent samples t-test is conducted to compare the levels of CSD of the general product settings in the grouping of the hedonic and the utilitarian data sets in unavailability occurrences without recovery measures to each other. Within this test, equal variances are assumed. There is no significant difference in scores between the hedonic product group ($M = 3.06$, $SD = 1.55$) and the utilitarian product group ($M = 3.14$, $SD = 1.59$; $t = -0.827$; $p = 0.409$, two-tailed). The effect size is very small (eta squared < 0.01). Hence, the alternative hypothesis is not confirmed and hence the null hypothesis is accepted.

Secondly, an independent samples t-test is conducted to compare the levels of CSD of the "normal importance group" to the "high importance groups" within the hedonic data sets. Within this test, equal variances are assumed. There is a significant difference in scores between the "normal importance group" ($M = 3.43$, $SD = 1.59$) and the "high importance group" ($M = 2.88$, $SD = 1.51$; $t = 3.41$; $p = 0.001$, two-tailed). The effect size is small (eta squared = 0.025).

This analysis is also implemented for the comparable utilitarian data sets. Hence, an independent samples *t*-test is conducted to compare the levels of CSD of the "normal importance group" to the "high importance product groups" within the utilitarian data sets. Within this test, equal variances are assumed. There is a significant difference in score between the "normal importance group" (*M* = 3.42, *SD* = 1.51) and the "high importance group" (*M* = 3.01, *SD* = 1.62; *t* = 2.72; *p* = 0.007, two-tailed). The effect size is small (eta squared = 0.015).

To gain more insights into the differentiation of all three product groups within each particular general (hedonic/utilitarian) product setting, an ANOVA is applied to investigate the CSD levels in unavailability without recovery measure settings.

Table 13: ANOVA – CSD Levels Between Settings
(Here: hedonic product settings in unavailability occurrences without recovery measures)

(I) ProductGroup_ALL_3_Gr opus	(J) ProductGroup_ALL_3_Gr opus	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1 - Promotion	2 - Brand/Preference	-,425*	,178	,045	-,84	-,01
	Normal Importance	-,770*	,184	,000	-1,20	-,34
2 - Brand/Preference	1 - Promotion	,425*	,178	,045	,01	,84
	Normal Importance	-,344	,178	,131	-,76	,08
3 - Normal Importance	1 - Promotion	,770*	,184	,000	,34	1,20
	2 - Brand/Preference	,344	,178	,131	-,08	,76

Dependent Variable: CSD_W_ALL_NR_SingleItem
Tukey HSD

Source: Own design (2016)

An ANOVA is conducted to explore the CSD levels of product groups within the hedonic setting in comparison to each other, derived by different product importance stimuli (promotion, brand/preference, normal importance). The results can be found in Table 13. Within this test, homogeneity of variances (according to Levene) is not assumed, but the robustness of means (according to Welch) can be assumed. There is a statistically significant difference in the *p* < 0.05 level in CSD scores within this group: *p* = 0.000. Despite reaching statistical significance, the actual difference in mean scores between the groups is quite small. The effect size, calculated using eta squared, is 0.039. Post hoc comparisons using the Tukey HSD test indicate that the mean score for group 1 (promotion) (*M* = 2.66, *SD* = 1.56) is significantly different from group 2 (brand/preference) (*M* = 3.08,

$SD = 1.44$) and from group 3 (normal importance) ($M = 3.43$, $SD = 1.59$). Notably, group 2 is not significantly different from group 3.

Similarly, an ANOVA is also conducted to investigate the utilitarian product settings and to compare the product groups to each other, derived by different product importance stimuli (promotion, brand/preference, normal importance). The respondents are divided into these three groups. Within this test, homogeneity of variances (according to Levene) is not assumed, but the robustness of means (according to Welch) can be assumed. There is a statistically significant difference in the $p < 0.05$ level in CSD scores within the three groups: $p = 0.020$. Despite reaching statistical significance, the actual difference in mean scores between the groups is quite small. The effect size, calculated using eta squared, is 0.016. Post hoc comparisons using the Tukey HSD test indicate that the mean score for group 2 (brand/preference) ($M = 2.95$, $SD = 1.62$) is significantly different from group 3 (normal importance) ($M = 3.42$, $SD = 1.51$), but does not differ significantly from group 1 (promotion) ($M = 3.08$, $SD = 1.61$). Further, group 1 does not differ significantly from group 2 or from group 3.

Please note that all tables of the ANOVA analysis can be retrieved from Appendix F.

Moreover, the comparable hedonic product group settings are compared to the utilitarian product group settings by the respondents' evaluations of CSD.

An independent samples t-test is conducted to compare the levels of CSD in unavailability occurrences without recovery measures in the hedonic against utilitarian settings for "normal importance". Within this test, equal variances are assumed. There is no significant difference in score between the hedonic setting ($M = 3.43$, $SD = 1.59$) and the utilitarian setting ($M = 3.42$, $SD = 1.51$; $t = -0.028$; $p = 0.978$, two-tailed). According to Cohen (1988), the effect size is very small (eta squared < 0.01).

Accordingly, an independent samples *t*-test is also conducted to compare the level of importance of the hedonic and utilitarian settings for "high importance settings". Within this test, equal variances are assumed. There is a significant difference in score between the hedonic settings (*M* = 2.88, *SD* = 1.51) and the utilitarian settings (*M* = 3.00, *SD* = 1.62; *t* = −0.967; *p* = 0.334, two-tailed). According to Cohen (1988), the effect size is very small (eta squared < 0.01).

Furthermore, an independent samples *t*-test is conducted to compare the level of importance of the hedonic and utilitarian settings for "promotional settings". Within this test, equal variances are assumed. There is a significant difference in score between the hedonic setting (*M* = 2.66, *SD* = 1.56) and the utilitarian setting (*M* = 3.08, *SD* = 1.61; *t* = −2.205; *p* = 0.028, two-tailed). According to Cohen (1988), the effect size is small (eta squared = 0.019).

An independent samples *t*-test is also conducted to compare the level of importance of the hedonic and utilitarian settings for "brand/preference settings". Within this test, equal variances are assumed. There is no significant difference in score between the hedonic setting (*M* = 3.08, *SD* = 1.44) and the utilitarian setting (*M* = 2.95, *SD* = 1.62; *t* = −0.777; *p* = 0.438, two-tailed). According to Cohen (1988), the effect size is very small (eta squared < 0.01).

All *t*-test calculations are available for further information in Appendix F.

5.4.4 Data Analysis: Hypothesis 3 – The Effect of Recovery Measures on Consumer Satisfaction

Hypothesis 3 proposes that suitable service recovery measures provided in an OOS occurrence contribute positively to higher CSD levels. Therefore, the availability settings are compared to the unavailability setting without recovery measures.

Table 14: Data Analysis: Hypothesis 3 – The Effect of Recovery Measures on CSD

Importance of Item				Availability (N 953)	Unavailability / Recovery Actions / Measures		
					No Recovery Measure (N 918)	Basic Recovery Measure (N 734)	Recovery PLUS Measure (N 748)
N 3353 Ø-IMP. 5,23	hedonic Scenarios (Wine) N 1586 Ø-IMP. 5,17	High Importance Item N 1111 Ø-IMP. 5,33	Brand / Preference N 493 Ø-IMP. 5,27	Exp. Setting 1 · N 182 · CSD_S 7,97 · CSD_M 6,20	Exp. Setting 2 · N 158 · CSD_S 3,08 · CSD_M 1,91	Exp. Setting 3 · N 131 · CSD_S 5,63 · CSD_M 4,51	Exp. Setting 4 · N 147 · CSD_S 6,10 · CSD_M 5,06
			Promotion	Exp. Setting 5 · N 132 · CSD_S 7,80 · CSD_M 6,03	Exp. Setting 6 · N 137 · CSD_S 2,66 · CSD_M 1,84	Exp. Setting 7 · N 106 · CSD_S 5,28 · CSD_M 4,07	Exp. Setting 8 · N 118 · CSD_S 5,78 · CSD_M 4,83
		Normal Importance Item N 475 Ø-IMP. 4,82		Exp. Setting 9 · N 127 · CSD_S 7,45 · CSD_M 5,80	Exp. Setting 10 · N 136 · CSD_S 3,43 · CSD_M 2,19	Exp. Setting 11 · N 116 · CSD_S 5,51 · CSD_M 4,39	Exp. Setting 12 · N 96 · CSD_S 5,50 · CSD_M 4,65
	utilitarian Scenarios (Milk) N 1767 Ø-IMP. 5,29	High Importance Item N 1232 Ø-IMP. 5,48	Brand / Preference N 725 Ø-IMP. 5,64 · N 507 Ø-IMP. 5,26	Exp. Setting 13 · N 212 · CSD_S 8,17 · CSD_M 6,25	Exp. Setting 14 · N 198 · CSD_S 2,95 · CSD_M 1,53	Exp. Setting 15 · N 156 · CSD_S 5,52 · CSD_M 4,35	Exp. Setting 16 · N 159 · CSD_S 4,90 · CSD_M 4,11
			Promotion	Exp. Setting 17 · N 142 · CSD_S 7,90 · CSD_M 5,96	Exp. Setting 18 · N 130 · CSD_S 3,08 · CSD_M 2,08	Exp. Setting 19 · N 113 · CSD_S 5,57 · CSD_M 4,42	Exp. Setting 20 · N 122 · CSD_S 5,09 · CSD_M 4,30
		Normal Importance Item N 535 Ø-IMP. 4,83		Exp. Setting 21 · N 158 · CSD_S 7,72 · CSD_M 5,89	Exp. Setting 22 · N 159 · CSD_S 3,42 · CSD_M 2,27	Exp. Setting 23 · N 112 · CSD_S 5,23 · CSD_M 4,19	Exp. Setting 24 · N 106 · CSD_S 5,09 · CSD_M 4,13

Source: Own Design (2016)

To contribute to a general understanding of the effect of recovery measures to CSD, this analysis is done as a first step, whereas the following section analysis the relationship of recovery measure to CSD in more detail.

Therefore, this analysis (Table 14) groups the experimental settings contributing to the unavailability without recovery measures situations (sets 2, 6, 10, 14, 18 and 22) together as the "no recovery measures group", while the other unavailability settings (3, 4, 7, 8, 11, 12, 15, 16, 19, 20, 23 and 24) are grouped together as the "unavailability with recovery measures (both recovery measures settings combined) group".

Transferring Hypothesis 3 into technical and testable hypotheses results in:

$$H_0: \mu_1 = \mu_2$$
$$H_1: \mu_1 \neq \mu_2$$

Here, μ_1 denotes the "no recovery measures group" and μ_2 denotes the "unavailability with recovery measures group". Further, both groups are compared with an independent samples t-test, which provides results as follows.

An independent samples t-test is conducted to compare the CSD levels of the respondents in unavailability situations where no recovery measure is provided ("no recovery measures group") against CSD levels of respondents which face an unavailability situation and where a recovery measure is provided ("unavailability with recovery measures group"). Within this test, equal variances are not assumed. There is a significant difference in scores between the "no recovery measures group" ($M = 3.10$; $SD = 1.57$) and the "unavailability with recovery measures group" ($M = 5.44$; $SD = 2.00$; $t = -30.117$; $p = 0.000$, two-tailed). The effect size is very strong (eta squared = 0.29). Therefore, H_0 is rejected and H_1 is accepted.

This procedure is also implemented for all individual sets of data. As these analyses show comparable results it is concluded that there is a significant difference in every comparison of the scenarios. The results for all individual data sets are not presented here, but can be found in Appendix G.

5.4.5 Data Analysis: Hypothesis 4 – Effect of Different Recovery Measures on Consumer Satisfaction

Hypothesis 4 states that the provision of different suitable recovery measures following OOS retail service failure results in different outcomes in terms of CSD. Therefore, the unavailability settings with recovery measures are compared to investigate whether any difference in the applied recovery measures can be detected. The following settings are affected:

Table 15: Data Analysis: Hypothesis 4 – The Effect of Different Recovery Measures on CSD

				Availability	No Recovery Measure	Basic Recovery Measure	Recovery PLUS Measure
				N 953	N 918	N 734	N 748
Importance of Item N 3353 Ø-IMP. 5,23	hedonic Scenarios (Wine) N 1586 Ø-IMP. 5,17	High Importance Item N 1111 Ø-IMP. 5,33	Brand / Preference N 618 Ø-IMP. 5,37	Exp. Setting 1 N 182 CSD_S 7,97 CSD_M 6,20	Exp. Setting 2 N 158 CSD_S 3,08 CSD_M 1,91	Exp. Setting 3 N 131 CSD_S 5,63 CSD_M 4,51	Exp. Setting 4 N 147 CSD_S 6,10 CSD_M 5,06
			Promotion N 493 Ø-IMP. 5,27	Exp. Setting 5 N 132 CSD_S 7,80 CSD_M 6,03	Exp. Setting 6 N 137 CSD_S 2,66 CSD_M 1,84	Exp. Setting 7 N 106 CSD_S 5,28 CSD_M 4,07	Exp. Setting 8 N 118 CSD_S 5,78 CSD_M 4,83
		Normal Importance Item N 475 Ø-IMP. 4,82		Exp. Setting 9 N 127 CSD_S 7,45 CSD_M 5,80	Exp. Setting 10 N 136 CSD_S 3,43 CSD_M 2,19	Exp. Setting 11 N 116 CSD_S 5,51 CSD_M 4,39	Exp. Setting 12 N 96 CSD_S 5,50 CSD_M 4,65
	utilitarian Scenarios (Milk) N 1767 Ø-IMP. 5,29	High Importance Item N 1232 Ø-IMP. 5,48	Brand / Preference N 725 Ø-IMP. 5,64	Exp. Setting 13 N 212 CSD_S 8,17 CSD_M 6,25	Exp. Setting 14 N 198 CSD_S 2,95 CSD_M 1,53	Exp. Setting 15 N 156 CSD_S 5,52 CSD_M 4,35	Exp. Setting 16 N 159 CSD_S 4,90 CSD_M 4,11
			Promotion N 507 Ø-IMP. 5,26	Exp. Setting 17 N 142 CSD_S 7,90 CSD_M 5,96	Exp. Setting 18 N 130 CSD_S 3,08 CSD_M 2,08	Exp. Setting 19 N 113 CSD_S 5,57 CSD_M 4,42	Exp. Setting 20 N 122 CSD_S 5,09 CSD_M 4,30
		Normal Importance Item N 535 Ø-IMP. 4,83		Exp. Setting 21 N 158 CSD_S 7,72 CSD_M 5,89	Exp. Setting 22 N 159 CSD_S 3,42 CSD_M 2,27	Exp. Setting 23 N 112 CSD_S 5,23 CSD_M 4,19	Exp. Setting 24 N 106 CSD_S 5,09 CSD_M 4,13

Source: Own design (2016)

For this analysis, the experimental settings (Table 15) contributing to the unavailability with basic recovery measures scenarios (settings 3, 7, 11, 15, 19 and 23) are grouped together as the "basic recovery measure group", while the other recovery settings (settings 4, 8, 12, 16, 20 and 24) are grouped together as the "recovery plus measure group".

Transferring Hypothesis 4 into technical and testable hypotheses results in:

$$H_0: \mu_1 = \mu_2$$
$$H_1: \mu_1 \neq \mu_2$$

Here, μ_1 denotes the "basic recovery measure group" and μ_2 denotes the "recovery plus measure group". Further, both groups are compared with an independent samples t-test, which provides results as follows.

An independent samples t-test is conducted to compare the CSD levels of the respondents in unavailability occurrences where different recovery measures were provided. Within this test, equal variances are not assumed. There is no significant difference in score between the "basic recovery measure group" ($M = 5.47$, $SD = 2.06$) and the "recovery plus measure group" ($M = 5.41$, $SD = 1.94$; $t = 0.561$; $p = 0.575$, two-tailed). The effect size is very small (eta squared < 0.01).

In order to investigate in more detail, the general settings (hedonic/utilitarian) are further analysed according to the provision of each different service recovery measure. The following analysis considers the "basic recovery measure group" and also uses a t-test to gain insights into this group. An independent samples t-test is conducted to compare the CSD levels of the respondents in unavailability occurrences in the "basic recovery measure groups". Within this test, equal variances are not assumed. There is no significant difference in scores between the "hedonic group" ($M = 5.49$, $SD = 1.96$) and the "utilitarian group" ($M = 5.45$, $SD = 2.14$; $t = 0.253$; $p = 0.800$, two-tailed). The effect size is very small (eta squared < 0.01).

Accordingly, a further independent samples *t*-test is conducted to compare the CSD levels of the respondents in unavailability occurrences in the "recovery plus measure group". Within this test, equal variances are assumed. There is a significant difference in score between the "hedonic group" (*M* = 5.83, *SD* = 1.85) and the "utilitarian group" (*M* = 5.01, *SD* = 1.94; *t* = 5.909; *p* = 0.000, two-tailed). The effect size is small (eta squared = 0.04).

In order to investigate in more detail, ANOVA analyses are conducted, comparing all three different "product importance groups" in each case. The first group of investigation is the "hedonic recovery plus measure group". Within this test, homogeneity of variances (according to Levene) is not assumed, but the robustness of means (according to Welch) can be assumed. There is a statistically significant difference in the *p* < 0.05 level in CSD scores within the three groups: *p* = 0.045. Despite reaching statistical significance, the actual difference in mean scores between the groups is quite small (Cohen, 1988). The effect size, calculated using eta squared, is 0.017. Post hoc comparisons using Tukey's HSD test indicate that the mean score for group 2 (brand/preference) (*M* = 6.10, *SD* = 1.87) is significantly different from group 3 (normal importance) (*M* = 5.50, *SD* = 1.84), but does not differ significantly from group 1 (promotion) (*M* = 5.78, *SD* = 1.80). To conclude, group 1 does not differ significantly from group 2 or from group 3. This analysis is also conducted for all other scenarios; however, the ANOVAs show that the particular experimental settings do not vary within their general (hedonic/utilitarian) settings.

Finally, the different recovery measures are compared within each general (hedonic/utilitarian) setting. An independent samples *t*-test is conducted to compare the CSD levels in the hedonic setting. Within this test, equal variances are assumed. There is a significant difference in scores between the "basic recovery measure group" (*M* = 5.49, *SD* = 1.96) and the "recovery plus measure group" (*M* = 5.83, *SD* = 1.85; *t* = −2.431; *p* = 0.015, two-tailed). According to Cohen (1988), the effect size is very small (eta squared < 0.01).

Further, the settings within the general utilitarian setting are compared. An independent samples *t*-test is conducted to compare the CSD levels. Within this test, equal variances are not assumed. There is a significant difference in scores between the "basic recovery measure group" (*M* = 5.45, *SD* = 2.14) and the "recovery plus measure group" (*M* = 5.01, *SD* = 1.94; *t* = −2.953; *p* = 0.003, two-tailed). According to Cohen (1988), the effect size is very small (eta squared < 0.01).

It can be concluded that the general hypothesis, which states that the provided recovery plus measure generally contributes to higher CSD scores during OOS occurrences, cannot be confirmed significantly, as the means of the scores are very similar at a general level. The investigation within the particular product settings (hedonic/utilitarian), by comparing each experimental set differentiated by "importance of product", results in no significant findings. However, the comparison of the different recovery measure groups within the general settings provides very interesting insights. Within both specific settings, the measures prove to be significantly different to each other. Within the hedonic product setting, the recovery plus measure shows significantly higher CSD levels compared to the basic recovery measure. The result within the utilitarian setting, however, is the opposite; here, the basic recovery measure shows a significantly different, higher CSD level compared to the recovery plus measure.

All tables and calculations discussed here can be retrieved from Appendix H.

5.4.6 Data Analysis: Hypothesis 5 – The Effect of Consumer Satisfaction on Consequences

In order to investigate Hypothesis 5 regarding whether the level of CSD influences evaluative and behavioural consumer consequences during unavailability situations, particularly once different recovery measures are provided, this analysis begins with a correlation analysis.

Table 16: Data Analysis – Correlation of CSD and Consequences

Correlations

		CSD_ALL _Single	Conseq_Eval_ST _ALL_ALL	Conseq_Eval_LT _ALL_ALL	Conseq_Behav_ST _ALL_ALL	Conseq_Behav_LT _ALL_ALL
CSD_ALL_Single	Pearson Correlation	1	,819**	,714**	,651**	,553**
	Sig. (2-tailed)		,000	,000	,000	,000
	N	3353	3353	3353	3353	3353
Conseq_Eval_ST_ALL_ALL	Pearson Correlation	,819**	1	,769**	,704**	,605**
	Sig. (2-tailed)	,000		,000	,000	,000
	N	3353	3353	3353	3353	3353
Conseq_Eval_LT_ALL_ALL	Pearson Correlation	,714**	,769**	1	,831**	,749**
	Sig. (2-tailed)	,000	,000		,000	,000
	N	3353	3353	3353	3353	3353
Conseq_Behav_ST_ALL_ALL	Pearson Correlation	,651**	,704**	,831**	1	,760**
	Sig. (2-tailed)	,000	,000	,000		,000
	N	3353	3353	3353	3353	3353
Conseq_Behav_LT_ALL_ALL	Pearson Correlation	,553**	,605**	,749**	,760**	1
	Sig. (2-tailed)	,000	,000	,000	,000	
	N	3353	3353	3353	3353	3353

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Own design (2016)

The relationship between the respondents' CSD ratings and their evaluations of consequences is investigated using the Pearson product-moment correlation coefficient. There are significant positive correlations between the CSD levels and all four consequence measures (evaluative short- and long-term/behavioural short- and long-term consequences) with large effect sizes (Cohen, 1988). The variable termed "Cons_Eval_ST_ALL_ALL" refers to evaluative short-term consequences for all products that contribute to the general settings (hedonic/utilitarian) and all three importance scenarios (brand/preference, promotion, normal importance) within these general settings.

For a more detailed analysis, the different shopping situations are compared to each other. The experimental settings contributing to the availability scenarios (settings 1, 5, 9, 13, 17 and 21) are grouped together as the "availability group", while other settings (settings 2, 6, 10, 14, 18 and 22) are grouped together as the "unavailability without recovery measures group".

Transferring Hypothesis 5 into technical and testable hypotheses results in:

$$H_0: \mu_1 = \mu_2$$
$$H_1: \mu_1 \neq \mu_2$$

Here, μ_1 denotes the "availability group" and μ_2 denotes the "unavailability without recovery measures group". Further, both groups are compared with an independent samples *t*-test, which provides results as follows.

Independent samples *t*-tests are conducted to compare the consumers' evaluations of consequences in the availability situations to the unavailability without recovery measures situations. Within these tests equal variances are not assumed. There are significant differences in scores between the "availability group" (evaluative short-term $M = 5.89$, $SD = 1.25$; evaluative long-term $M = 5.80$, $SD = 1.23$; behavioural short-term $M = 5.76$, $SD = 1.31$; behavioural long-term $M = 5.57$, $SD = 1.19$) and the "unavailability without recovery measures group" (evaluative short-term $M = 2.62$, $SD = 1.25$; evaluative long-term $M = 3.66$, $SD = 1.08$; behavioural short-term $M = 3.83$, $SD = 1.06$; behavioural long-term $M = 4.16$, $SD = 1.18$). Scores on consequences are derived from seven-point bipolar scales, which are formatted to ensure that negative results are less than four (the point of indifference) and positive results show values higher than four. The effect sizes are large (etas squared > 0.14). Therefore, H_0 is rejected and H_1 is accepted. Interestingly, the effect size within the evaluative short-term consequences shows the largest effect of CSD on the consequences (eta squared = 0.63), which is also expressed in the difference in means. Evaluative long-term consequences show a smaller effect size (eta squared = 0.46), and behavioural short-term consequences show an even smaller effect size (eta squared = 0.39). Behavioural long-term consequences show the smallest effect size within this analysis (eta squared = 0.27).

Similarly, the scenarios of the "unavailability without recovery measures" are compared to the "unavailability with basic recovery measure". Independent samples *t*-tests are conducted to compare the consumers' evaluations of consequences in the "unavailability without recovery measures group" to the "unavailability with basic recovery measure group". Within these tests, equal variances are not assumed. There are significant differences in scores between the "unavailability without recovery measures group" (evaluative short-term $M = 2.62$, $SD = 1.25$; evaluative long-term $M = 3.66$, $SD = 1.08$; behavioural short-term $M = 3.83$, $SD = 1.06$; behavioural long-term $M = 4.16$, $SD = 1.18$) and the "unavailability with basic recovery measure group" (evaluative short-term $M = 4.72$, $SD = 1.45$; evaluative long-term $M = 4.86$, $SD = 1.23$; behavioural short-term $M = 4.88$, $SD = 1.31$; behavioural long-term $M = 5.02$, $SD = 1.25$). Interestingly, the effect size results within the evaluative short-term consequences again show the largest effect (eta squared = 0.367). Evaluative long-term consequences show a smaller effect size (eta squared = 0.207) and behavioural short-term consequences show an even smaller effect size (eta squared = 0.159). Although the effect size results vary, they all have a large effect size. Interestingly, the behavioural long-term consequences show the smallest effect size within this analysis (eta squared = 0.113) and, according to Cohen (1988), contribute therefore to a moderate effect size only.

Following on from this, the scenarios of the "unavailability with basic recovery measure group" are compared to the "unavailability with recovery plus measure group" using independent samples *t*-tests. Within these tests, equal variances are assumed. Interestingly, there are only significant differences in scores within the short-term consequences (evaluative and behavioural) but no significant differences within the long-term consequences (evaluative and behavioural). This can also be expressed in the comparison of means for the "unavailability with basic recovery measure group" (evaluative short-term $M = 4.72$, $SD = 1.45$; evaluative long-term $M = 4.86$, $SD = 1.23$; behavioural short-term $M = 4.88$, $SD = 1.31$; behavioural long-term $M = 5.02$, $SD = 1.25$) and the "unavailability with basic recovery plus measure group" (evaluative short-term $M = 4.95$, $SD = 1.40$; evaluative long-term $M = 4.95$, $SD = 1.29$; behavioural short-term $M = 5.02$,

SD = 1.35; behavioural long-term *M* = 4.99, *SD* = 1.25). Interestingly, and according to Cohen (1988), the effect size for all consequences is very small (eta squared < 0.01).

Please note that all tables are presented in Appendix I.

Further, the last *t*-tests in particular reveal interesting results, as the provision of the service recovery plus measure after OOS retail service failure does not lead to a significant difference in means than the provision of the basic recovery measure. This particular finding must be investigated further, as this analysis shows parallels with the findings of the previously conducted investigation of CSD level after the provision of recovery measures, which vary according to the general setting (hedonic/utilitarian). Therefore, all four retail settings (recovery settings) are compared at the level of the general product setting (hedonic/utilitarian). Here, the "availability", "unavailability without recovery" and "unavailability with basic recovery measure" settings do not show significant differences in means on an aggregated level. However, the comparison of the "unavailability occurrence with recovery plus measure" in particular varies significantly between the general product settings (hedonic/utilitarian). An independent samples *t*-test is conducted. Within this test, equal variances are assumed. There are significant differences in scores for the "hedonic group" (evaluative short-term *M* = 5.11, *SD* = 1.35; evaluative long-term *M* = 5.15, *SD* = 1.22; behavioural short-term *M* = 5.22, *SD* = 1.31; behavioural long-term *M* = 5.16, *SD* = 1.17) and the "utilitarian group" (evaluative short-term *M* = 4.80, *SD* = 1.43; evaluative long-term *M* = 4.77, *SD* = 1.33; behavioural short-term *M* = 4.83, *SD* = 1.36; behavioural long-term *M* = 4.84, *SD* = 1.29). According to Cohen (1988), the effect sizes for all consequences are small (eta squared > 0.01 and < 0.06).

Comparing both recovery measures within the hedonic settings yields the following results. An independent samples *t*-test is conducted within the hedonic setting. Within this test, equal variances are assumed. There are significant differences in scores for the "unavailability with basic recovery measure group" (*M* = 4.88, *SD* = 1.16) and the "unavailability with recovery plus measure group" (*M* = 5.16,

SD = 1.10). According to Cohen (1988), the effect size is small (eta squared = 0.014).

Similarly, this test is also conducted for the utilitarian group. Within this test, equal variances are assumed. There are no significant differences in scores for the "unavailability with basic recovery measure group" (*M* = 4.86, *SD* = 1.14) and the "unavailability with recovery plus measure group" (*M* = 4.81, *SD* = 1.20). According to Cohen (1988), the effect size is very small (eta squared < 0.01). A total comparison of means of each experimental setting results in the following findings. The lowest score for a consequence measure within the hedonic setting is retrieved in experimental setting 6 (hedonic setting, promotion product, unavailability without recovery measures) (*M* = 2.31, *SD* = 1.25). The lowest score within the utilitarian setting is taken from experimental setting 14 (utilitarian setting, brand/preference product, unavailability without recovery measures) (*M* = 2.49, *SD* = 1.23). Both settings vary significantly in their comparable settings ("normal product importance" settings).

Thus it can be concluded that, as a result of the experimental settings, the respondents' consequences correlate significantly with CSD level. Therefore, during the availability scenarios, the average measure of the combined consequences reveals a mean that contributes to positive consequences (*M* = 5.76, *SD* = 1.08). In comparison, the unavailability scenarios without any recovery measures result in negative consequences (*M* = 3.57, *SD* = 0.89). The provision of the basic recovery measure shows a significant difference in scores, turning negative consequences into positive ones (*M* = 4.87, *SD* = 1.15), whereas the provision of the recovery plus measure does not significantly increase the mean in comparison to the basic recovery measure (*M* = 4.98, *SD* = 1.16). Further analysis investigating the differentiation of the provided recovery measure settings in particular, reveals that the respondents evaluate the provision of the service recovery plus measure with significantly higher scores, especially within the hedonic setting. Here, the mean of the basic recovery measure (*M* = 4.88, *SD* = 1.16) is significantly higher when the recovery plus measure is applied (*M* = 4.81, *SD* = 1.20). Nevertheless, this comparison within the utilitarian setting does not result in a significantly different mean.

5.4.7 Factor Analysis: The Effect of a Common Method Bias Marker on the Experiment

In the previous part of this work, the research design was elaborated and a CMBM was also included (refer to subsection 4.3.9.2). This was carried out in line with recommendations from the literature (e.g. Podsakoff, MacKenzie, Lee and Podsakoff, 2003; Richardson, Simmering and Sturman, 2009; Williams, Hartmann and Cavazotte, 2010; MacKenzie and Podsakoff, 2012) to detect whether the survey is influenced by respondents' bias or whether the survey construct has reliable stability. Therefore, the items of the survey (importance, CSD and consequences) were subjected to principal component analysis (PCA). Prior to performing PCA, the correlation matrix revealed that the CMBM is independent of the other variables (all tables and calculations for this subsection are provided within Appendix J). The Kaiser–Meyer–Olkin (KMO) test value was 0.926 (with CMBM), exceeding the recommended value of 0.6, and Bartlett's test of sphericity reached statistical significance, supporting the factorability of the correlation matrix (Pallant, 2010). Importantly, these tests show very similar results for the testing with CMBM and without CMBM variables, which, relating back to the literature (e.g. Pallant, 2010), already indicates no significant common method bias. A PCA revealed the presence of two (PCA without CMBM) and three (PCA with CMBM) components with eigenvalues exceeding 1. Within the PCA without CMBM, the first component explains the variances of the variables for CSD to a lesser extent than the consequences. The second component explains the variances of the variables for importance. By adding the CMBM variable, a third dimension is added, but this only explains its variance and does not affect the other variables.

Therefore, the experimental construct shows no significant common method bias and can be seen as a suitable and a robust construct (Pallant, 2010).

5.5 Conclusion

The data collection resulted in 3,353 useful data sets, which constituted the "relevant set" applied to further analyses that were designed to answer the hypotheses posed. The relevant set was distinctly distributed across the 24 experimental settings, showing data sets for each scenario from at least $N = 96$ to $N = 212$ and representing "large" data sets (Pallant, 2010; Field, 2013). Descriptive analyses further showed that the respondents' age distribution was nationally representative of the general German population (Liebhaber, 2015). Further analyses found that parametric statistics could be applied. Those analyses evaluating the consistency and the reliability of the applied scales showed strong internal consistencies. Moreover, as CSD was measured by a nine-point bipolar single-item scale and by using a four-question multi-item seven-point Likert scale, and as both scales furthermore showed a very strong positive consistency, the nine-point single-item scale was applied for the further elaboration of this data analysis chapter. The spread of the scale simplified the recognition of differences. The main finding of this analysis is that the experimental scenario setup was designed appropriately, as the first hypothesis tested the difference in CSD levels between the availability scenarios and the unavailability without any recovery measures scenarios. The analyses showed significant differences with very strong effect sizes. The second hypothesis investigated the respondents' evaluation of item importance and its impact on their CSD levels in the presented shopping situations. A correlation analysis showed significant correlations between "item importance" and CSD levels, positive correlations in the OSA scenarios and negative correlations in the OOS scenario without the provision of recovery measures. Moreover, within the experimental setting the respondents expressed a significantly higher item importance level for products within the "promotional" and the "brand/preference" settings. A further distinction within the hedonic and utilitarian product setting provided interesting insights. The lowest CSD levels could be found in OOS scenarios without recovery measures for the hedonic product in the "promotional" setting and the utilitarian product in the "brand/preference" setting.

Hypothesis 3 proposed that the provision of recovery measures contributes to higher CSD levels than the OOS scenarios without recovery measures. Here, a very strong and significant difference was revealed, which strengthens the experimental setting of whether the provision of different recovery measures results in different CSD levels. How different recovery measures impact CSD was raised in Hypothesis 4. Analyses showed that the provision of basic recovery measures and the recovery plus measures did not vary significantly in their impact on CSD level at a general level. However, the comparison of the effects of these measures in the different product settings (hedonic/utilitarian) showed interesting insights. Here, the provision of the recovery plus measure resulted in significantly higher positive impacts on the CSD levels once the measures were provided within the hedonic setting. In contrast, the basic recovery measure showed significantly higher CSD levels within the utilitarian scenario than for the recovery plus measures. Lastly, the investigation into Hypothesis 5 yielded, at a general level, a significant correlation between the respondents' CSD levels and their consequences regarding short- and long-term evaluative and behaviour reactions to retailers. In terms of the provision of recovery measures during OOS occurrences, positive correlations between CSD levels and consequences could be reported. In the case of low CSD levels, the respondents tended to show negative consequences, and positive CSD levels showed positive consequences. In comparison to the previous findings, the provision of the recovery plus measure in the hedonic setting contributed to significantly higher positive consequences compared to the basic recovery plus measures and to the utilitarian settings.

The following Table 17 gives an overview of the results of this chapter.

Table 17: Overview of Results of Data Analysis

	Hypothesis	Independent Variable	Dependent Variable (Measure)	Manipulation		Applied Test	Results of Hypothesis Testing
1)	The occurrence of OOS in store-based retail formats negatively affects consumer satisfaction.	OOS	CSD		OSA vs. OOS without recovery measures	*t*-test	Significant differences in CSD scores. Hypothesis can be confirmed.
2)	The more important the product is for the consumer, the higher the negative impact of an OOS occurrence on consumer satisfaction.	General relationship				Pearson product-moment correlation	Significant positive correlation. Hypothesis can be confirmed
		OOS	CSD	a)	High importance stimuli vs. normal importance setting	*t*-test	Significant differences in CSD scores. Hypothesis can be confirmed.
				b)	Different high importance stimuli	ANOVA	Significant differences in CSD scores for utilitarian setting. No significant differences in CSD for hedonic setting.
				c)	Different products	*t*-test	Significant differences in CSD scores.
3)	The provision of service recovery measures decreases the negative impact of an OOS occurrence on consumer satisfaction.	OOS	CSD		OOS without recovery measure vs. OOS with recovery measures	*t*-test	Significant differences in CSD scores. Hypothesis can be confirmed.
4)	There is a significant difference between the provision of a basic recovery measure and a recovery plus measure with regards to decreasing the negative impact of an OOS occurrence on consumer satisfaction.	OOS	CSD		Provision of different recovery measures	*t*-test	No significant differences in CSD scores on a general level. Hypothesis cannot be confirmed. (Significant differences in CSD scores by comparing recovery measures within hedonic and utilitarian settings.)
5)	The level of consumer satisfaction in an OOS situation affects the behaviour and evaluations of the consumer.	CSD	Consumer consequences		Comparison of all scenarios	*t*-test, ANOVA, Pearson product-moment correlation	Significant differences in CSD scores. Hypothesis can be confirmed.

Source: Own design (2016)

6   Discussion of Findings and Interpretation

6.1   Introduction

This chapter presents the major findings of this research and discusses them in relation to the literature. The structure of this chapter follows that of the preceding analysis chapter.

6.2   How Out of Stock Affects Consumer Satisfaction

This study analyses whether the use of recovery measures by German grocery retailers during OOS situations improves consumer satisfaction levels. The data analysis at first measured the effect of OOS on consumer satisfaction. The results show that the scores of the availability and unavailability scenarios vary significantly. The availability scenarios show higher satisfaction levels, whereas the unavailability scenarios clearly lead to dissatisfaction. Therefore, the results confirm findings from literature, for example those of Bougie, Pieters and Zeelenberg (2003); Hess, Ganesan and Klein (2003); Komunda and Osarenkhoe (2012). Herzberg (1974; 1979) separated variables into motivators and hygiene factors, where motivators impact the dependent variable in both directions (e.g. satisfaction–dissatisfaction) and hygiene factors impact the dependent variable in only one direction (e.g. high satisfaction–low satisfaction). Based on the notions of Herzberg (1974; 1979), OSA/OOS represent motivators for consumers that lead to either to consumer satisfaction or to consumer dissatisfaction. They are not hygiene factors, as OSA/OOS result in both satisfaction and dissatisfaction. The findings of this data analysis show, that OOS directly causes a strong negative impact in terms of dissatisfaction. OOS does not lower satisfaction: it turns it immediately into dissatisfaction, and therefore impacts the relationship between the customer and the retailer both directly and significantly.

6.3 Item Importance and Its Impact on Consumer Satisfaction During Out of Stock

One of the core aspects of this work is identifying the impact of consumers' evaluations of item importance on consumer satisfaction levels in relation to OOS. The literature proposes that the importance of a product to the consumer plays a decisive role for consumer satisfaction in unavailability occurrences in retail stores. Prospect theory (see Chapter 3) states that consumers value the outcome of the service level of a retailer according to their individual reference point (Kahneman and Tversky, 1979). In cases where a product is promoted, for example, the reference point is moved to a higher expectation level and their "loss" in cases of OOS is higher (Kahneman and Tversky, 1979). This finding supports the theory that item importance impacts consumer satisfaction, particularly in unavailability occurrences within store-based retail formats.

The data analysis shows that there is strong relationship between the respondents' ratings of item importance and their consumer satisfaction levels. The experimental settings where the item that is planned to be purchased is supplemented either by a promotion or by the brand/preference ("high importance setting") show significantly higher importance level than the settings without supplementation of either promotion or brand/preference ("normal importance setting"). This strengthens the evidence that the experimental setting of this work can distinguish products according to the importance of the product to consumers. Highly important products were termed key consumer value items (KCVIs).

In terms of OOS occurrences, the consumer satisfaction levels of the experimental settings were less affected when neither the promotion nor the brand/preference settings were presented. This confirms that there is a correlation between item importance and consumer satisfaction level, which is in line with prospect theory. These results confirm the findings of McKinnon, Mendes and Nabateh (2007), who stated that promoted items are more important to consumers and result in higher dissatisfaction levels in cases where the promoted items are OOS.

Furthermore, the findings of this work also confirm the findings of Verhoef and Sloot (2006), who found that the importance of a product to a consumer is determined by a product's brand. In cases where these highly valued brand

products are OOS, the level of dissatisfaction increases. In sum, KCVI products show significantly higher importance evaluations and also have significantly higher dissatisfaction levels when KCVIs feature in OOS occurrences.

According to Verhoef and Sloot (2006), consumers' reactions to OOS is related to either hedonic or utilitarian product characteristics. Therefore, this research investigated whether hedonic and utilitarian products have a different impact on consumer's reaction during OOS. Generally, this study indicates that the importance of an item to the consumer significantly correlates with consumer satisfaction levels during OOS. Furthermore, this study also indicates that there is a significant difference in important scores between the hedonic and the utilitarian settings.

However, this study shows that the significant differences in the importance scores of the hedonic and the utilitarian settings do not directly impact consumer satisfaction levels, as the comparison of consumer satisfaction levels between the hedonic and the utilitarian product settings did not vary significantly. Furthermore, comparing the hedonic and the utilitarian products in the "normal importance" settings revealed no significant differences in either the importance rating or in consumer satisfaction levels during OOS occurrences. Therefore, Verhoef and Sloot's (2006) statement that consumers' reactions to OOS occurrences depend on whether a product's characteristics are either hedonic or utilitarian cannot be confirmed.

Furthermore, Sloot, Verhoef and Franses (2005) identify the substitutability of utilitarian products (in particular, for milk) as the major reason for the difference in reactions. Therefore, the findings of this research must be discussed in greater depth, as this thesis specifically divided each product setting (hedonic/utilitarian) into different importance stimuli ("normal importance of product", "brand/preference" and "promotion"). By investigating the "high importance setting" ("promotion", "brand/preference"), the following results emerge. Within the utilitarian setting, the importance rating is significantly higher than the hedonic rating. Unlike the importance ratings, the consumer satisfaction level during OOS

occurrences shows significantly lower values for the hedonic rating in comparison to the utilitarian.

Regarding Sloot, Verhoef and Franses' (2005) item "substitutability", the "high importance" experimental settings of this work are as follows. The "brand/preference" settings show that an item is needed and has to be purchased and that this item is important due to its brand/preference. If this brand/preference item is OOS, this particular product cannot be bought but could generally be substituted. Even when the importance ratings varied significantly between the hedonic and the utilitarian products, consumer satisfaction levels did not vary significantly.

Moreover, the results of the "promotion" settings also have to be interpreted and discussed with respect to the theory of substitutability. When this promoted item is OOS, this particular product cannot be bought and the promotion voucher is useless. The findings of the hedonic setting showed significantly lower satisfaction levels, referring to dissatisfaction, than in the utilitarian setting, even when the importance of these setting have no significant difference.

However, this has to be discussed further in relation to whether other important drivers, such as the monetary benefit of the promotion to the consumer, play a decisive role, as getting one free bottle of wine offers a higher monetary benefit than getting one carton of milk for free. The results of this work indicate that Sloot, Verhoef and Franses' (2005) theory that consumers' reactions to OOS occurrences depend on whether a product's characteristics are either hedonic or utilitarian cannot be confirmed.

6.4   Recovery Measures and Their Effect on Consumer Satisfaction

Río-Lanza, Vázquez-Casielles and Díaz-Martín (2009) stated that generally the provision of effective service recovery measures improves consumer satisfaction levels following an OOS retail service failure. This work investigated two different service recovery measures: a basic recovery measure (a notice on the shelf offering an explanation of the situation and an apology ("Sorry, this product is currently unavailable – we are aware of this and have reordered this item. We apologise for any inconvenience caused")) and a recovery plus measure (a shop assistant supported the customer by checking the store and the backroom for whether the missing product could be found somewhere else; after the employee returned without finding the product, the employee apologises "Sorry, this product is indeed unavailable – we apologise for any inconvenience caused"). The provision of any of these service recovery measures results in significantly improved consumer satisfaction levels. Therefore, the findings in the literature (e.g. Hoffman, Kelley and Rotalsky, 1995; McCollough, Berry and Yadav, 2000; Río-Lanza, Vázquez-Casielles and Díaz-Martín, 2009; Komunda and Osarenkhoe, 2012) can be confirmed: applying service recovery measures changes consumer dissatisfaction during OOS occurrences into improved and significantly higher CSD levels (contributing to satisfaction in general).

Smith and Bolton (2002) argues that consumer satisfaction levels are affected by the emotional response to the recovery measure itself: "(...) customers' satisfaction will be influenced by their emotional responses to service failures and that they may respond differently to various types of recovery efforts (...) depending on their emotional state." (Smith and Bolton, 2002: 5). Further, Kelley, Hoffman and Davis (1993) argue that the provision of personal assistance ("employee intervention") and an apology (termed in this study "recovery plus measure") during a retail service failure is considered to be of higher value to customers than just an "apology measure" (termed in this study "basic recovery measure"). The recovery plus measure was intended to provide higher satisfaction scores than the basic recovery measure. However, the results show in general no significant difference in the satisfaction scores between the basic and the recovery plus measure.

Therefore, the suggestion of Kelley, Hoffman and Davis (1993) cannot be confirmed.

By applying the recovery measures in the hedonic setting, significantly higher consumer satisfaction scores for the recovery plus measure were indeed achieved in comparison to the basic recovery measure. However, applying these measures to the utilitarian setting yielded different results. Here, the basic recovery measure resulted in significantly higher consumer satisfaction scores than the recovery plus measure, which leads to the conclusion that the effectiveness of recovery measures is linked to product characteristics.

Justification and fairness theory (where the outcome of the retail service failure and the procedural and interactional fairness of the recovery process are significant drivers for post-recovery consumer satisfaction) (e.g. Wirtz and Mattila, 2004) seems to be more effective regarding hedonic product characteristics than utilitarian product characteristics. As hedonic product characteristics are more personal and individual (Dhar and Wertenbroch, 2000), a personal and individual recovery measure, such as the recovery plus measure applied within this study, seems to be more effective for consumers. Therefore, justification and fairness theory according to Wirtz and Mattila (2004) can be confirmed for the recovery plus measure within the hedonic settings, but not for the utilitarian product settings.

As the provision of the basic recovery measure applied to the utilitarian setting leads to higher consumer satisfaction levels than the recovery plus measure, this finding has to be linked to the research into the substitutability of products conducted by, for example, Sloot, Verhoef and Franses (2005) and Grant and Fernie (2008). In particular, Sloot, Verhoef and Franses (2005) name primarily functional products such as *toilet paper* and *milk* as utilitarian products. Further, for the example of *toilet paper*, Grant and Fernie (2008) link products with which consumers do not have a personal attachment to higher substitution, as they can easily be substituted by "brand switching" of "size switching". Transferring the findings of Sloot, Verhoef and Franses (2005) and Grant and Fernie to this study indicates that the utilitarian product *milk* during OOS will be substituted by

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consumers and that they perceive the recovery plus measure with personal assistance as "over-recovering". Hence, the question arises whether some recovery measures can "over-recover" retail service failures and therefore lead to a sub-optimal result. Thus, this research acknowledges the proactive provision of the information via the shelf display as more appropriate and constructive.

Finally, the recovery paradox (as identified by Kelley, Hoffman and Davis, 1993; Schweikhart, Strasser and Kennedy, 1993; Komunda and Osarenkhoe, 2012) could not be confirmed within this study, as the consumer satisfaction levels for all recovery scenarios show lower consumer satisfaction scores than the OSA scenarios.

6.5   The Influence of Consumer Satisfaction on Consumer Consequences

This research shows high CSD levels, which contribute to "satisfaction", for the OSA scenarios. In comparison, CSD levels are low, contributing to "dissatisfaction", during OOS occurrences when no recovery measure is provided. In cases where (any) recovery measure is provided, consumer satisfaction levels improve significantly, contributing to "satisfaction", in comparison to the OOS without recovery measures. These findings are in accordance with the literature which focuses on justice theory (e.g. Campo, Gijsbrechts and Nisol, 2004; Río-Lanza, Vázquez-Casielles and Díaz-Martín, 2009). Therefore, the theory can be confirmed by the findings of this work, as consumers that receive a retail service recovery measure perceive fairness and therefore justice. Moreover, this study found that the level of consumer satisfaction significantly correlates with consumer consequences.

Consumer consequences (e.g. loyalty, re-purchasing) vary according to whether the product's characteristics are either utilitarian or hedonic. Applying the recovery plus measure within the hedonic setting (in comparison to the basic recovery measure) show significantly higher (positive) scores for consumer consequences. In contrast, applying the recovery plus measure specifically within the utilitarian setting shows no significant differences in relation to the basic recovery measure.

Furthermore, the recovery plus measure shows lower scores for consumer consequences in the utilitarian setting (in comparison of applying the basic recovery measure). Therefore, the findings of this thesis also confirm the literature which considers the differentiation of utilitarian and hedonic products during OOS occurrences (e.g. Sloot and Verhoef; 2006; Grant and Fernie, 2008).

6.6 Conclusion

The experimental research is able to reproduce the general findings from the literature which show that an OOS situation without any recovery measures results in consumer dissatisfaction, while OSA results in high consumer satisfaction scores. It was also found that the respondents' evaluation of item importance impacted consumer satisfaction levels. At a general level, higher importance ratings contributed to higher satisfaction during OSA whereas they contributed to higher dissatisfaction levels during OOS. The provision of recovery measures during OOS occurrences contributed generally to satisfaction in comparison to OOS occurrences without any recovery measures, which confirms the findings in the literature. However, according to theory, item importance varies according to whether products have hedonic or utilitarian characteristics.

By considering this fact within this study, it can be confirmed that the importance of a product to the consumer influences consumer satisfaction levels significantly. However, the provision of recovery measures during OOS occurrences leads to different consumer satisfaction outcomes at the level of product characteristics (utilitarian/hedonic). Although the provision of a recovery measure directly transforms the dissatisfaction into satisfaction, similar satisfaction levels to OSA are not achieved. Hence, the "recovery paradox" cited in the literature cannot be confirmed by this work.

Finally, the findings established earlier indeed impact consumer consequences, which were measured for evaluative, behavioural, long- and short-term characteristics. Here, the link between consumer satisfaction and consequences was also confirmed. The provision of recovery measures does not solely affect consumer satisfaction levels: it also contributes indirectly to consumer consequences.

7 Conclusions, Limitations and Outlook

7.1 Introduction

This chapter aims to relate the findings to the research objectives and questions, as well as to the limitations and the outlook of this work. Generally, this study establishes a framework in which every product can be linked by its product characteristics (utilitarian or hedonic / the importance level of the product to consumers) to consumer satisfaction during OSA or OOS occurrences (with or without service recovery measures) and from consumer satisfaction to the outcome of OSA or OOS occurrences in terms of consequences. This work shows that this framework is effective, but that the transformation of this model to other products and settings must be carried out accurately with regard to product characteristics. This is because product characteristics vary according to retail industry, products and shopping situations and many other factors. Figure 53 provides an overview of the research questions, the results and the conclusions.

Figure 53: Research Questions, Results and Conclusions

Research Questions	Results	Conclusions
To what extent does the importance of a product (from a consumer's perspective) affect the impact of an OOS occurrence on (1) CSD levels and subsequently (2) short- and long-term consumers' evaluative and behavioural reactions?	The level of item importance significantly influences the satisfaction levels at OOS. However, relating item importance to consumer satisfaction alone is not sufficient, as the antecedents that drive item importance also have to be considered, as satisfaction and consumers' short- and long-term evaluative and behavioural reactions vary significantly according to these drivers.	The antecedents of item importance impact the consumer satisfaction level at OOS in particular. Relating the antecedents of item importance to consumer satisfaction alone is not enough, and must be carefully interpreted and seen, for example, under the focus of the concrete monetary benefits for the consumer. This again has direct impact on consumers' short- and long-term evaluative and behavioural reactions.
To what extent do different types of service recovery measures influence the impact of OOS occurrence on (1) CSD levels and subsequently (2) consumers' short- and long-term evaluative and behavioural reactions?	Service recovery measures significantly influence the satisfaction levels at OOS. Regardless of which recovery measure is applied, the provision of service recovery measures results satisfaction at OOS. Nevertheless, different recovery measures vary in effectiveness for different products and therefore also contribute to different consumers' short- and long-term evaluative and behavioural reactions.	In order to determine recommended actions for retailers on how to handle OOS occurrences, the applied recovery measures have to be considered in detail in relation to the underlying characteristics of the product and importance drivers, as this research revealed significant differences in this field.
To what extent does the importance of a product (from a consumer's perspective) impact the effectiveness of different types of service recovery measures?	OOS consequences are negative and CSD levels are low (contributing to dissatisfaction) when no recovery is undertaken. However, CSD levels are high and contribute to satisfaction when recovery measures are provided. In relation to the type of product, customers might not reward inappropriately applied recovery measures adequately.	The provision of service recovery measures turns consumer dissatisfaction into satisfaction. The provision of any recovery measure is rewarded by the respondents – only the absence of any measure has negative consequences. However, specific recovery measures must be balanced with specific OOS products, as some recovery measures are more effective for products with certain characteristics than others.

Source: Own design (2016)

7.2   Contributions of the Study

The following sections explain the contribution of the work to theory and to practice.

7.2.1   Implications for Theory

As the literature review demonstrated, OSA/OOS research is affected by different limitations, in particular the generalisability of findings to other products and settings (e.g. Grant and Fernie, 2008), the role of promotions and their impact during OOS occurrences to consumer consequences (e.g. Sloot, Verhoef and Franses, 2005), whether the product's characteristics are either hedonic or utilitarian (e.g. Dhar and Wertenbroch, 2000) and the dominant consideration of the UK market in OSA/OOS research (e.g. Fernie and Grant, 2008). In the following, this work contributes to these limitations and contributes to the existing literature.

The moderating effect of the importance of the product to the consumer

One of the major limitations in OSA/OOS research is in generalising the findings to other products, as the details that drive the outcome of OOS occurrences are multi-layered (e.g. the urgency of need). For this reason, it is difficult to relate findings from the OSA/OOS literature to generalisability and to compare the results of existing studies to each other (e.g. McKinnon, Mendes and Nababteh, 2007; Grant and Fernie, 2008; Aastrup and Kotzab, 2009; Aastrup and Kotzab, 2010). Therefore, this work developed a general framework, independent of a specific product, by linking product importance and consumer satisfaction levels, which again is the central motivator for OOS outcomes and consequences. This framework can be applied to every product, as the reasons for purchasing products always rely on the importance of the product to the consumer. This study found that the consumer satisfaction measure is significantly affected by product importance and again significantly drives the outcomes of OOS and its consequences as well as finding that this framework is functional. Hence, this finding adds to the existing OSA/OOS research, as the importance of the product to consumers generalises product characteristics.

The impact of promotions on consumer satisfaction levels

Research by Sloot, Verhoef and Franses (2005) suggest that the consumer satisfaction levels of promoted items during OOS should be investigated further, as they presume that OOS for promoted items will result in high dissatisfaction levels for consumers. This study shows that OOS at promoted grocery items have disproportionately higher dissatisfaction levels. Furthermore, this work also found that promoted hedonic items have higher dissatisfaction levels than utilitarian products, as the hedonic items offer a higher monetary benefit. This finding contributes to the existing literature, as it is not only promotions per se that impact consumer satisfaction levels, but also the characteristics of a product in conjunction with promotions that determine consumer satisfaction levels.

The type of product impacts consumer satisfaction

The literature indicated that the differences in hedonic and utilitarian consumer behaviour in particular and their contribution to consumer consequences resulting from OOS must be considered, as consumers change their behaviour in regard to them (e.g. Batra and Ahtola, 1990; Sloot, Verhoef and Franses, 2005). This is important, as consumers of store-based retail formats increasingly tend to understand shopping as an event that contributes to hedonic shopping characteristics (Rudolph, 2009). Hence, the research study as designed enhances the existing OSA/OOS literature, because the recovery measures showed significant differences. Consumers tend to favour personal assistance in grocery stores during OOS in the hedonic setting more than in the utilitarian setting.

The out of stock literature is dominated by research from the UK market

The majority of OSA/OOS research has been conducted on the UK market (Fernie and Grant, 2008). The literature review also revealed that the German market has so far been under-researched. This is particularly notable, as Germany is one of the largest retail markets in the world and the largest retail market in Europe. That is why this research extended the existing OSA/OOS literature by conducting the analysis of this research topic on the German market. The general mechanisms of OSA/OOS research (e.g. OSA results in satisfaction / OOS results in dissatisfaction / recovery measures improve satisfaction) for the UK market are also applicable to the German market.

7.2.2   Implications for Practice

Relating the findings of this work to practice suggests recommendations for action. The literature review stated that OOS is a trade-off between locked up capital, personnel costs, lost sales and/or dissatisfied consumers. For example, it could be meaningful to accept higher costs of overstocking when the risk of high consumer dissatisfaction is high. Furthermore, a high likelihood of "substitution" behaviour translates into lower stocking costs. However, the managing of OOS from a company's perspective is rarely provided. Hence, this work provides an approach for how to manage OOS occurrences within retail stores.

OOS creates both dissatisfaction and satisfaction

This study showed that consumer consequences are negative for almost all product settings if no recovery measure is provided in an OOS occurrence. In cases where recovery measures are provided, the consequences turn into positive consequences at a general level. In particular, this work demonstrates that in the case of an OOS occurrence even the application of the "shelf display" basic recovery measure turns dissatisfaction into satisfaction. This in turn demonstrates to retailers that the effect in terms of consumer satisfaction can easily be managed: only OOS with no recovery measures impacts a retailer negatively, leading to short-term and long-term, as well as evaluative and behavioural, consequences. Accordingly, retailers should always provide a recovery measure during OOS occurrences.

Retail operations need to follow product characteristics

The application of recovery measures to manage OOS has to be allocated to products where most appropriate. This work also shows that applying recovery measures that are not appropriate to the product's characteristics can result in a sub-optimal outcome. In particular, consumer satisfaction levels were lower when the recovery plus measure was applied to utilitarian products compared with the basic recovery measure, where consumer satisfaction levels were higher. Therefore, this work indicates that the characteristics of products must considered by retailers, for example by implementing a consumer panel, to ensure optimum effectiveness for recovery measures.

Not all products are equal

Even though research has already established models to differentiate products' characteristics (e.g. whether they are hedonic or utilitarian / by the differentiation of consumer preferences / by brand strength), practitioners try to minimise OOS occurrences and do not try to manage OOS occurrences by applying different retail service recovery measures. This study shows that instead of considering the particular product characteristics, the level of importance of the product to consumers indicated where to apply a basic recovery measures and where to apply the recovery plus measures. Therefore, retailers should consider the general relationship of the antecedents of item importance and their impact on consumer satisfaction levels.

Promoted items behave differently during OOS occurrences

This research showed that OOS of promoted grocery items correlates significantly with consumer dissatisfaction. Thus, promotions can negatively impact retailers and therefore counteract the retailer's positive intention (e.g. increasing turnover, awareness, etc.), which originally constituted the purpose of conducting the product promotion. However, at a more specific level, the particular type of promotion must be considered in combination with the importance of the item to the consumer, as, in particular, the monetary benefit of the promotion to the consumer – which determines the underlying importance to the consumer – must be considered.

To put these findings into practice, the following approach provides a recommendation for action (see Figure 54).

Figure 54: Recommendations of Actions for Retailers
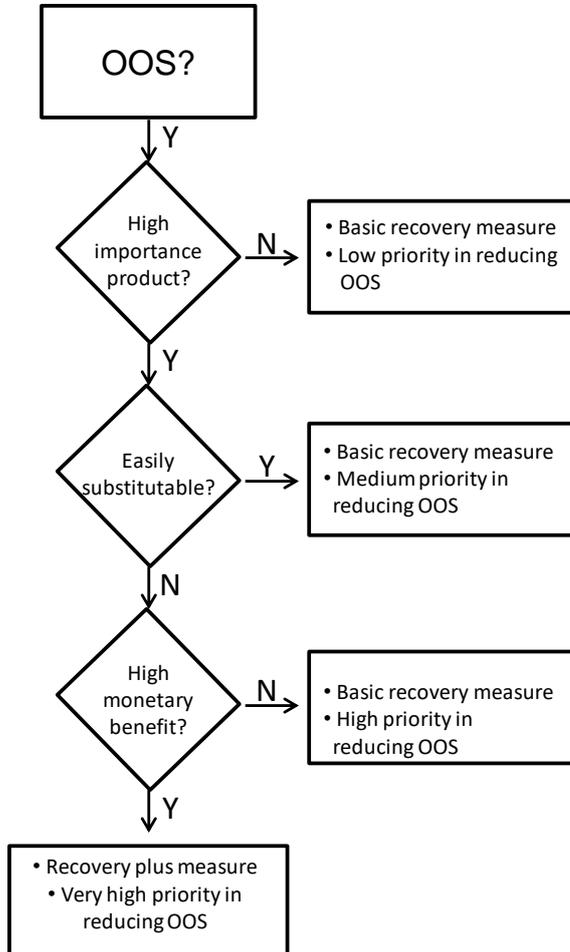
Source: Own design (2016)

As consumer satisfaction level is significantly influenced by item importance, retailers should consider which products on offer correspond to a KCVI from a consumer's point of view. Hence, retailers have to allocate resources to KCVI products either by avoiding OOS (e.g. by stocking) or by recovering OOS (e.g. via staff) with high priority, as KCVIs harm retailers the most. On the contrary, less important products do not have to be considered as being a high priority for reducing OOS, as they do not impact CSD levels as much as KCVIs do. In combination with the basic recovery measures, little negative impact for retailers should be experienced, providing the possibility of resources being allocated to OOS occurrences with more significant effects.

When an item is of high importance but can easily be substituted by other items, the avoidance of OOS should be given medium priority; however, a basic recovery measure still prevents dissatisfaction and negative consequences. In cases where a product is not substitutable, high priority should be given in order to minimise OOS occurrences. Overstocking could possibly prevent OOS here, but in cases where OOS occurs a basic recovery measure still relieves negative outcomes. In cases where a high priority product that is not substitutable and that provides high monetary benefits for customers, all actions should be taken to avoid OOS, as this has the most substantial impact on consumer dissatisfaction and therefore leads to negative consequences. If OOS such as this occurs, the provision of the recovery plus measure is appropriate.

7.3　　　　Limitations of the Study and Outlook

Experimental research requires methods to test the causality of hypotheses, in particular by using methods of manipulation and control variables (Brewer and Hunter, 2006). However, experiments raise questions regarding external validity (generalisability) due to "(...) the limited range of persons, settings, and times (...) plus the reactivity and artificiality of (...) procedures (...)" (Brewer and Hunter, 2006). Even when the amount of data gathered for this research overcomes the threat of external validity and contributes to generalisability, the findings of this work must be applied thoughtfully to the particular research setting. Furthermore, practical implications cannot be transferred to other settings (industries, products, etc.) without precise reflection of the following shortcomings before the recommendations for actions are transferred into practice. Furthermore, the following shortcomings simultaneously determine an outlook on which further research should be focused.

Product choice

Even though there are examples in the literature review which state that food products within OSA/OOS research show limitations for other retail industries (non-food in particular), this work also applied food products. This is related to the fact that food products are well suited to experimental settings, as they are bought several times in a month and hence provide a good base for the imagination of respondents. As it was of the utmost importance to contribute to the general research questions of this work – whether the importance of products impacts consumer satisfaction and whether recovery measures can turn dissatisfaction into satisfaction – the respondents who participated in the experimental setting had to clearly understand the described settings. However, the use of food products within this work imposes a limitation on other products. Therefore, it would be useful to investigate comparable research by applying other products that contribute to non-food industries such as apparel and consumer electronics.

The retail industry

As every retail industry has its own characteristics, different product portfolios and different set ups, it would be interesting to consider whether the results of this study could be transferred to other non-grocery retail industries. Even though the introduction section of this work stated that store-based retail formats will continue to operate within the retail industry in the foreseeable future, it would be interesting to investigate whether the results of this work can be applied to other retail channels, e.g. the online retailing or cross-channel retailing.

Product importance

The product settings of this study relate to "important products", as the research settings were prepared as follows. The respondents were told that they like a particular item and that they want to buy it, as they don't have any more of it at home. Generally, the setting already contributes to "importance". When the settings are supplemented with additional importance drivers (promotions / brand preference) they showed even higher scores for product importance, and therefore even clearer reactions regarding consumer satisfaction and the consequences of OOS occurrences. It would be interesting to also investigate the consumer satisfaction levels for products that are not "important" such as impulse purchases.

Moreover, the monetary benefit of a promotion also drives the importance of products. This work found that within the hedonic (wine) setting consumer satisfaction levels were lower in comparison to the utilitarian (milk) setting, even though the importance of item was higher for the utilitarian scenario in comparison to the hedonic. Here, the underlying theory indicates that monetary benefit (getting a bottle of wine for free is more highly valued than getting one carton of milk for free) drives the consumer satisfaction levels. Hence, the correlation of OOS and dissatisfaction and price could be investigated further.

The frequency of OOS occurrences

This study applied experimental settings where respondents were confronted with OOS just once; the results are not transferable to how the respondents would react when confronted with OOS that occurred several times. The individual occurrence of OOS could probably be excused more easily by the respondents than the occurrence of OOS in a multitude of cases. This was also found in the literature, but could not be tested due to the complexity of the setting of this research. Therefore, it would be interesting to compare the findings of this work with research that has investigated consumer satisfaction levels and consumer reactions when an item is OOS several times.

Country

The literature review found that the majority of OSA/OOS research has historically been conducted within the UK market. This work investigated the German retail market. The findings from the UK market and for this work are comparable, which contributes to generalisability. However, it is questionable whether other countries or geographical regions could also repeat the findings from the existing literature or those of this work. Hence, it would be useful to conduct comparable experiments within other countries or regions as well.

Recovery paradox

Although the recovery paradox noted in the literature could not be confirmed within this study, this research discovered interesting correlations: a quasi "reverse recovery paradox". Inappropriately derived recovery measures can actually lower

consumer satisfaction levels when consumers consider recovery measures to be overdone or inappropriate. This finding also indicates further research.

8   Reflective Diary

In this chapter I would like to share some thoughts regarding my dissertation process. As the DBA programme was structured in two parts – a "pre-thesis phase" and a "thesis phase" – I would like comment on both parts separately.

8.1   Introduction

Before I contribute to the "pre-thesis" and "thesis phase", it would be pertinent to state my reasons for deciding to undertake the DBA programme, spending thousands of hours and hundreds of days on top of a full-time job and being a husband and father of three daughters. The bottom line is that throughout the five years of the DBA process, I never felt this programme to be a burden; rather, it helped me to balance the daily routine of my job and provided me with knowledge and confidence that I could convert into practice. I defined spending time with my DBA project as my own quality time, as something personal. Nevertheless, this five-year DBA period was tough, and whenever I was asked about this project and whether I would recommend doing such a programme to others, I asked "Are you sure?" The willingness to do the DBA programme, including writing the thesis, can only, from my point of view, occur from intrapersonal, intrinsic motivation, independent of what "others" recommend. However, on the other hand I also said that if somebody were to undertake such a project, I would fully support him/her. Therefore, I feel a kind of satisfaction that one of my team members has also started a doctoral thesis.

Moreover, this project has given me the motivation to conduct and to tackle future difficult situations with this saying by Henry Ford in mind: "Nothing is particularly hard if you divide it into small [pieces]." The tools learned (e.g. hypothesis testing, critical reasoning) during this journey are usable in many different situations, whether in my job, privately or generally in life.

8.2   Pre-Thesis Phase

The first year of this DBA programme was about learning the necessary tools for conducting a dissertation project. Furthermore, it was good to meet with the other students in the cohort. We started as a group of ten people and I became friends with three of them. Interestingly, the four of us were the only students who completed this programme. During the modules and learning sessions, and outside the meetings we had at the university, we stayed in contact, supporting and motivating each other. Therefore, I am thankful that the programme was structured in this way.

In addition to this personal experience, the lessons I learned were extremely useful. Without this pre-thesis phase, it would not have been possible for me to conduct the empirical project with the same quality, time and efficiency. In particular, the first module regarding the 'Philosophical Underpinnings' resulted in a great enhancement of my knowledge, as I had never considered these different research paradigms before. Despite needing some time to get this topic clear in my head, this learning was of great benefit, as it helped me a considerably in structuring the research project later. Modules two and three focused on qualitative and quantitative research methods and detailed insights on the applicability of the diverse methods and research tools. Even at this stage, I was able to apply the appropriate research tools to my future research project, adjusting and matching the necessary and suitable research methods. This gave me clarity to conduct the later research project. The fourth module focused on critical literature evaluation. This was a very important module that gave me the ability to read and understand the literature needed for the thesis itself. Lastly, the final module, 'Research Planning and Proposal Writing', combined the learning of the previous modules and therefore provided a very important basis for the future research project. This step-by-step approach gave me the ability and professionalism to work at an academically high level, but I also gained the confidence to grow in terms of academic skills, and I felt well prepared to begin with the thesis itself.

8.3 Thesis Phase

Beginning and writing a doctoral thesis is an iterative process and therefore constitutes a challenging task. I had to scrutinise myself continually and accept that the work of some days – sometimes of whole weeks – was no longer meaningful. There were days when it seemed that nothing was accomplished and days where everything was obvious, clear and easy to write. I had to use the good days to advance my thesis and I also had to learn to deal with and to use the "other" days as well due to the tough time schedule.

In particular, the discussions, calls and communication I had with my supervisors gave me the confidence to continue and to develop my thinking about the subject and to critically evaluate my initial research design. They motivated me and at all times gave me the feeling that I could get it done.

As I carried out the dissertation on a part-time basis and as I wrote about a topic (OOS situations) that I also face in my job (as a COO), the job–thesis and thesis–job interactions were extremely useful. At the start of the dissertation process I was able to implement learning from the literature, followed by learning from the project itself and then being able to manage OOS situations at our store-based retail format in real life.

In planning and conducting such a dissertation process, I also needed to sharpen some of my skills, such as discipline, planning and a "do it" mentality. My motto was "there are no excuses". You can always work on your dissertation – if you want to. Nevertheless, conducting and finishing such a research project on a part-time basis is a very challenging project and a task that necessitates compromises; however, I found it enjoyable and productive.

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Appendix A – Experimental Survey Questions

Q1

Shopping Behaviour and Consumer Satisfaction in Grocery Stores

UNIVERSITY OF SURREY

Dear participant,

This research aims to find out how you feel and how you behave in a very specific shopping situation at a grocery store.

The information that you provide will be treated in the strictest confidence. This survey takes between 17 and 21 minutes to complete. Try to answer the questions at a time when you are least likely to be disturbed. Do not spend too much time on any one question. Your first thoughts are usually best!

Even if you feel some of the items covered may not apply directly to your shopping experiences, please do not ignore these questions. Your answers are essential in drawing an accurate picture of the issues that are important for improving the shopping experience in grocery stores.

I hope that you find the questionnaire interesting. Thank you for supporting my research.

Patric Spethmann

Q2

Before you start, here are some notes regarding the survey.

In this questionnaire I will present you with a very specific shopping situation. It does not matter whether you have faced similar situations before. Just read the story around this quite real shopping situation and reflect on it by answering the questions posed.

Q3

Please indicate whether or not you sometimes buy the following products in grocery stores.

Please choose one of the following:

○ You sometimes buy **wine** from a grocery store.

○ You sometimes buy **milk** from a grocery store.

○ You sometimes **buy both** milk and wine from a grocery store.

○ You **never buy** wine or milk from a grocery store.

Q4

Display This Question:
If Please indicate whether or not you sometimes buy the following products in grocery stores. Plea... You never buy wine or milk from a grocery store. Is Selected Edit

I am very sorry!

Regrettably, you do not meet the requirements for this survey.

I sincerely thank you for your time.

If **I am very sorry! Reg...** Is **Displayed**, Then Skip To **End of Survey** Skip Logic

Q5

Display This Question:
If Please indicate whether or not you sometimes buy the following products in grocery stores. Plea... You sometimes buy wine from a grocery store. Is Selected Edit

Please imagine the following shopping situation:

Q6

Display This Question:
If Please indicate whether or not you sometimes buy the following products in grocery stores. Plea... You sometimes buy milk from a grocery store. Is Selected Edit

Please imagine the following shopping situation:

⊙ Random Scenario Hedonic

Q7

Please imagine the following shopping situation:

⊙ Random Scenario Utilitarian

Q8

Please imagine the following shopping situation:

- CC -

Scenario Hedonic - KCVI Plus Promotion Block Options

Q9

You start your weekly shopping trip to your preferred grocery store. This is the store where you buy most of your groceries. Let us call it *your grocery store*.

This evening you plan to have dinner together with your partner, some friends or perhaps to have a pleasant evening by yourself. As always when you have such a dinner, you have wine on your shopping list. You like wine. You plan to surprise your partner and friends or perhaps to reward yourself with a special dinner and you want to complement the dinner with this wine.

Moreover, *your grocery store* has a broad range of different wines. You have tried several wines within the last few years and from these you chose one particular wine – let us call it *your wine*. From your point of view you like *your wine* because this wine meets most of your requirements for wine such as taste, character and price level.

In particular, you like the type *of your wine* which, is independent of a specific brand. In other words, the brand of *your wine* is not important at all to you.

You received coupons for wine from *your grocery store* a couple of days ago and included among these is a coupon for *your wine*. It is a 'buy one – get one free' promotion. As you usually drink *your wine* several times a year, this promotion is highly attractive to you.

So, you visit *your grocery store* and go to the wine section in order to put some of *your wine* into your shopping cart or basket.

Scenario Hedonic - KCVI Plus Brand Block Options

Q10

You start your weekly shopping trip to your preferred grocery store. This is the store where you buy most of your groceries. Let us call it *your grocery store*.

This evening you plan to have dinner together with your partner, some friends or perhaps to have a pleasant evening by yourself. As always when you have such a dinner, you have wine on your shopping list. You like wine. You plan to surprise your partner and friends or perhaps to reward yourself with a special dinner and you want to complement the dinner with this wine.

Moreover, *your grocery store* has a broad range of different wines. You have tried several wines within the last few years and from these you chose one particular wine – let us call it *your wine*. From your point of view you like *your wine* because this wine meets most of your requirements for wine such as taste, character and price level.

In particular, you are very loyal to *your wine* and to *your wine's* brand and therefore you are not willing to buy another wine from another brand.

So, you visit *your grocery store* and go to the wine section in order to put some of *your wine* into your shopping cart or basket.

Scenario Hedonic - KCVI Normal Block Options

Q11

You start your weekly shopping trip to your preferred grocery store. This is the store where you buy most of your groceries. Let us call it *your grocery store*.

This evening you plan to have dinner together with your partner, some friends or perhaps to have a pleasant evening by yourself. As always when you have such a dinner, you have wine on your shopping list. You like wine. You plan to surprise your partner and friends or perhaps to reward yourself with a special dinner and you want to complement the dinner with this wine.

Moreover, *your grocery store* has a broad range of different wines. You have tried several wines within the last few years and from these you chose one particular wine – let us call it *your wine*. From your point of view you like *your wine* because this wine meets most of your requirements for wine such as taste, character and price level.

In particular, you like the type *of your wine,* which is independent of a specific brand. In other words, the brand of *your wine* is not important at all to you.

So, you visit *your grocery store* and go to the wine section in order to put some of *your wine* into your shopping cart or basket.

Measurement Importance of item_Wine

Q12

Please have the shopping situation described before in mind and think of *your wine*.

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree.

(Do you want to read the previously described shopping situation again? Please press the "back" button on the left hand side of the bottom of this page to attain the relevant description of the shopping situation.)

	1 completely disagree	2	3	4	5	6	7 completely agree
The purchase of *your wine* **would mean a lot to you.**	○	○	○	○	○	○	○
Compared to most of the products that you usually buy at *your grocery store* – *your wine* **would be an important purchase** for you.	○	○	○	○	○	○	○
The purchase of *your wine* **would be very important** to you.	○	○	○	○	○	○	○

Q13

The following statements refer **only to the previously described shopping situation** and do not refer to your personal shopping behaviour.

I need you to evaluate these statements to ensure that the description of the shopping situation was sufficiently clear to you.

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree

(Do you want to read the previously described shopping situation again? Please press the "back" button on the left hand side of the bottom of this page to attain the relevant description of the shopping situation.)

	1 completely disagree	2	3	4	5	6	7 completely agree
Within the described shopping situation...							
...the **brand** of *your wine* was important to you.	○	○	○	○	○	○	○
...you were very **loyal to the brand** of *your wine*.	○	○	○	○	○	○	○
...**price promotions**, e.g. discounts and "buy one get one free" offers were a very important criteria for purchasing *your wine*.	○	○	○	○	○	○	○
...**price promotions** had a positive influence upon your decision to purchase *your wine*.	○	○	○	○	○	○	○
...**price promotions** would have led you to purchase more of *your wine* than you originally planned.	○	○	○	○	○	○	○

CMBM_Before OSA_WINE

Q14

Before we continue with further questions on the shopping situation described **please state your personal opinion to product advertisement in general.**

Please evaluate the following statements from1 = completely disagree to 7 = completely agree

	1 completely disagree	2	3	4	5	6	7 completely agree
Most product **advertisement is believable.**	○	○	○	○	○	○	○
Manufacturers' advertisements are reliable sources of information about the quality and performance of products.	○	○	○	○	○	○	○
Generally, **advertised products are more dependable** than unadvertised ones.	○	○	○	○	○	○	○
Manufacturers' **advertisements usually present a true picture** of the products advertised.	○	○	○	○	○	○	○

Explaining Unavailability Scenario_Wine I

Q15

Please think of the shopping situation described before and imagine the following:

With *your wine* in mind you are now entering *your grocery store* and you are heading directly to the shelf where you have bought *your wine* several times before **but *your wine* is not on the shelf**.

Explaining Unavailability Scenario_Wine II

Q16

Please think of the shopping situation described before and imagine the following:

With *your wine* in mind you are now entering *your grocery store* and you are heading directly to the shelf where you have bought *your wine* several times before **but *your wine* is not on the shelf**.

Explaining Unavailabilty Scenario_Wine III

Q17

Please think of the shopping situation described before and imagine the following:

With *your wine* in mind you are now entering *your grocery store* and you are heading directly to the shelf where you have bought *your wine* several times before **but *your wine* is not on the shelf**.

Explaining Availability Scenario_Wine

Q18

Please think of the shopping situation described before and imagine the following:

With *your wine* in mind you are now entering *your grocery store* and you are heading directly to the shelf where you have bought *your wine* several times before. *Your wine* is at its usual place on the shelf. **Your wine is available.**

You take *your wine* off the shelf and put it into your cart or basket.
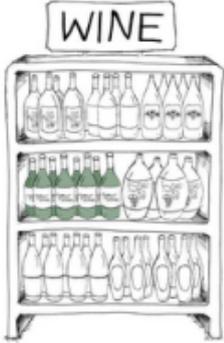
Q19

Referring to the just described shopping situation (*your wine* was available), I ask you now to evaluate the following statements.

Again, I need this to make sure that the described situation was **clear and understandable** to you.

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
In the described shopping situation...							
...there was a good **availability** of *your wine*.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your wine* **by means of a notice.**	○	○	○	○	○	○	○
...a member of **the store staff assisted you** when you could not find *your wine* due to its unavailability.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your wine* **from a member of the store staff.**	○	○	○	○	○	○	○
The described shopping situation...							
...was **inconvenient** for you as a customer.	○	○	○	○	○	○	○
...was **unpleasant** for you as a customer.	○	○	○	○	○	○	○

Explaining Recovery Scenario - Basic Recovery_Wine

Q20

Now, *your wine* is not on the shelf. So, you are looking around the shelves and the other aisles, in case it has been put somewhere else – but you still cannot find it.

At the place *your wine* is supposed to be you see a notice that reads:

"Sorry, this product is currently unavailable - we are aware of this and have reordered this item. We apologise for any inconvenience caused."

Q21

Referring to the just described shopping situation (the unavailability of *your wine*, as well as the information about the unavailability of *your wine* through a notice on the shelf that also included an apology), I ask you now to evaluate the following statements.

Again, I need this to make sure that the described situation was **clear and understandable** to you.

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
In the described shopping situation...							
...there was a good **availability** of *your wine*.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your wine* **by means of a notice.**	○	○	○	○	○	○	○
...a member of **the store staff assisted you** when you could not find *your wine* due to its unavailability.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your wine* **from a member of the store staff.**	○	○	○	○	○	○	○
The described shopping situation...							
...was **inconvenient** for you as a customer.	○	○	○	○	○	○	○
...was **unpleasant** for you as a customer.	○	○	○	○	○	○	○

Explaining Recovery Scenario - No Recovery_Wine   ⚙ Block Options ▼

Q22

Now, *your wine* is not on the shelf. So, you are looking around the shelves and the other aisles, in case it has been put somewhere else – but you still cannot find it.

As you cannot find any information about *your wine's* availability or otherwise, you come to the conclusion that it is currently not available.
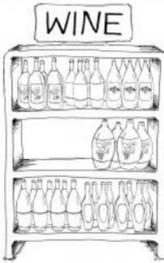
Q23

Referring to the just described shopping situation (the unavailability of *your wine*), I ask you now to evaluate the following statements.

Again, I need this to make sure that the described situation was **clear and understandable** to you.

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
In the described shopping situation...							
...there was a good **availability** of *your wine*.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your wine* **by means of a notice.**	○	○	○	○	○	○	○
...a member of **the store staff assisted you** when you could not find *your wine* due to its unavailability.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your wine* **from a member of the store staff.**	○	○	○	○	○	○	○
The described shopping situation...	○	○	○	○	○	○	○
...was **inconvenient** for you as a customer.							
...was **unpleasant** for you as a customer.	○	○	○	○	○	○	○

▼ Explaining Recovery Scenario - Recovery Plus_Wine

Q24

Now, *your wine* is not on the shelf. So, you are looking around the shelves and the other aisles, in case it has been put somewhere else – but you still cannot find it.

Consequently you ask a member of store staff whether *your wine* is available somewhere else in the store, for example in another area of the store or the backroom / the storage area of the store. The employee checks elsewhere and subsequently goes to the backroom to look for the item. The employee returns a couple of minutes later and says: "Sorry, this product is indeed unavailable - we apologise for any inconvenience caused."

Q25

Referring to the just described shopping situation (the unavailability of *your wine*, as well as the assistance of a store staff member who looked in the backroom / storage for *your wine* without success and also offered an apology for the lack of availability), I ask you now to evaluate the following statements.

WINE

Again, I need this to make sure that the described situation was **clear and understandable** to you.

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
In the described shopping situation...							
...there was a good **availability** of *your wine*.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your wine* **by means of a notice**.	○	○	○	○	○	○	○
...a member of **the store staff assisted you** when you could not find *your wine* due to its unavailability.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your wine* **from a member of the store staff**.	○	○	○	○	○	○	○
The described shopping situation...	○	○	○	○	○	○	○
...was **inconvenient** for you as a customer.							
...was **unpleasant** for you as a customer.	○	○	○	○	○	○	○

▼ Measurement of CS/D_Wine_Basic Recovery

Q26

To summarise: You were confronted with the **unavailability** of *your wine*; you were **informed about the unavailability** of *your wine* through a **notice on the shelf that also included an apology**.

WINE

How would you evaluate this **level of service (= the unavailability of *your wine* + information about the unavailability of *your wine* through a notice on the shelf that also included an apology)**, you received in *your grocery store*?

Please rate your level of dissatisfaction/satisfaction from 1 (very dissatisfied) to 9 (very satisfied).

	1 very dissatisfied	2	3	4	5	6	7	8	9 very satisfied
-	○	○	○	○	○	○	○	○	○

Q27

To summarise: You were confronted with the **unavailability** of *your wine*, you were **informed about the unavailability of** *your wine* through a **notice on the shelf that also included an apology.**

How would you evaluate this **level of service (= the unavailability of** *your wine* **+ information about the unavailability of** *your wine* **through a notice on the shelf that also included an apology)**, you received in *your grocery store*?

Please evaluate the following statements
from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
You would be **pleased** with this level of service.	○	○	○	○	○	○	○
You would be **contented** with this level of service.	○	○	○	○	○	○	○
You would be **satisfied** with this level of service.	○	○	○	○	○	○	○
In this shopping situation your **expectations** in terms of service would be **fulfilled**.	○	○	○	○	○	○	○

▼ Measuring Consequences_Basic Recovery_Wine

Q28

To summarise: You were confronted with the **unavailability** of *your wine*; you were **informed about the unavailability of** *your wine* through a **notice on the shelf that also included an apology.**

How would you rate your reaction to this **level of service (= the unavailability of** *your wine* **+ information about the unavailability of** *your wine* **through a notice on the shelf that also included an apology)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
You would find this level of service... highly **inappropriate** (-3)	○	○	○	○	○	○	○	highly **appropriate** (+3)
You would find this level of service... very **unfair** (-3)	○	○	○	○	○	○	○	very **fair** (+3)
You would consider that you... **deserved** a much better service (-3)	○	○	○	○	○	○	○	**did not** deserve a much better service (+3)

Q29

To summarise: You were confronted with the **unavailability** of *your wine*; you were **informed about the unavailability of** *your wine* through a **notice on the shelf that also included an apology.**

How would you rate your reaction to this **level of service (= the unavailability of** *your wine* **+ information about the unavailability of** *your wine* **through a notice on the shelf that also included an apology)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
For you, this level of service would make *your grocery store...* much **less** attractive (-3)	○	○	○	○	○	○	○	much **more** attractive (+3)
Given this level of service you would... be very **unlikely** to visit *your grocery store* again (-3)	○	○	○	○	○	○	○	be very **likely** to visit *your grocery store* again (+3)
Given this level of service you would... definitely **not look forward** to visiting *your grocery store* again (-3)	○	○	○	○	○	○	○	definitely **look forward** to visiting *your grocery store* again (+3)

Q30 ☐

To summarise: You were confronted with the **unavailability** of *your wine*; you were **informed about the unavailability of** *your wine* through a **notice on the shelf that also included an apology.**

How would you rate your reaction to this **level of service (= the unavailability of** *your wine* **+ information about the unavailability of** *your wine* **through a notice on the shelf that also included an apology)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
Given this level of service you would...								
be very likely to say **bad things** about *your grocery store* (-3)	○	○	○	○	○	○	○	be very likely to say **good things** about *your grocery store* (+3)
Given this level of service you would...								
be very **likely** to warn other people not to visit *your grocery store* again (-3)	○	○	○	○	○	○	○	be very **unlikely** to warn other people not to visit *your grocery store* again (+3)
Given this level of service you would...								
be sure to tell your friends and relatives **not to shop** at *your grocery store* (-3)	○	○	○	○	○	○	○	be sure to tell your friends and relatives **to shop** at *your grocery store* (+3)

WINE

- MM -

Q31

To summarise: You were confronted with the **unavailability** of *your wine*; you were **informed about the unavailability** of *your wine* through a **notice on the shelf that also included an apology.**

How would you rate your reaction to this **level of service (= the unavailability of** *your wine* **+ information about the unavailability of** *your wine* **through a notice on the shelf that also included an apology)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
Given this level of service you would...								
be very **likely** purposely to visit a store of another retailer (-3)	○	○	○	○	○	○	○	be very **unlikely** purposely to visit a store of another retailer (+3)
Given this level of service you would...								
be very **unlikely** to be loyal to your *grocery store in future* (-3)	○	○	○	○	○	○	○	be very **likely** to be loyal to your *grocery store in future* (+3)
Given this level of service you would...								
be very **likely** to visit another store belonging to *your grocery retailer* (-3)	○	○	○	○	○	○	○	be very **unlikely** to visit another store belonging to *your grocery retailer* (+3)

▼ Measurement of CS/D_Wine_No Recovery

Q32

To summarise: As you cannot find any information about the availability or otherwise of *your wine* you come to the conclusion that *your wine* is currently **not available.**

How would you evaluate this **level of service (= the unavailability of** *your wine)* you received in *your grocery store*?

Please rate your level of dissatisfaction/satisfaction from 1 (very dissatisfied) to 9 (very satisfied).

	1 very dissatisfied	2	3	4	5	6	7	8	9 very satisfied
-	○	○	○	○	○	○	○	○	○

Q33

To summarise: As you cannot find any information about the availability or otherwise of *your wine* you come to the conclusion that *your wine* is currently **not available**.

How would you evaluate this **level of service (= the unavailability of *your wine*)** you received in *your grocery store*?

Please evaluate the following statements
from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
You would be **pleased** with this level of service.	○	○	○	○	○	○	○
You would be **contented** with this level of service.	○	○	○	○	○	○	○
You would be **satisfied** with this level of service.	○	○	○	○	○	○	○
In this shopping situation your **expectations** in terms of service would be **fulfilled**.	○	○	○	○	○	○	○

▼ Measurement of Consequences_No Recovery_Wine

Q34

To summarise: As you cannot find any information about the availability or otherwise of *your wine* you come to the conclusion that *your wine* is currently **not available**.

How would you rate your reaction to this **level of service (= the unavailability of *your wine*)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
You would find this level of service... highly **inappropriate** (-3)	○	○	○	○	○	○	○	highly **appropriate** (+3)
You would find this level of service... very **unfair** (-3)	○	○	○	○	○	○	○	very **fair** (+3)
You would consider that you... **deserved** a much better service (-3)	○	○	○	○	○	○	○	**did not** deserve a much better service (+3)

Q35 ☐

To summarise: As you cannot find any information about the availability or otherwise of *your wine* you come to the conclusion that **your wine** is currently **not available.**

How would you rate your reaction to this **level of service (= the unavailability of your wine)** in *your grocery store* between -3 and +3, based on the following opposite statements?

WINE

	-3	-2	-1	0	1	2	3	
For you, this level of service would make *your grocery store...* much **less** attractive (-3)	○	○	○	○	○	○	○	much **more** attractive (+3)
Given this level of service you would... be very **unlikely** to visit *your grocery store* again (-3)	○	○	○	○	○	○	○	be very **likely** to visit *your grocery store* again (+3)
Given this level of service you would... definitely **not look forward** to visiting *your grocery store* again (-3)	○	○	○	○	○	○	○	definitely **look forward** to visiting *your grocery store* again (+3)

- PP -

Q36

To summarise: As you cannot find any information about the availability or otherwise of *your wine* you come to the conclusion that *your wine* is currently **not available.**

How would you rate your reaction to this **level of service (= the unavailability of your wine)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
Given this level of service you would... be very likely to say **bad things** about *your grocery store* (-3)	○	○	○	○	○	○	○	be very likely to say **good things** about *your grocery store* (+3)
Given this level of service you would... be very **likely** to warn other people not to visit *your grocery store* again (-3)	○	○	○	○	○	○	○	be very **unlikely** to warn other people not to visit *your grocery store* again (+3)
Given this level of service you would... be sure to tell your friends and relatives **not to shop** at *your grocery store* (-3)	○	○	○	○	○	○	○	be sure to tell your friends and relatives **to shop** at *your grocery store* (+3)

- QQ -

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Q37

To summarise: As you cannot find any information about the availability or otherwise of *your wine* you come to the conclusion that *your wine* **is** currently **not available.**

How would you rate your reaction to this **level of service (= the unavailability of *your wine*)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
Given this level of service you would... be very **likely** purposely to visit a store of another retailer (-3)	○	○	○	○	○	○	○	be very **unlikely** purposely to visit a store of another retailer (+3)
Given this level of service you would... be very **unlikely** to be loyal to your *grocery store in future* (-3)	○	○	○	○	○	○	○	be very **likely** to be loyal to your *grocery store in future* (+3)
Given this level of service you would... be very **likely** to visit another store belonging to *your grocery retailer* (-3)	○	○	○	○	○	○	○	be very **unlikely** to visit another store belonging to *your grocery retailer* (+3)

▼ Measurement of CS/D_Recovery Plus_Wine

Q38

To summarise: You were confronted with the **unavailability of *your wine*** *and you were assisted* by a member of the store staff who checked elsewhere in the store and the backroom / storage area and offered you an apology for the lack of availability.

How would you evaluate this **level of service (= the unavailability of *your wine* + the assistance of a store staff member who looked in the backroom / storage for *your wine* without success + offered an apology for the lack of availability)** you received in *your grocery store*?

Please rate your level of dissatisfaction/satisfaction from 1 (very dissatisfied) to 9 (very satisfied).

	1 very dissatisfied	2	3	4	5	6	7	8	9 very satisfied
...	○	○	○	○	○	○	○	○	○

- RR -

Q39

To summarise: You were confronted with the **unavailability of** *your wine* *and you* *were assisted* by a member of the store staff who checked elsewhere in the store and the backroom / storage area and offered you an apology for the lack of availability.

How would you evaluate this **level of service (= the unavailability of** *your wine* **+ the assistance of a store staff member who looked in the backroom / storage for** *your* *wine* **without success + offered an apology for the lack of availability)** you received in *your grocery store*?

Please evaluate the following statements
from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
You would be **pleased** with this level of service.	○	○	○	○	○	○	○
You would be **contented** with this level of service.	○	○	○	○	○	○	○
You would be **satisfied** with this level of service.	○	○	○	○	○	○	○
In this shopping situation your **expectations** in terms of service would be **fulfilled**.	○	○	○	○	○	○	○

▼ Measuring Consequences_Recovery Plus_Wine

Q40

To summarise: You were confronted with the **unavailability of** *your wine* *and you* *were assisted* by a member of the store staff who checked elsewhere in the store and the backroom / storage area and offered you an apology for the lack of availability.

How would you rate your reaction to this **level of service (= the unavailability of** *your wine* **+ the assistance of a store staff member who looked in the backroom / storage for** *your wine* **without success + offered an apology for the lack of availability)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
You would find this level of service... highly **inappropriate** (-3)	○	○	○	○	○	○	○	highly **appropriate** (+3)
You would find this level of service... very **unfair** (-3)	○	○	○	○	○	○	○	very **fair** (+3)
You would consider that you... **deserved** a much better service (-3)	○	○	○	○	○	○	○	**did not** deserve a much better service (+3)

Q41

To summarise: You were confronted with the **unavailability of *your wine* and *you were assisted* by a member of the store staff** who checked elsewhere in the store and the backroom / storage area and offered you an apology for the lack of availability.

How would you rate your reaction to this **level of service (= the unavailability of *your wine* + the assistance of a store staff member who looked in the backroom / storage for *your wine* without success + offered an apology for the lack of availability)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
For you, this level of service would make *your grocery store...* much **less** attractive (-3)	○	○	○	○	○	○	○	much **more** attractive (+3)
Given this level of service you would... be very **unlikely** to visit *your grocery store* again (-3)	○	○	○	○	○	○	○	be very **likely** to visit *your grocery store* again (+3)
Given this level of service you would... definitely **not look forward** to visiting *your grocery store* again (-3)	○	○	○	○	○	○	○	definitely **look forward** to visiting *your grocery store* again (+3)

Q42

To summarise: You were confronted with the **unavailability of *your wine* and *you were assisted* by a member of the store staff** who checked elsewhere in the store and the backroom / storage area and offered you an apology for the lack of availability.

How would you rate your reaction to this **level of service (= the unavailability of *your wine* + the assistance of a store staff member who looked in the backroom / storage for *your wine* without success + offered an apology for the lack of availability)** in *your grocery store* between -3 and +3, based on the following opposite statements?

WINE

	-3	-2	-1	0	1	2	3	
Given this level of service you would...								
be very likely to say **bad things** about *your grocery store* (-3)	○	○	○	○	○	○	○	be very likely to say **good things** about *your grocery store* (+3)
Given this level of service you would...								
be very **likely** to warn other people not to visit *your grocery store* again (-3)	○	○	○	○	○	○	○	be very **unlikely** to warn other people not to visit *your grocery store* again (+3)
Given this level of service you would...								
be sure to tell your friends and relatives **not to shop** at *your grocery store* (-3)	○	○	○	○	○	○	○	be sure to tell your friends and relatives **to shop** at *your grocery store* (+3)

- UU -

Q43

To summarise: You were confronted with the **unavailability of** *your wine* and *you were assisted* by a member of the store staff who checked elsewhere in the store and the backroom / storage area and offered you an apology for the lack of availability.

How would you rate your reaction to this **level of service (= the unavailability of** *your wine* **+ the assistance of a store staff member who looked in the backroom / storage for** *your wine* **without success + offered an apology for the lack of availability)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
Given this level of service you would... be very **likely** purposely to visit a store of another retailer (-3)	○	○	○	○	○	○	○	be very **unlikely** purposely to visit a store of another retailer (+3)
Given this level of service you would... be very **unlikely** to be loyal to your *grocery store in future* (-3)	○	○	○	○	○	○	○	be very **likely** to be loyal to your *grocery store in future* (+3)
Given this level of service you would... be very **likely** to visit another store belonging to *your grocery retailer* (-3)	○	○	○	○	○	○	○	be very **unlikely** to visit another store belonging to *your grocery retailer* (+3)

▼ Measurement of CS/D_Wine_Availability

Q44

To summarise: *Your wine* **is available** and you find it on the shelf that it is usually on.

How would you evaluate this **level of service (= availability of** *your wine***)** you received in *your grocery store*?

Please rate your level of dissatisfaction/satisfaction from 1 (very dissatisfied) to 9 (very satisfied).

	1 very dissatisfied	2	3	4	5	6	7	8	9 very satisfied
...	○	○	○	○	○	○	○	○	○

Q45

To summarise: *Your wine* **is available** and you find it on the shelf that it is usually on.

How would you evaluate this **level of service (= availability of *your wine*)** you received in *your grocery store*?

Please evaluate the following statements
from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
You would be **pleased** with this level of service.	○	○	○	○	○	○	○
You would be **contented** with this level of service.	○	○	○	○	○	○	○
You would be **satisfied** with this level of service.	○	○	○	○	○	○	○
In this shopping situation your **expectations** in terms of service would be **fulfilled**.	○	○	○	○	○	○	○

▼ Measurement of Consequences_Availability_Wine

Q46

To summarise: *Your wine* **is available** and you find it on the shelf that it is usually on.

How would you rate your reaction to this **level of service (= availability of *your wine*)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
You would find this level of service... highly **inappropriate** (-3)	○	○	○	○	○	○	○	highly **appropriate** (+3)
You would find this level of service... very **unfair** (-3)	○	○	○	○	○	○	○	very **fair** (+3)
You would consider that you... **deserved** a much better service (-3)	○	○	○	○	○	○	○	**did not** deserve a much better service (+3)

- WW -

Q47

To summarise: **Your wine is available** and you find it on the shelf that it is usually on.

How would you rate your reaction to this **level of service (= availability of your wine)** in your grocery store between -3 and +3, based on the following opposite statements?

WINE

	-3	-2	-1	0	1	2	3	
For you, this level of service would make your grocery store... much **less** attractive (-3)	○	○	○	○	○	○	○	much **more** attractive (+3)
Given this level of service you would... be very **unlikely** to visit your grocery store again (-3)	○	○	○	○	○	○	○	be very **likely** to visit your grocery store again (+3)
Given this level of service you would... definitely **not look forward** to visiting your grocery store again (-3)	○	○	○	○	○	○	○	definitely **look forward** to visiting your grocery store again (+3)

Q48

To summarise: *Your wine* **is available** and you find it on the shelf that it is usually on.

How would you rate your reaction to this **level of service (= availability of** *your wine*) in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	

Given this level of service you would...

| be very likely to say **bad things** about *your grocery store* (-3) | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | be very likely to say **good things** about *your grocery store* (+3) |

Given this level of service you would...

| be very **likely** to warn other people not to visit *your grocery store* again (-3) | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | be very **unlikely** to warn other people not to visit *your grocery store* again (+3) |

Given this level of service you would...

| be sure to tell your friends and relatives **not to shop** at *your grocery store* (-3) | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | be sure to tell your friends and relatives **to shop** at *your grocery store* (+3) |

Q49

To summarise: **Your wine is available** and you find it on the shelf that it is usually on.

How would you rate your reaction to this **level of service (= availability of *your wine*)** in *your grocery store* between -3 and +3, based on the following opposite statements?

WINE

	-3	-2	-1	0	1	2	3	
Given this level of service you would...								
be very **likely** purposely to visit a store of another retailer (-3)	○	○	○	○	○	○	○	be very **unlikely** purposely to visit a store of another retailer (+3)
Given this level of service you would...								
be very **unlikely** to be loyal to your *grocery store in future* (-3)	○	○	○	○	○	○	○	be very **likely** to be loyal to your *grocery store in future* (+3)
Given this level of service you would...								
be very **likely** to visit another store belonging to *your grocery retailer* (-3)	○	○	○	○	○	○	○	be very **unlikely** to visit another store belonging to *your grocery retailer* (+3)

Scenario Utilitarian - KCVI Plus Promotion

Q50

You start your weekly shopping trip to your preferred grocery store. This is the store where you buy most of your groceries. Let us call it *your grocery store*.

Tomorrow morning you plan to eat cereals with milk for breakfast or to drink your coffee/tea with milk for your breakfast. As always when you plan to have breakfast the next morning, you have milk on your shopping list since there is none left in your fridge. You like milk. More explicitly, you do not have any milk at home and you would be unhappy not having milk for your cereals or to have to drink your coffee/tea without milk.

Moreover, *your grocery store* has a broad range of different milks. You have tried several milks within the last few years and from these you chose one particular milk – let us call it *your milk*. From your point of view you like *your milk* because this milk meets most of your requirements for milk such as taste, level of fat content and price.

In particular, you like the type *of your milk* which is independent of a specific brand. In other words, the brand of *your milk* is not important at all to you.

You received coupons for milk from *your grocery store* a couple of days ago and included among these is a coupon for *your milk*. It is a 'buy one – get one free' promotion. As you usually use *your milk* several times a month, this promotion is highly attractive to you.

So, you visit *your grocery store* and go to the milk aisle in order to put some of *your milk* into your shopping cart or basket.

Scenario Utilitarian - KCVI Plus Brand

Q51

You start your weekly shopping trip to your preferred grocery store. This is the store where you buy most of your groceries. Let us call it *your grocery store*.

Tomorrow morning you plan to eat cereals with milk for breakfast or to drink your coffee/tea with milk for your breakfast. As always when you plan to have breakfast the next morning, you have milk on your shopping list since there is none left in your fridge. You like milk. More explicitly, you do not have any milk at home and you would be unhappy not having milk for your cereals or to have to drink your coffee/tea without milk.

Moreover, *your grocery store* has a broad range of different milks. You have tried several milks within the last few years and from these you chose one particular milk – let us call it *your milk*. From your point of view this milk meets most of your requirements for milk such as taste, level of fat content and price.

In particular, you are very loyal to *your wine* and to *your wine's* brand and therefore you are not willing to buy another wine from another brand.

So, you visit *your grocery store* and go to the milk aisle in order to put some of *your milk* into your shopping cart or basket.

- AAA -

Scenario Utilitarian - KCVI Normal

Q52

You start your weekly shopping trip to your preferred grocery store. This is the store where you buy most of your groceries. Let us call it *your grocery store*.

Tomorrow morning you plan to eat cereals with milk for breakfast or to drink your coffee/tea with milk for your breakfast. As always when you plan to have breakfast the next morning, you have milk on your shopping list since there is none left in your fridge. You like milk. More explicitly, you do not have any milk at home and you would be unhappy not having milk for your cereals or to have to drink your coffee/tea without milk.

Moreover, *your grocery* store has a broad range of different milks. You have tried several milks within the last few years and from these you chose one particular milk – let us call it *your milk*. From your point of view you like *your milk* not because of its brand, but because this milk meets most of your requirements for milk taste, level of fat content and price.

In particular, you like the type *of your milk*, which is independent of a specific brand. In other words, the brand of *your milk* is not important at all to you.

So, you visit *your grocery store* and go to the milk aisle in order to put some of *your milk* into your shopping cart or basket.

Measurement Importance of item_Milk

Q53

Please have the shopping situation described before in mind and think of *your milk*.

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree.

(Do you want to read the previously described shopping situation again? Please press the "back" button on the left hand side of the bottom of this page to attain the relevant description of the shopping situation.)

	1 completely disagree	2	3	4	5	6	7 completely agree
The purchase of *your milk* would mean a lot to you.	○	○	○	○	○	○	○
Compared to most of the products that you usually buy at *your grocery store* – *your milk* would be an important purchase for you.	○	○	○	○	○	○	○
The purchase of *your milk* would be very important to you.	○	○	○	○	○	○	○

- BBB -

Q54

The following statements refer **only to the previously described shopping situation** and do not refer to your personal shopping behaviour.

I need you to evaluate these statements to ensure that the description of the shopping situation was sufficiently clear to you.

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree

(Do you want to read the previously described shopping situation again? Please press the "back" button on the left hand side of the bottom of this page to attain the relevant description of the shopping situation.)

	1 completely disagree	2	3	4	5	6	7 completely agree
Within the described shopping situation...							
...the **brand** of *your milk* was important to you.	○	○	○	○	○	○	○
...you were very **loyal to the brand** of *your milk*.	○	○	○	○	○	○	○
...**price promotions**, e.g. discounts and "buy one get one free" offers were a very important criteria for purchasing *your milk*.	○	○	○	○	○	○	○
...**price promotions** had a positive influence upon your decision to purchase *your milk*.	○	○	○	○	○	○	○
...**price promotions** would have led you to purchase more of *your milk* than you originally planned.	○	○	○	○	○	○	○

▼ CMBM_Before OSA_MILK

Q55

Before we continue with further questions on the shopping situation described **please state your personal opinion to product advertisement in general.**

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree

	1 completely disagree	2	3	4	5	6	7 completely agree
Most product **advertisement is believable.**	○	○	○	○	○	○	○
Manufacturers' advertisements are reliable sources of information about the quality and performance of products.	○	○	○	○	○	○	○
Generally, **advertised products are more dependable** than unadvertised ones.	○	○	○	○	○	○	○
Manufacturers' **advertisements usually present a true picture** of the products advertised.	○	○	○	○	○	○	○

▼ Explaining Unavailability Scenario_Milk I

Q56

Please think of the shopping situation described before and imagine the following:

With *your milk* in mind you are now entering *your grocery store* and you are heading directly to the shelf where you have bought *your milk* several times before **but *your milk* is not on the shelf**.

▼ Explaining Unavailability Scenario_Milk II

Q57 ☐

⚙ ▾

Please think of the shopping situation described before and imagine the following:

With *your milk* in mind you are now entering *your grocery store* and you are heading directly to the shelf where you have bought *your milk* several times before **but *your milk* is not on the shelf**.

▼ Explaining Unavailability Scenario_Milk III

Q58 ☐

⚙ ▾

Please think of the shopping situation described before and imagine the following:

With *your milk* in mind you are now entering *your grocery store* and you are heading directly to the shelf where you have bought *your milk* several times before **but *your milk* is not on the shelf**.

▼ Explaining Availability Scenario_Milk

Q59 ☐

⚙ ▾

Please think of the shopping situation described before and imagine the following:

With *your milk* in mind you are now entering *your grocery store* and you are heading directly to the shelf where you have bought *your milk* several times before. *Your milk* is at its usual place on the shelf. ***Your milk* is available.**

You take *your milk* off the shelf and put it into your cart or basket.

- DDD -

Q60

Referring to the just described shopping situation (*your milk* was available), I ask you now to evaluate the following statements.

Again, I need this to make sure that the described situation was **clear and understandable** to you.

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
In the described shopping situation...							
...there was a good **availability** of *your milk*.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your milk* **by means of a notice.**	○	○	○	○	○	○	○
...a member of **the store staff assisted you** when you could not find *your milk* due to its unavailability.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your milk* **from a member of the store staff.**	○	○	○	○	○	○	○
The described shopping situation...	○	○	○	○	○	○	○
...was **inconvenient** for you as a customer.							
...was **unpleasant** for you as a customer.	○	○	○	○	○	○	○

▼ Explaining Recovery Scenario - Basic Recovery_Milk

Q61

Now, *your milk* is not on the shelf. So, you are looking around the shelves and the other aisles, in case it has been put somewhere else – but you still cannot find it.

At the place *your milk* is supposed to be you see a notice that reads:

"Sorry, this product is currently unavailable - we are aware of this and have reordered this item. We apologize for any inconvenience caused."

- EEE -

Q62

Referring to the just described shopping situation (the unavailability of *your milk*, as well as the information about the unavailability of *your milk* through a notice on the shelf that also included an apology), I ask you now to evaluate the following statements.

Again, I need this to make sure that the described situation was **clear and understandable** to you.

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
In the described shopping situation...							
...there was a good **availability** of *your milk*.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your milk* **by means of a notice**.	○	○	○	○	○	○	○
...a member of **the store staff assisted you** when you could not find *your milk* due to its unavailability.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your milk* **from a member of the store staff**.	○	○	○	○	○	○	○
The described shopping situation...	○	○	○	○	○	○	○
...was **inconvenient** for you as a customer.							
...was **unpleasant** for you as a customer.	○	○	○	○	○	○	○

▼ Explaining Recovery Scenario - No Recovery_Milk

Q63

Now, *your milk* is not on the shelf. So, you are looking around the shelves and the other aisles, in case it has been put somewhere else – but you still cannot find it.

As you cannot find any information about *your milk's* availability or otherwise, you come to the conclusion that it is currently not available.
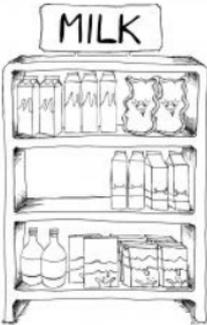
Q64

Referring to the just described shopping situation (*your milk* was unavailable), I ask you now to evaluate the following statements.

Again, I need this to make sure that the described situation was **clear and understandable** to you.

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
In the described shopping situation...							
...there was a good **availability** of *your milk*.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your milk* **by means of a notice.**	○	○	○	○	○	○	○
...a member of **the store staff assisted you** when you could not find *your milk* due to its unavailability.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your milk* **from a member of the store staff.**	○	○	○	○	○	○	○
The described shopping situation...	○	○	○	○	○	○	○
...was **inconvenient** for you as a customer.							
...was **unpleasant** for you as a customer.	○	○	○	○	○	○	○

▼ Explaining Recovery Scenario - Recovery Plus_Milk

Q65

Now, *your milk* is not on the shelf. So, you are looking around the shelves and the other aisles, in case it has been put somewhere else – but you still cannot find it.

Consequently you ask a member of store staff whether *your milk* is available somewhere else in the store, for example in another area of the store or the backroom / the storage area of the store. The employee checks elsewhere and subsequently goes to the backroom to look for the item. The employee returns a couple of minutes later and says: "Sorry, this product is indeed unavailable - we apologise for any inconvenience caused."

Q66

Referring to the just described shopping situation (the unavailability of *your milk*, as well as the assistance of a store staff member who looked in the backroom / storage for *your milk* without success and also offered an apology), I ask you now to evaluate the following statements.

Again, I need this to make sure that the described situation was **clear and understandable** to you.

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree.

MILK

	1 completely disagree	2	3	4	5	6	7 completely agree
In the described shopping situation...							
...there was a good **availability** of *your milk*.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your milk* **by means of a notice.**	○	○	○	○	○	○	○
...a member of **the store staff assisted you** when you could not find *your milk* due to its unavailability.	○	○	○	○	○	○	○
...you as a customer received **an apology** for the unavailability of *your milk* **from a member of the store staff.**	○	○	○	○	○	○	○
The described shopping situation...	○	○	○	○	○	○	○
...was **inconvenient** for you as a customer.							
...was **unpleasant** for you as a customer.	○	○	○	○	○	○	○

▼ Measuring of CS/D_Milk_Basic Recovery

Q67

To summarise: You were confronted with the **unavailability** of *your milk*, you were **informed about the unavailability of** *your milk* through a **notice on the shelf that also included an apology.**

How would you evaluate this **level of service (= the unavailability of *your milk* + information about the unavailability of *your milk* through a notice on the shelf that also included an apology)** you received in *your grocery store*?

Please rate your level of dissatisfaction/satisfaction from 1 (very dissatisfied) to 9 (very satisfied).

MILK

	1 very dissatisfied	2	3	4	5	6	7	8	9 very satisfied
-	○	○	○	○	○	○	○	○	○

- HHH -

Q68

To summarise: You were confronted with the **unavailability** of *your milk*; you were **informed about the unavailability of** *your milk* through a **notice on the shelf that also included an apology.**

How would you evaluate this **level of service (= the unavailability of** *your milk* **+ information about the unavailability of** *your milk* **through a notice on the shelf that also included an apology)** you received in *your grocery store*?

Please rate your level of dissatisfaction/satisfaction from 1 (very dissatisfied) to 7 (very satisfied).

	1 completely disagree	2	3	4	5	6	7 completely agree
You would be **pleased** with this level of service.	○	○	○	○	○	○	○
You would be **contented** with this level of service.	○	○	○	○	○	○	○
You would be **satisfied** with this level of service.	○	○	○	○	○	○	○
In this shopping situation your **expectations** in terms of service would be **fulfilled**.	○	○	○	○	○	○	○

Measuring Consequences_Basic Recovery_Milk

Q69

To summarise: You were confronted with the **unavailability** of *your milk*; you were **informed about the unavailability of** *your milk* through a **notice on the shelf that also included an apology.**

How would you rate your reaction to this **level of service (= the unavailability of** *your milk* **+ information about the unavailability of** *your milk* **through a notice on the shelf that also included an apology)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
You would find this level of service... highly **inappropriate** (-3)	○	○	○	○	○	○	○	highly **appropriate** (+3)
You would find this level of service... very **unfair** (-3)	○	○	○	○	○	○	○	very **fair** (+3)
You would consider that you... **deserved** a much better service (-3)	○	○	○	○	○	○	○	**did not** deserve a much better service (+3)

Q70

To summarise: You were confronted with the **unavailability** of *your milk*; you were **informed about the unavailability of *your milk*** through a **notice on the shelf that also included an apology.**

How would you rate your reaction to this **level of service (= the unavailability of *your milk* + information about the unavailability of *your milk* through a notice on the shelf that also included an apology)** in *your grocery store* between -3 and+3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
For you, this level of service would make *your grocery store*... much **less** attractive (-3)	○	○	○	○	○	○	○	much **more** attractive (+3)
Given this level of service you would... be very **unlikely** to visit *your grocery store* again (-3)	○	○	○	○	○	○	○	be very **likely** to visit *your grocery store* again (+3)
Given this level of service you would... definitely **not look forward** to visiting *your grocery store* again (-3)	○	○	○	○	○	○	○	definitely **look forward** to visiting *your grocery store* again (+3)

Q71

To summarise: You were confronted with the **unavailability** of *your milk*; you were **informed about the unavailability** of *your milk* through a **notice on the shelf that also included an apology.**

How would you rate your reaction to this **level of service (= the unavailability of** *your milk* **+ information about the unavailability of** *your milk* **through a notice on the shelf that also included an apology)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
Given this level of service you would... be very likely to say **bad things** about *your grocery store* (-3)	○	○	○	○	○	○	○	be very likely to say **good things** about *your grocery store* (+3)
Given this level of service you would... be very **likely** to warn other people not to visit *your grocery store* again (-3)	○	○	○	○	○	○	○	be very **unlikely** to warn other people not to visit *your grocery store* again (+3)
Given this level of service you would... be sure to tell your friends and relatives **not to shop** at *your grocery store* (-3)	○	○	○	○	○	○	○	be sure to tell your friends and relatives **to shop** at *your grocery store* (+3)

MILK

- KKK -

Q72

To summarise: You were confronted with the **unavailability** of *your milk*; you were **informed about the unavailability of *your milk*** through a **notice on the shelf that also included an apology.**

How would you rate your reaction to this **level of service (= the unavailability of *your milk* + information about the unavailability of *your milk* through a notice on the shelf that also included an apology)** in *your grocery store* between -3 and+3, based on the following opposite statements?

MILK

	-3	-2	-1	0	1	2	3	
Given this level of service you would... be very **likely** purposely to visit a store of another retailer (-3)	○	○	○	○	○	○	○	be very **unlikely** purposely to visit a store of another retailer (+3)
Given this level of service you would... be very **unlikely** to be loyal to your *grocery store in future* (-3)	○	○	○	○	○	○	○	be very **likely** to be loyal to your *grocery store in future* (+3)
Given this level of service you would... be very **likely** to visit another store belonging to *your grocery retailer* (-3)	○	○	○	○	○	○	○	be very **unlikely** to visit another store belonging to *your grocery retailer* (+3)

▼ Measurement of CS/D_Milk_No Recovery

Q73

To summarise: As you cannot find any information about the availability or otherwise of *your milk* you come to the conclusion that *your milk* is currently **not available.**

How would you evaluate this **level of service (= the unavailability of *your milk*)** you received in *your grocery store*?

Please rate your level of dissatisfaction/satisfaction from 1 (very dissatisfied) to 9 (very satisfied).

MILK

1 very dissatisfied	2	3	4	5	6	7	8	9 very satisfied
○	○	○	○	○	○	○	○	○

Q74

To summarise: As you cannot find any information about the availability or otherwise of *your milk* you come to the conclusion that *your milk is* currently **not available.**

How would you evaluate this **level of service (= the unavailability of *your milk*) you** received in *your grocery store*?

Please evaluate the following statements
from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
You would be **pleased** with this level of service.	○	○	○	○	○	○	○
You would be **contented** with this level of service.	○	○	○	○	○	○	○
You would be **satisfied** with this level of service.	○	○	○	○	○	○	○
In this shopping situation your **expectations** in terms of service would be **fulfilled**.	○	○	○	○	○	○	○

▼ Measurement of Consequences_No Recovery_Milk

Q75

To summarise: As you cannot find any information about the availability or otherwise of *your milk* you come to the conclusion that *your milk is* currently **not available.**

How would you rate your reaction to this **level of service (= the unavailability of *your milk*) in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
You would find this level of service... highly **inappropriate** (-3)	○	○	○	○	○	○	○	highly **appropriate** (+3)
You would find this level of service... very **unfair** (-3)	○	○	○	○	○	○	○	very **fair** (+3)
You would consider that you... **deserved** a much better service (-3)	○	○	○	○	○	○	○	**did not** deserve a much better service (+3)

- MMM -

Q76

To summarise: As you cannot find any information about the availability or otherwise of *your milk* you come to the conclusion that **your milk is** currently **not available.**

How would you rate your reaction to this **level of service (= the unavailability of *your milk)** in *your grocery store* between -3 and +3, based on the following opposite statements?

MILK

	-3	-2	-1	0	1	2	3	
For you, this level of service would make *your grocery store...* much **less** attractive (-3)	○	○	○	○	○	○	○	much **more** attractive (+3)
Given this level of service you would... be very **unlikely** to visit *your grocery store* again (-3)	○	○	○	○	○	○	○	be very **likely** to visit *your grocery store* again (+3)
Given this level of service you would... definitely **not look forward** to visiting *your grocery store* again (-3)	○	○	○	○	○	○	○	definitely **look forward** to visiting *your grocery store* again (+3)

Q77

To summarise: As you cannot find any information about the availability or otherwise of *your milk* you come to the conclusion that **your milk is** currently **not available.**

How would you rate your reaction to this **level of service (= the unavailability of *your milk)*** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
Given this level of service you would... be very likely to say **bad things** about *your grocery store* (-3)	○	○	○	○	○	○	○	be very likely to say **good things** about *your grocery store* (+3)
Given this level of service you would... be very **likely** to warn other people not to visit *your grocery store* again (-3)	○	○	○	○	○	○	○	be very **unlikely** to warn other people not to visit *your grocery store* again (+3)
Given this level of service you would... be sure to tell your friends and relatives **not to shop** at *your grocery store* (-3)	○	○	○	○	○	○	○	be sure to tell your friends and relatives **to shop** at *your grocery store* (+3)

- OOO -

Q78

To summarise: As you cannot find any information about the availability or otherwise of *your milk* you come to the conclusion that *your milk* **is** currently **not available.**

How would you rate your reaction to this **level of service (= the unavailability of *your milk*)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	

Given this level of service you would...

| be very **likely** purposely to visit a store of another retailer (-3) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | be very **unlikely** purposely to visit a store of another retailer (+3) |

Given this level of service you would...

| be very **unlikely** to be loyal to your *grocery store in future* (-3) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | be very **likely** to be loyal to your *grocery store in future* (+3) |

Given this level of service you would...

| be very **likely** to visit another store belonging to *your grocery retailer* (-3) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | be very **unlikely** to visit another store belonging to *your grocery retailer* (+3) |

▼ Measurement of CS/D_Recovery Plus_Milk

Q79

To summarise: You were confronted with the **unavailability of *your milk*** *and you were assisted* by a member of the store staff who checked elsewhere in the store and the backroom / storage area and offered you an apology.

How would you evaluate this **level of service (= the unavailability of *your milk* + the assistance of a store staff member who looked in the backroom / storage for *your milk* without success + offered an apology for the lack of availability)** you received in *your grocery store*?

Please rate your level of dissatisfaction/satisfaction from 1 (very dissatisfied) to 9 (very satisfied).

	1 very dissatisfied	2	3	4	5	6	7	8	9 very satisfied
...	○	○	○	○	○	○	○	○	○

- PPP -

Q80

To summarise: You were confronted with the **unavailability of** *your milk* and *you were assisted* by a member of the store staff who checked elsewhere in the store and the backroom / storage area and offered you an apology.

How would you evaluate this **level of service** (= the unavailability of *your milk* + the assistance of a store staff member who looked in the backroom / storage for *your milk* without success + offered an apology for the lack of availability) you received in *your grocery store*?

Please evaluate the following statements
from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
You would be **pleased** with this level of service.	○	○	○	○	○	○	○
You would be **contented** with this level of service.	○	○	○	○	○	○	○
You would be **satisfied** with this level of service.	○	○	○	○	○	○	○
In this shopping situation your **expectations** in terms of service would be **fulfilled**.	○	○	○	○	○	○	○

▼ Measuring Consequences_Recovery Plus_Milk

Q81

To summarise: You were confronted with the **unavailability of** *your milk* and *you were assisted* by a member of the store staff who checked elsewhere in the store and the backroom / storage area and offered you an apology.

How would you rate your reaction to this **level of service** (= the unavailability of *your milk* + the assistance of a store staff member who looked in the backroom / storage for *your milk* without success + offered an apology for the lack of availability) in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
You would find this level of service... highly **inappropriate** (-3)	○	○	○	○	○	○	○	highly **appropriate** (+3)
You would find this level of service... very **unfair** (-3)	○	○	○	○	○	○	○	very **fair** (+3)
You would consider that you... **deserved** a much better service (-3)	○	○	○	○	○	○	○	**did not** deserve a much better service (+3)

- QQQ -

Q82

To summarise: You were confronted with the **unavailability of** *your milk* **and** *you* *were assisted* **by a member of the store staff** who checked elsewhere in the store and the backroom / storage area and offered you an apology.

How would you rate your reaction to this **level of service (= the unavailability of** *your milk* **+ the assistance of a store staff member who looked in the backroom / storage for** *your milk* **without success + offered an apology for the lack of availability)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
For you, this level of service would make *your grocery store*... much **less** attractive (-3)	○	○	○	○	○	○	○	much **more** attractive (+3)
Given this level of service you would... be very **unlikely** to visit *your grocery store* again (-3)	○	○	○	○	○	○	○	be very **likely** to visit *your grocery store* again (+3)
Given this level of service you would... definitely **not look forward** to visiting *your grocery store* again (-3)	○	○	○	○	○	○	○	definitely **look forward** to visiting *your grocery store* again (+3)

- RRR -

Q83

To summarise: You were confronted with the **unavailability of *your milk* and *you were assisted* by a member of the store staff** who checked elsewhere in the store and the backroom / storage area and offered you an apology.

How would you rate your reaction to this **level of service (= the unavailability of *your milk* + the assistance of a store staff member who looked in the backroom / storage for *your milk* without success + offered an apology for the lack of availability)** in *your grocery store* between -3 and +3, based on the following opposite statements?

MILK

	-3	-2	-1	0	1	2	3	
Given this level of service you would... be very likely to say **bad things** about *your grocery store* (-3)	○	○	○	○	○	○	○	be very likely to say **good things** about *your grocery store* (+3)
Given this level of service you would... be very **likely** to warn other people not to visit *your grocery store* again (-3)	○	○	○	○	○	○	○	be very **unlikely** to warn other people not to visit *your grocery store* again (+3)
Given this level of service you would... be sure to tell your friends and relatives **not to shop** at *your grocery store* (-3)	○	○	○	○	○	○	○	be sure to tell your friends and relatives **to shop** at *your grocery store* (+3)

Q84

To summarise: You were confronted with the **unavailability of *your milk* and *you were assisted* by a member of the store staff** who checked elsewhere in the store and the backroom / storage area and offered you an apology.

How would you rate your reaction to this **level of service (= the unavailability of *your milk* + the assistance of a store staff member who looked in the backroom / storage for *your milk* without success + offered an apology for the lack of availability)** in *your grocery store* between -3 and +3, based on the following opposite statements?

	-3	-2	-1	0	1	2	3	
Given this level of service you would... be very **likely** purposely to visit a store of another retailer (-3)	○	○	○	○	○	○	○	be very **unlikely** purposely to visit a store of another retailer (+3)
Given this level of service you would... be very **unlikely** to be loyal to your *grocery store in future* (-3)	○	○	○	○	○	○	○	be very **likely** to be loyal to your *grocery store in future* (+3)
Given this level of service you would... be very **likely** to visit another store belonging to *your grocery retailer* (-3)	○	○	○	○	○	○	○	be very **unlikely** to visit another store belonging to *your grocery retailer* (+3)

▼ Measurement of CS/D_Milk_Availability

Q85

To summarise: *Your milk* **is available** and you find it on the shelf that it is usually on.

How would you evaluate this **level of service (= availability of *your milk*)** you received in *your grocery store*?

Please rate your level of dissatisfaction/satisfaction from 1 (very dissatisfied) to 9 (very satisfied).

	1 very dissatisfied	2	3	4	5	6	7	8	9 very satisfied
...	○	○	○	○	○	○	○	○	○

Q86

To summarise: *Your milk is available* and you find it on the shelf that it is usually on.

How would you evaluate this **level of service (= availability of *your milk*)** you received in *your grocery store*?

Please evaluate the following statements
from 1 = completely disagree to 7 = completely agree.

MILK

	1 completely disagree	2	3	4	5	6	7 completely agree
You would be **pleased** with this level of service.	○	○	○	○	○	○	○
You would be **contented** with this level of service.	○	○	○	○	○	○	○
You would be **satisfied** with this level of service.	○	○	○	○	○	○	○
In this shopping situation your **expectations** in terms of service would be **fulfilled**.	○	○	○	○	○	○	○

▼ Measurement of Consequences_Availability_Milk

Q87

To summarise: *Your milk is available* and you find it on the shelf that it is usually on.

How would you rate your reaction to this **level of service (= availability of *your milk*)** in *your grocery store* between -3 and +3, based on the following opposite statements?

MILK

	-3	-2	-1	0	1	2	3	
You would find this level of service... highly **inappropriate** (-3)	○	○	○	○	○	○	○	highly **appropriate** (+3)
You would find this level of service... very **unfair** (-3)	○	○	○	○	○	○	○	very **fair** (+3)
You would consider that you... **deserved** a much better service (-3)	○	○	○	○	○	○	○	**did not** deserve a much better service (+3)

Q88 ☐

⚙ ▾

[*]

To summarise: *Your milk* **is available** and you find it on the shelf that it is usually on.

How would you rate your reaction to this **level of service (= availability of** *your milk*) in *your grocery store* between -3 and +3, based on the following opposite statements?

MILK

	-3	-2	-1	0	1	2	3	

For you, this level of service would make *your grocery store*...

much **less** attractive (-3) ○ ○ ○ ○ ○ ○ ○ much **more** attractive (+3)

Given this level of service you would...

be very **unlikely** to visit *your grocery store* again (-3) ○ ○ ○ ○ ○ ○ ○ be very **likely** to visit *your grocery store* again (+3)

Given this level of service you would...

definitely **not look forward** to visiting *your grocery store* again (-3) ○ ○ ○ ○ ○ ○ ○ definitely **look forward** to visiting *your grocery store* again (+3)

Q89

To summarise: **Your milk is available** and you find it on the shelf that it is usually on.

How would you rate your reaction to this **level of service (= availability of** *your milk*) in *your grocery store* between -3 and +3, based on the following opposite statements?

MILK

	-3	-2	-1	0	1	2	3	
Given this level of service you would...								
be very likely to say **bad things** about *your grocery store* (-3)	○	○	○	○	○	○	○	be very likely to say **good things** about *your grocery store* (+3)
Given this level of service you would...								
be very **likely** to warn other people not to visit *your grocery store* again (-3)	○	○	○	○	○	○	○	be very **unlikely** to warn other people not to visit *your grocery store* again (+3)
Given this level of service you would...								
be sure to tell your friends and relatives **not to shop** at *your grocery store* (-3)	○	○	○	○	○	○	○	be sure to tell your friends and relatives **to shop** at *your grocery store* (+3)

Q90

To summarise: *Your milk* **is available** and you find it on the shelf that it is usually on.

How would you rate your reaction to this **level of service (= availability of** *your milk***)** in *your grocery store* between -3 and +3, based on the following opposite statements?

MILK

	-3	-2	-1	0	1	2	3	
Given this level of service you would... be very **likely** purposely to visit a store of another retailer (-3)	○	○	○	○	○	○	○	be very **unlikely** purposely to visit a store of another retailer (+3)
Given this level of service you would... be very **unlikely** to be loyal to your *grocery store in future* (-3)	○	○	○	○	○	○	○	be very **likely** to be loyal to your *grocery store in future* (+3)
Given this level of service you would... be very **likely** to visit another store belonging to *your grocery retailer* (-3)	○	○	○	○	○	○	○	be very **unlikely** to visit another store belonging to *your grocery retailer* (+3)

▼ Delinquency of OOS

Q91 ☐

⚙ ▾

✱

Display This Question:
If You start your weekly shopping trip to your preferred grocery store. This is the store where you... Is
Displayed Edit

Or You start your weekly shopping trip to your preferred grocery store. This is the store where you... Is
Displayed Edit

Or You start your weekly shopping trip to your preferred grocery store. This is the store where you... Is
Displayed Edit

Should you experience that *your wine* is unavailable when you planned to buy it – who or what would you most likely blame for this?

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
The store was responsible for what caused the situation.	○	○	○	○	○	○	○
To prevent the situation, there are **actions the store could have taken.**	○	○	○	○	○	○	○
As a customer you would consider **yourself to blame** for the situation.	○	○	○	○	○	○	○
The situation you experienced as a result of the out of stock situation **is short term in nature.**	○	○	○	○	○	○	○
The situation was caused by **circumstances beyond anyone's control.**	○	○	○	○	○	○	○

Q92 ☐

⚙ ▾

✱

Display This Question:
If You start your weekly shopping trip to your preferred grocery store. This is the store where you... Is
Displayed Edit

Or You start your weekly shopping trip to your preferred grocery store. This is the store where you... Is
Displayed Edit

Or You start your weekly shopping trip to your preferred grocery store. This is the store where you... Is
Displayed Edit

Should you experience that *your wine* is unavailable when you planned to buy it – who or what would you most likely blame for this?

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
You would mainly see the **staff** of the store as responsible.	○	○	○	○	○	○	○
You would mainly see the **management** of the store as responsible.	○	○	○	○	○	○	○
You would mainly see the **supplier** of the product as responsible.	○	○	○	○	○	○	○
You would mainly consider the **computer systems** of the retailer to be responsible.	○	○	○	○	○	○	○
You would mainly consider an **unexpectedly high demand** for the product as responsible.	○	○	○	○	○	○	○
You would mainly see the **retailer that owns** *your grocery store* as responsible.	○	○	○	○	○	○	○

- YYY -

Q93

Display This Question:

If You start your weekly shopping trip to your preferred grocery store. This is the store where you...   Is
Displayed Edit

Or You start your weekly shopping trip to your preferred grocery store. This is the store where you...   Is
Displayed Edit

Or You start your weekly shopping trip to your preferred grocery store. This is the store where you...   Is
Displayed Edit

Should you experience that *your milk* is unavailable when you planned to buy it – who or what would you most likely blame for this?

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
The store was responsible for what caused the situation.	○	○	○	○	○	○	○
To prevent the situation, there are **actions the store could have taken.**	○	○	○	○	○	○	○
As a customer you would consider **yourself to blame** for the situation.	○	○	○	○	○	○	○
The situation you experienced as a result of the out of stock situation **is short term in nature.**	○	○	○	○	○	○	○
The situation was caused by **circumstances beyond anyone's control.**	○	○	○	○	○	○	○

Q94

Display This Question:

If You start your weekly shopping trip to your preferred grocery store. This is the store where you...   Is
Displayed Edit

Or You start your weekly shopping trip to your preferred grocery store. This is the store where you...   Is
Displayed Edit

Or You start your weekly shopping trip to your preferred grocery store. This is the store where you...   Is
Displayed Edit

Should you experience that *your milk* is unavailable when you planned to buy it – who or what would you most likely blame for this?

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
You would mainly see the **staff** of the store as responsible.	○	○	○	○	○	○	○
You would mainly see the **management** of the store as responsible.	○	○	○	○	○	○	○
You would mainly see the **supplier** of the product as responsible.	○	○	○	○	○	○	○
You would mainly consider the **computer systems** of the retailer to be responsible.	○	○	○	○	○	○	○
You would mainly consider an **unexpectedly high demand** for the product as responsible.	○	○	○	○	○	○	○
You would mainly see the **retailer that owns** *your grocery store* as responsible.	○	○	○	○	○	○	○

- ZZZ -

▼ Control Questions - Retail Store

Q95

☼ ▾

Dear participant, thank you for your evaluation of the shopping situation described.

To better evaluate your answers, I would like to ask you to give some more information about **your real life shopping behaviour.** I need this to compare different groups of shoppers.

Q96

☼ ▾

✱

How often do you go to a grocery store to purchase groceries?

Please state the approximate number of store visits **per month**.

Please insert the number in the box below.

Q97

☼ ▾

✱

Please think of your personal shopping habits and evaluate the following statements from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
When you shop for groceries you **try to shop at *your grocery store*** – that is the store you shop at most frequently and that your are thus most familiar with.	○	○	○	○	○	○	○

Q98

☼ ▾

✱

How far away from your home (the flat/house where you spend most of your time) is your most frequently visited grocery store located? Please state the approximate **distance in kilometres**.

Q99

☼ ▾

✱

How long does it take you to get from your home (the flat/house where you spend most of your time) to your most frequently visited grocery store? Please state the approximate **time in minutes**.

Q100

How do you typically get to your most frequently visited grocery store?

Please choose the most applicable option from the following drop-down menu:

| by foot | ▼ | Click here to edit choices |

by foot
by bike
by motorbike / moped
by car (that means passenger car, station wagon or van).
by truck
by taxi
by public transport
other

Q101

ry store. This is the store

ery store. This is the store

Q101

Display This Question:

If You start your weekly shopping trip to your preferred grocery store. This is the store where you... Is
Displayed Edit

Or You start your weekly shopping trip to your preferred grocery store. This is the store where you... Is
Displayed Edit

Or You start your weekly shopping trip to your preferred grocery store. This is the store where you... Is
Displayed Edit

When you go shopping - please think about your expectations of product availability and evaluate the following statements from 1 = completely disagree to 7 = completely agree

	1 completely disagree	2	3	4	5	6	7 completely agree
When you plan your purchase you would **expect that all items are available** in *your grocery store*.	○	○	○	○	○	○	○
You would **understand** that it is **not possible** for *your grocery store* to always make **every product available**.	○	○	○	○	○	○	○
For the product *(your wine)* described in the shopping situation before, you would **expect a high availability in** *your grocery store*.	○	○	○	○	○	○	○

- BBBB -

Q102

Display This Question:
If You start your weekly shopping trip to your preferred grocery store. This is the store where you... Is
Displayed Edit

Or You start your weekly shopping trip to your preferred grocery store. This is the store where you... Is
Displayed Edit

Or You start your weekly shopping trip to your preferred grocery store. This is the store where you... Is
Displayed Edit

When you go shopping - please think about your expectations of product availability and evaluate the following statements from 1 = completely disagree to 7 = completely agree

	1 completely disagree	2	3	4	5	6	7 completely agree
When you plan your purchase you would **expect that all items are available** in *your grocery store*.	○	○	○	○	○	○	○
You would **understand** that it is **not possible** for *your grocery store* to always make **every product available**.	○	○	○	○	○	○	○
For the product (your milk) described in the shopping situation before, you would **expect a high availability in** *your grocery store*.	○	○	○	○	○	○	○

Q103

Display This Question:
If Please think of the shopping situation described before and imagine the following:With your wine... Is
Displayed Edit

Or Please think of the shopping situation described before and imagine the following:With your wine... Is
Displayed Edit

Or Please think of the shopping situation described before and imagine the following:With your wine... Is
Displayed Edit

Or Please think of the shopping situation described before and imagine the following:With your milk... Is
Displayed Edit

Or Please think of the shopping situation described before and imagine the following:With your milk... Is
Displayed Edit

Or Please think of the shopping situation described before and imagine the following:With your milk... Is
Displayed Edit

Please evaluate the following statement related to the shopping situation described at the beginning from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
You usually experience a good availability of products at the grocery store - you typically get what you want. **Therefore, the situation described would rate as an exception to you.**	○	○	○	○	○	○	○

- CCCC -

Q104

Display This Question:

If Please think of the shopping situation described before and imagine the following: With your wine...   Is
Displayed   Edit

Or Please think of the shopping situation described before and imagine the following: With your milk...   Is
Displayed   Edit

Please evaluate the following statement related to the shopping situation described at the beginning from
1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
You usually experience a good availability of items at the grocery store - you typically get what you want. **Therefore, you would see this situation as normal.**	○	○	○	○	○	○	○

▼ Control Group Hedonic

Q105

At the beginning of the questionnaire you stated that you buy wine in grocery stores.

Please choose the applicable answer from the following:

○ You buy wine in groceries - but **you do not drink wine** yourself.

○ You buy wine in groceries - and **you also drink wine** yourself.

Q106

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
Wine is a product which appeals to all of your **senses**.	○	○	○	○	○	○	○
Drinking wine means **vivid indulgence**.	○	○	○	○	○	○	○
Drinking wine is associated with **desire**.	○	○	○	○	○	○	○
Drinking wine means **pleasure**.	○	○	○	○	○	○	○
Wine is mainly drunk to **quench thirst**.	○	○	○	○	○	○	○
Wine is a very **functional product**.	○	○	○	○	○	○	○
Wine is a **means to an end**.	○	○	○	○	○	○	○

Q107

How often do you buy wine in a grocery store **in a typical month**?

- DDDD -

Q108

Display This Question:
If At the beginning of the questionnaire you stated that you buy wine in grocery stores. Please cho `<span style="font-size:13px;"><span style="font-family: arial,helvetica,sans-serif;">You buy wine in groceries -` and `<strong>you also drink wine </strong>yourself.</span></span>` Is Selected Edit

You stated in a previous question, that you also drink wine yourself.

How would you describe **your consumption of wine in a typical month?**

Please select the most applicable answer from the following options:

○ You consume wine **repeatedly** in a typical month, that means **several times in a month** (thus rather weekly).

○ You consume wine **once in a while** in a typical month, that means **some times in a month**.

○ You consume wine **seldom** in a typical month, that means **a few times in a month**.

○ You consume wine **once in a blue moon** in a typical month, that means **sometimes less than a few times in a month**.

Q109

How many bottles of wine do you buy on average **in a typical month** when you shop in a grocery store?

Q110

When you buy wine, which bottle/package size do you **typically** buy?

Please choose one of the following options.

☐ **'Normal' glass bottle** (0.7 / 0.75 / 1.0 litre)

☐ **'Small' glass bottle** (0.375 litre)

☐ **'Big' glass-bottle** (1.5 litre - Magnum)

☐ **TetraPak® Carton** - Please state the quantity in litres

☐ **Other -** please state

- EEEE -

Q111

When you buy wine, how **important are the following factors** to you when it comes to buying wine in grocery stores?

Please evaluate from 1 = completely unimportant to 7 = completely important.

	1 completely unimportant	2	3	4	5	6	7 completely important
Region the wine was produced	○	○	○	○	○	○	○
Brand of wine	○	○	○	○	○	○	○
Wine Maker	○	○	○	○	○	○	○
Grape(s)	○	○	○	○	○	○	○
Quality	○	○	○	○	○	○	○
Price	○	○	○	○	○	○	○
Promotion	○	○	○	○	○	○	○
Product-**Advertisement**	○	○	○	○	○	○	○

▼ Control Group Utilitarian

Q112

At the beginning of the questionnaire you stated that you buy milk in grocery stores.

Please choose the applicable answer from the following:

○ You buy milk in groceries - but **you do not drink it** yourself.

○ You buy milk in groceries - and **you also drink it** yourself.

Q113

How often do you buy milk in a grocery store **in a typical month**?

Q114

Display This Question:
If At the beginning of the questionnaire you stated that you buy milk in grocery stores. Please cho... **You buy milk in groceries - and you also drink it yourself.** Is Selected Edit

You stated in a previous question, that you also drink milk yourself.

How would you describe **your consumption of milk in a typical month?**

Please select the most applicable answer from the following options:

○ You consume milk **repeatedly** in a typical month, that means **several times in week** (thus rather daily).

○ You consume milk **once in a while** in a typical month, that means **some times in a month**.

○ You consume milk **seldom** in a typical month, that means **a few times in a month**.

○ You consume milk **once in a blue moon** in a typical month, that means **sometimes less than a few times in a month**.

Q115

On average, **how many litres of milk** do you buy in a grocery store in a typical month?

Q116

When you buy milk from a grocery store, **which kind(s)** of milk do you typically buy?

Please choose from the following options:

	Type of milk you typically buy:
Whole Milk (at least. 3,5% fat content)	☐
Semi Skimmed Milk (more than 1%, but less than 3,5% fat content)	☐
Skimmed Milk (less than 1% fat content)	☐
Long-Life Whole Milk (at least. 3,5% fat content)	☐
Long-Life Semi Skimmed Milk (more than 1%, but less than 3,5% fat content)	☐
Long-Life Skimmed Milk (less than 1% fat content)	☐
Probiotic Milk	☐
Lactose free Milk	☐
Soy Milk	☐
other - please state:	☐

Q117

When you buy milk, how important are the following factors to you?

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely unimportant	2	3	4	5	6	7 completely important
That the milk is **organic**	○	○	○	○	○	○	○
The **brand/label** of the milk	○	○	○	○	○	○	○
The **region** the milk comes from	○	○	○	○	○	○	○
Quality	○	○	○	○	○	○	○
Brand	○	○	○	○	○	○	○
Price	○	○	○	○	○	○	○
Promotions	○	○	○	○	○	○	○
Product-**Advertisment**	○	○	○	○	○	○	○

Q118

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
Milk is a product which appeals to all of your **senses**.	○	○	○	○	○	○	○
Drinking milk means **vivid indulgence**.	○	○	○	○	○	○	○
Drinking milk is associated with **desire**.	○	○	○	○	○	○	○
Drinking milk means **pleasure**.	○	○	○	○	○	○	○
Milk is mainly drunk to **quench thirst**.	○	○	○	○	○	○	○
Milk is a very **functional product**.	○	○	○	○	○	○	○
Milk is a **means to an end**.	○	○	○	○	○	○	○

▼ Further Data and Information

Q119

In the following questions you are asked to give me some information about yourself. I need this to compare different groups of consumers. Again, I assure that your answers will be treated confidentially.

Are you:

○ **Male**

○ **Female**

Q120

How **old** are you?

- HHHH -

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Q121

Please state, **how many persons** (including yourself) **live in your household**:

Q122

Display This Question:
If Please state, how many persons (including yourself) live in your household: **Text Response** Is **Greater Than** 1 Edit

Please state **the amount of persons** (including yourself) who live in your household.

	The amount of persons per 'group of age'
...and are **over 18 years** of age.	
...and are **over 10 years and younger than 18 years** of age.	
...and are **over 6 years and younger than 10 years** of age.	
...and are **over 3 years and younger than 6 years** of age.	
...and are **over 1 years and younger than 3 years** of age.	
...and are **younger than 1 year** of age.	

Q123

Are you the **main shopper for your household** - that is to say the person who buys most of the groceries?

○ **Yes**

○ **No** - please state, who is the main shopper of your household? (e.g. spouse, partner, mother, brother, etc. pp.).

Q124

How much do you **usually spend when** you shop at your preferred grocery store? Please state the typical amount in Euro (€) roughly:

Q125

Please state your **monthly net-household-income** (this is the sum of all net incomes of all the members of your household) in Euro (€).

- ○ Less than €500
- ○ €500 to €1,000
- ○ €1.001 to €2.000
- ○ €2.001 to €3.000
- ○ €3.001 to €4.000
- ○ €4.001 to €5.000
- ○ €5.001 to €6.000
- ○ €6.001 to €7.000
- ○ €7.001 to €8.000
- ○ more than €8.000

Q126

Please provide me with your **post code of your household** (your primary residential address).

▼ Hedonic vs. Utilitarian Consumer Behaviour

Q127

Additionally, in the following you are asked to give me some further information about **your buying behaviour in general.** I need this to compare different groups of consumers.

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
Shopping really means **joy** to you.	○	○	○	○	○	○	○
Sometimes you continue to shop not because you have to, but **because you want to.**	○	○	○	○	○	○	○
A shopping trip really **feels like an escape.**	○	○	○	○	○	○	○
Compared to other things you could do, **shopping is** really **enjoyable.**	○	○	○	○	○	○	○
You enjoy shopping because you are being **immersed in** exciting **new products and services.**	○	○	○	○	○	○	○
You enjoy shopping for its own sake, not just for the items you may purchase.	○	○	○	○	○	○	○
While shopping you have a good time because you are able to **act on the 'spur of the moment'.**	○	○	○	○	○	○	○
During the shopping trip, you feel the **excitement of the hunt.**	○	○	○	○	○	○	○
While shopping, you are able to **forget your problems.**	○	○	○	○	○	○	○
While shopping, you feel a **sense of adventure.**	○	○	○	○	○	○	○
A shopping trip is **not a** very nice **time out**.	○	○	○	○	○	○	○
On shopping trips typically **you feel unlucky** with regard to finding what you want.	○	○	○	○	○	○	○
You are able to do a lot of **fantasising** during a shopping trip.	○	○	○	○	○	○	○

Q128

Please evaluate the following statements from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
You accomplish **just what you want** to on a shopping trip.	○	○	○	○	○	○	○
While shopping, you **just find what you are looking for.**	○	○	○	○	○	○	○
You are **disappointed when you have to go to another store** to complete your shopping.	○	○	○	○	○	○	○
You are delighted if the **shopping trip is over quickly.**	○	○	○	○	○	○	○
You typically feel that your shopping **trips are successful.**	○	○	○	○	○	○	○
Mostly, you **cannot buy what you really want** on a shopping trip.	○	○	○	○	○	○	○
When you shop you **look for price promotions and promotional offers** rather than looking for particular products.	○	○	○	○	○	○	○
You consider yourself a **bargain hunter.**	○	○	○	○	○	○	○
When buying products **price is the most important** for you.	○	○	○	○	○	○	○
You mainly **buy products with well-known brand** names.	○	○	○	○	○	○	○
It is important to you to **buy products of high quality.**	○	○	○	○	○	○	○

(▼) HEDONIC Unavailable Scenario - Realistically

Q129

Display This Question:
If Now, your wine is not on the shelf. So, you are looking around the shelves and the other aisles.... Is
Displayed Edit

Lastly, I want to ask you to evaluate the following statements which refer to the shopping situation described (the unavailability of *your wine*, as well as the assistance of a store staff member who looked in the backroom / storage for *your wine* without success and also offered an apology for the lack of availability).

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
The description of the shopping situation was **realistic.**	○	○	○	○	○	○	○
The described shopping situation is likely to **happen in real life.**	○	○	○	○	○	○	○

- KKKK -

Q130

Display This Question:
If Now, your wine is not on the shelf. So, you are looking around the shelves and the other aisles,... Is
Displayed Edit

Lastly, I want to ask you to evaluate the following statements which refer to the shopping situation described (the unavailability of *your wine*, as well as the information about the unavailability of *your wine* through a notice on the shelf that also included an apology).

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
The description of the shopping situation was **realistic.**	○	○	○	○	○	○	○
The described shopping situation is likely to **happen in real life.**	○	○	○	○	○	○	○

Q131

Display This Question:
If Now, your wine is not on the shelf. So, you are looking around the shelves and the other aisles,... Is
Displayed Edit

Lastly, I want to ask you to evaluate the following statements which refer to the shopping situation described (the unavailability of *your wine).*

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
The description of the shopping situation was **realistic.**	○	○	○	○	○	○	○
The described shopping situation is likely to **happen in real life.**	○	○	○	○	○	○	○

Q132

Display This Question:
If Please think of the shopping situation described before and imagine the following: With your wine... Is
Displayed Edit

Lastly, I want to ask you to evaluate the following statements which refer to the shopping situation described (the availability of *your wine).*

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
The description of the shopping situation was **realistic.**	○	○	○	○	○	○	○
The described shopping situation is likely to **happen in real life.**	○	○	○	○	○	○	○

UTILITARIAN Unavaiable Scenario - Realistically

Q133

Display This Question:
If Now, your milk is not on the shelf. So, you are looking around the shelves and the other aisles,... Is
Displayed Edit

Lastly, I want to ask you to evaluate the following statements which refer to the shopping situation described (the unavailability of *your milk*, as well as the assistance of a store staff member who looked in the backroom / storage for *your milk* without success and also offered an apology).

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
The description of the shopping situation was **realistic.**	○	○	○	○	○	○	○
The described shopping situation is likely to **happen in real life.**	○	○	○	○	○	○	○

Q134

Display This Question:
If Now, your milk is not on the shelf. So, you are looking around the shelves and the other aisles,... Is
Displayed Edit

Lastly, I want to ask you to evaluate the following statements which refer to the shopping situation described (the unavailability of *your milk*, as well as the information about the unavailability of *your milk* through a notice on the shelf that also included an apology).

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
The description of the shopping situation was **realistic.**	○	○	○	○	○	○	○
The described shopping situation is likely to **happen in real life.**	○	○	○	○	○	○	○

Q135

Display This Question:
If Now, your milk is not on the shelf. So, you are looking around the shelves and the other aisles,... Is
Displayed Edit

Lastly, I want to ask you to evaluate the following statements which refer to the shopping situation described (the unavailability of *your milk*).

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
The description of the shopping situation was **realistic.**	○	○	○	○	○	○	○
The described shopping situation (the unavailability of *your milk)* is likely to **happen in real life.**	○	○	○	○	○	○	○

- MMMM -

Q136

Display This Question:
If Please think of the shopping situation described before and imagine the following: With your milk...   Is
Displayed Edit

Lastly, I want to ask you to evaluate the following statements which refer to the shopping situation described (the availability of *your milk*).

Please evaluate from 1 = completely disagree to 7 = completely agree.

	1 completely disagree	2	3	4	5	6	7 completely agree
The description of the shopping situation was **realistic.**	○	○	○	○	○	○	○
The described shopping situation is likely to **happen in real life.**	○	○	○	○	○	○	○

Appendix B – Ethical Consideration Check Form

Ethical Review Checklist

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Please answer the questions below in relation to your project:

Does the study require review by an NHS Research Ethics Committee? (This includes for example, but is not limited to, studies that involve NHS patient groups, characterised by a disease or disorder, or their carers, adults lacking capacity to consent for themselves, investigational medicinal products/devices and ionising radiation.)*	Yes ☐ No ☒
Does your project involve the inducement of MORE than minimal stress as in section 3.6 of the Ethical Principles & Procedures for Teaching and Research, such as:	
Procedures involving any risk to a participant's health or well-being (for example intrusive physiological or psychological procedures)?	Yes ☐ No ☒
Surveys, questionnaires and any research, the nature of which might be offensive, distressing or deeply personal for the particular target group, even if individuals are not identifiable. This may include questions on sensitive data, i.e. ethnicity, political views, religion, physical or mental health/condition, sexual life/orientation and alleged offences	Yes ☐ No ☒
Does the study involve children under 16 years or other vulnerable groups such as those 16 and over who may feel under pressure to take part due to their connection with the researcher?**	Yes ☐ No ☒
Does the study involve prisoners or young offenders? ***	Yes ☐ No ☒
Does the research involve the new collection or donation of human tissue from a living person or the recently deceased according to the Human Tissue Authority?	Yes ☐ No ☒
Does the research involve previously collected human tissue or other data where:	
Consent for research (rather than or in addition to, for example, diagnostic purposes) has not been given, or the research is not within the terms of the consent (e.g. different types of analyses are carried out or for different aims than the participant initially gave consent for).	Yes ☐ No ☒
The samples will be held on premises in England, Wales or Northern Ireland without a licence from the Human Tissue Authority to store relevant material for scheduled purposes (the University of Surrey does have this licence).	Yes ☐ No ☒
The research also involves removal, storage or use of new samples from the living or the deceased.	Yes ☐ No ☒
The research involves use of identifiable information provided/held with the samples/data. This also holds for samples/data that are not anonymised in a sufficiently robust way which might allow the researcher or others to identify whom the sample was obtained from.	Yes ☐ No ☒
Are you planning to access records of or collect personal confidential data, concerning identifiable individuals as defined by the UK Data Protection Act 1998. These personal data include but are not limited to information on sensitive personal data as well as, academic & career information and some protected characteristics according to the Equality Act 2010, e.g. disability, marriage and pregnancy.	Yes ☐ No ☒
Are you linking or sharing personal data or confidential information beyond the initial consent given (including linked data gathered outside of the UK), for example where the research topic or data-gathering involves a risk of information being disclosed that would require the researchers to breach confidentiality conditions agreed with participants?	Yes ☐ No ☒
Will you collect or access audio/video recordings, photographs or quotations within which participants may be identifiable and with the intention to disseminate those beyond the research team? This will include publicly available information for example on social media and participants recruited or identified through the internet, when the understanding of privacy in these settings is contentious, where sensitive issues are discussed or where visual images are used.	Yes ☐ No ☒
Does the research require participants to take part in the study without their knowledge and/or consent	Yes ☐

- OOOO -

Ethical Review Checklist

UNIVERSITY OF SURREY

at the time (e.g. covert observations, emergency research)?	No ☒
Does the research involve deception other than withholding information about the aims of the research until the debriefing?	Yes ☐ No ☒
Do you plan to provide financial payments or payments in kind to participants above reimbursement for out of pocket expenses, provision of refreshments or entry into a low-value prize draw, or could the compensation amount to an hourly rate more than the minimum wage or more than £100 in total, or do you otherwise plan to offer incentives which may unduly influence participants' decision to participate?	Yes ☐ No ☒
Does the research involve activities where the safety/wellbeing of the researcher may be in question? ****	Yes ☐ No ☒
Do you think that any other significant ethical concerns may arise, or does your external funding body or sponsor require ethical review to be undertaken?	Yes ☐ No ☒
Could the behavioural/physiological intervention possibly lead to discovery of ill health or concerns about wellbeing in a participant incidentally even if the intervention in itself causes no more than minimal stress is to the research participant?	Yes ☐ No ☒
Are you investigating existing working or professional practices among participants, identifiable to yourself as the researcher at your own place of work (this may be the University of Surrey or another organisation where you, your supervisor or co-investigator work)?	Yes ☐ No ☒
Is the research proposal to be carried out by persons unconnected with the University, but wishing to use staff and/or students as participants?	Yes ☐ No ☒
Are you a University of Surrey Co-investigator (CI) on a project led by a Principal Investigator (PI) at another institution which would qualify for review under the University of Surrey criteria and are you or another University of Surrey researcher responsible for the design of a questionnaire or other intervention and/or have participant contact?	Yes ☐ No ☒

* Please consult the HRA website for more information on legal and policy requirements for REC review (legal requirements only)

** For more information on working with children and young people. Please note that you may need DBS clearance for working with anyone under 18 years of age even though those 16 and over are usually considered capable of consenting for themselves.

*** Please see here for the various approvals required for working with prisoners or young offenders.

**** It is assumed that in all cases researchers adhere to the relevant University of Surrey Health & Safety policies and other local procedures, e.g. for lone working.

If the answer to any of the above questions is 'yes', then your project needs an ethical review. Please follow the process described on the ethics webpages.

October, 2015

P. [signature]

Appendix C – Preliminary Analysis

Frequencies of Sex

Sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Men	1370	40,9	40,9	40,9
	Women	1983	59,1	59,1	100,0
	Total	3353	100,0	100,0	

Comparison of the Means of Hedonic and Utilitarian Product Characteristics

General_Setting_ALL		Hedonic_Attributes	Utilitarian_Attributes
1 - Wine (Hedonic Setting)	Mean	5,3512	1,9521
	N	1586	1586
	Std. Deviation	1,12808	1,13934
2 - Milk (Utilitarian Setting)	Mean	3,8715	3,6098
	N	1767	1767
	Std. Deviation	1,46311	1,19590
Total	Mean	4,5714	2,8257
	N	3353	3353
	Std. Deviation	1,50847	1,43265

- QQQQ -

Means of CSD Single, CSD Multi-item Scale and of Importance

Report

Group_Exp_Settings		CSD_ALL_Single	CSD_ALL_Multi	IMP_ALL_ALL
1,00	Mean	7,9725	6,1964	5,3352
	N	182	182	182
	Std. Deviation	1,47327	1,09157	1,31502
2,00	Mean	3,0823	1,9114	5,3565
	N	158	158	158
	Std. Deviation	1,43640	1,16616	1,30007
3,00	Mean	5,6336	4,5134	5,4580
	N	131	131	131
	Std. Deviation	1,89820	1,60118	1,36835
4,00	Mean	6,0952	5,0612	5,3673
	N	147	147	147
	Std. Deviation	1,86655	1,52563	1,19406
5,00	Mean	7,7955	6,0322	5,2197
	N	132	132	132
	Std. Deviation	1,63800	1,12882	1,29907
6,00	Mean	2,6569	1,8449	5,3796
	N	137	137	137
	Std. Deviation	1,55506	1,18707	1,43838
7,00	Mean	5,2830	4,0684	5,0220
	N	106	106	106
	Std. Deviation	1,91612	1,58247	1,36802
8,00	Mean	5,7797	4,8284	5,4096
	N	118	118	118
	Std. Deviation	1,79808	1,47004	1,34638
9,00	Mean	7,4488	5,8031	4,7034
	N	127	127	127
	Std. Deviation	1,86321	1,27422	1,56698
10,00	Mean	3,4265	2,1912	4,6961
	N	136	136	136
	Std. Deviation	1,58993	1,35614	1,55104
11,00	Mean	5,5086	4,3901	5,0805
	N	116	116	116
	Std. Deviation	2,06627	1,64591	1,66732
12,00	Mean	5,5000	4,6484	4,8333
	N	96	96	96
	Std. Deviation	1,84105	1,68139	1,53097
13,00	Mean	8,1651	6,2500	5,7862
	N	212	212	212
	Std. Deviation	1,38239	1,03893	1,29094
14,00	Mean	2,9545	1,9217	5,6010
	N	198	198	198
	Std. Deviation	1,61935	1,18426	1,32044

Report

Group_Exp_Settings		CSD_ALL_Single	CSD_ALL_Multi	IMP_ALL_ALL
15,00	Mean	5,5192	4,3542	5,5919
	N	156	156	156
	Std. Deviation	2,15368	1,70955	1,32987
16,00	Mean	4,8994	4,1132	5,5283
	N	159	159	159
	Std. Deviation	1,87992	1,82734	1,25526
17,00	Mean	7,9014	5,9630	5,0915
	N	142	142	142
	Std. Deviation	1,46500	1,18611	1,54733
18,00	Mean	3,0846	2,0827	5,2513
	N	130	130	130
	Std. Deviation	1,61406	1,32119	1,49536
19,00	Mean	5,5664	4,4181	5,3628
	N	113	113	113
	Std. Deviation	1,99498	1,72380	1,59834
20,00	Mean	5,0902	4,2951	5,3716
	N	122	122	122
	Std. Deviation	1,97507	1,68581	1,33002
21,00	Mean	7,7152	5,8861	4,7827
	N	158	158	158
	Std. Deviation	1,65530	1,22299	1,61816
22,00	Mean	3,4214	2,2673	4,7505
	N	159	159	159
	Std. Deviation	1,50688	1,25730	1,73326
23,00	Mean	5,2321	4,1853	4,8899
	N	112	112	112
	Std. Deviation	2,27395	1,75329	1,96332
24,00	Mean	5,0943	4,1344	4,9434
	N	106	106	106
	Std. Deviation	2,01200	1,74376	1,67551
Total	Mean	5,4888	4,2298	5,2323
	N	3353	3353	3353
	Std. Deviation	2,51356	2,08410	1,48702

Accessing Normality for all Data Cases

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
CSD_W_ALL_BR_SingleItem	353	10,5%	3000	89,5%	3353	100,0%
CSD_W_ALL_NR_SingleItem	431	12,9%	2922	87,1%	3353	100,0%
CSD_W_ALL_RP_SingleItem	361	10,8%	2992	89,2%	3353	100,0%
CSD_W_ALL_AV_SingleItem	441	13,2%	2912	86,8%	3353	100,0%
CSD_M_ALL_BR_SingleItem	381	11,4%	2972	88,6%	3353	100,0%
CSD_M_ALL_NR_SingleItem	487	14,5%	2866	85,5%	3353	100,0%
CSD_M_ALL_RP_SingleItem	387	11,5%	2966	88,5%	3353	100,0%
CSD_M_ALL_AV_SingleItem	512	15,3%	2841	84,7%	3353	100,0%

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CSD_W_ALL_BR_SingleItem	,148	353	,000	,959	353	,000
CSD_W_ALL_NR_SingleItem	,144	431	,000	,911	431	,000
CSD_W_ALL_RP_SingleItem	,138	361	,000	,954	361	,000
CSD_W_ALL_AV_SingleItem	,314	441	,000	,753	441	,000
CSD_M_ALL_BR_SingleItem	,128	381	,000	,955	381	,000
CSD_M_ALL_NR_SingleItem	,145	487	,000	,909	487	,000
CSD_M_ALL_RP_SingleItem	,180	387	,000	,952	387	,000
CSD_M_ALL_AV_SingleItem	,329	512	,000	,724	512	,000

a. Lilliefors Significance Correction

Patric Spethmann
DBA programme
URN 6161989

Descriptives

			Statistic	Std. Error
CSD_W_ALL_BR_SingleItem	Mean		5,49	,104
	95% Confidence Interval for Mean	Lower Bound	5,28	
		Upper Bound	5,69	
	5% Trimmed Mean		5,51	
	Median		5,00	
	Variance		3,841	
	Std. Deviation		1,960	
	Minimum		1	
	Maximum		9	
	Range		8	
	Interquartile Range		3	
	Skewness		-,047	,130
	Kurtosis		-,552	,259
CSD_W_ALL_NR_SingleItem	Mean		3,06	,075
	95% Confidence Interval for Mean	Lower Bound	2,91	
		Upper Bound	3,20	
	5% Trimmed Mean		3,01	
	Median		3,00	
	Variance		2,406	
	Std. Deviation		1,551	
	Minimum		1	
	Maximum		9	
	Range		8	
	Interquartile Range		2	
	Skewness		,282	,118
	Kurtosis		-,595	,235
CSD_W_ALL_RP_SingleItem	Mean		5,83	,097
	95% Confidence Interval for Mean	Lower Bound	5,64	
		Upper Bound	6,03	
	5% Trimmed Mean		5,88	
	Median		6,00	
	Variance		3,417	
	Std. Deviation		1,848	
	Minimum		1	
	Maximum		9	
	Range		8	
	Interquartile Range		2	
	Skewness		-,283	,128
	Kurtosis		-,267	,256

CSD_W_ALL_AV_SingleItem	Mean		7,77	,079
	95% Confidence Interval for Mean	Lower Bound	7,61	
		Upper Bound	7,92	
	5% Trimmed Mean		7,91	
	Median		9,00	
	Variance		2,733	
	Std. Deviation		1,653	
	Minimum		1	
	Maximum		9	
	Range		8	
	Interquartile Range		2	
	Skewness		-1,165	,116
	Kurtosis		,383	,232
CSD_M_ALL_BR_SingleItem	Mean		5,45	,110
	95% Confidence Interval for Mean	Lower Bound	5,23	
		Upper Bound	5,66	
	5% Trimmed Mean		5,50	
	Median		5,00	
	Variance		4,595	
	Std. Deviation		2,144	
	Minimum		1	
	Maximum		9	
	Range		8	
	Interquartile Range		3	
	Skewness		-,260	,125
	Kurtosis		-,685	,249
CSD_M_ALL_NR_SingleItem	Mean		3,14	,072
	95% Confidence Interval for Mean	Lower Bound	3,00	
		Upper Bound	3,28	
	5% Trimmed Mean		3,10	
	Median		3,00	
	Variance		2,533	
	Std. Deviation		1,592	
	Minimum		1	
	Maximum		8	
	Range		7	
	Interquartile Range		3	
	Skewness		,237	,111
	Kurtosis		-,751	,221
CSD_M_ALL_RP_SingleItem	Mean		5,01	,099
	95% Confidence Interval for Mean	Lower Bound	4,82	
		Upper Bound	5,21	
	5% Trimmed Mean		4,99	
	Median		5,00	
	Variance		3,780	
	Std. Deviation		1,944	
	Minimum		1	
	Maximum		9	
	Range		8	
	Interquartile Range		2	
	Skewness		,169	,124
	Kurtosis		-,262	,247
CSD_M_ALL_AV_SingleItem	Mean		7,95	,066
	95% Confidence Interval for Mean	Lower Bound	7,82	
		Upper Bound	8,08	
	5% Trimmed Mean		8,10	
	Median		9,00	
	Variance		2,260	
	Std. Deviation		1,503	
	Minimum		1	
	Maximum		9	
	Range		8	
	Interquartile Range		2	
	Skewness		-1,346	,108
	Kurtosis		,926	,215

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Appendix D – Scale Reliability

Scale: Multi-item Scale 'Importance of Item'

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,934	,934	3

Scale: Multi-item Scale 'CSD'

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,981	,981	4

Scale: Multi-item Scale 'Evaluative short-term Reactions'

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,924	,924	3

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Scale: Multi-item Scale 'Evaluative long-term Reactions'

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,883	,885	3

Scale: Multi-item Scale 'Behavioural short-term Reactions '

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,915	,917	3

Scale: Multi-item Scale 'Behavioural long-term Reactions '

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,781	,784	3

Correlation of CSD Scales

Descriptive Statistics

	Mean	Std. Deviation	N
CSD_ALL_Single	5,4888	2,51356	3353
CSD_ALL_Multi	4,2298	2,08410	3353

Correlations

		CSD_ALL_Single	CSD_ALL_Multi
CSD_ALL_Single	Pearson Correlation	1	,888[**]
	Sig. (2-tailed)		,000
	N	3353	3353
CSD_ALL_Multi	Pearson Correlation	,888[**]	1
	Sig. (2-tailed)	,000	
	N	3353	3353

**. Correlation is significant at the 0.01 level (2-tailed).

Nonparametric Correlations

Correlations

			CSD_ALL_Single	CSD_ALL_Multi
Spearman's rho	CSD_ALL_Single	Correlation Coefficient	1,000	,898[**]
		Sig. (2-tailed)	.	,000
		N	3353	3353
	CSD_ALL_Multi	Correlation Coefficient	,898[**]	1,000
		Sig. (2-tailed)	,000	.
		N	3353	3353

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix E – Data Analysis: Hypothesis 1

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	1,00	182	7,9725	1,47327	,10921
	2,00	158	3,0823	1,43640	,11427

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
CSD_ALL_Single	Equal variances assumed	,006	,940	30,883	338	,000	4,89025	,15835	4,57878	5,20172
	Equal variances not assumed			30,938	333,464	,000	4,89025	,15806	4,57932	5,20118

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	5,00	132	7,7955	1,63800	,14257
	6,00	137	2,6569	1,55506	,13286

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
CSD_ALL_Single	Equal variances assumed	,005	,946	26,394	267	,000	5,13852	,19469	4,75520	5,52184
	Equal variances not assumed			26,368	264,893	,000	5,13852	,19488	4,75481	5,52223

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	9,00	127	7,4488	1,86321	,16533
	10,00	136	3,4265	1,58993	,13634

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
CSD_ALL_Single	Equal variances assumed	9,234	,003	18,872	261	,000	4,02235	,21314	3,60265	4,44204
	Equal variances not assumed			18,770	248,412	,000	4,02235	,21430	3,60028	4,44442

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	13,00	212	8,1651	1,38239	,09494
	14,00	198	2,9545	1,61935	,11508

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
CSD_ALL_Single	Equal variances assumed	9,840	,002	35,113	408	,000	5,21055	,14839	4,91884	5,50226
	Equal variances not assumed			34,925	388,427	,000	5,21055	,14919	4,91723	5,50387

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	17,00	142	7,9014	1,46500	,12294
	18,00	130	3,0846	1,61406	,14156

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
CSD_ALL_Single	Equal variances assumed	2,782	,097	25,800	270	,000	4,81679	,18669	4,44923	5,18436
	Equal variances not assumed			25,690	261,089	,000	4,81679	,18749	4,44760	5,18599

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	21,00	158	7,7152	1,65530	,13169
	22,00	159	3,4214	1,50688	,11950

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
CSD_ALL_Single	Equal variances assumed	3,082	,080	24,153	315	,000	4,29381	,17778	3,94403	4,64358
	Equal variances not assumed			24,146	311,883	,000	4,29381	,17783	3,94391	4,64370

Appendix F - Data Analysis: Hypothesis 2

Comparing the Importance of the general Hedonic to the Utilitarian Settings

	General_Setting_ALL	N	Mean	Std. Deviation	Std. Error Mean
IMP_ALL_ALL	1 - Hedonic	1586	5,1749	1,42752	,03585
	2 - Utilitarian	1767	5,2839	1,53703	,03656

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
IMP_ALL_ALL	Equal variances assumed	12,324	,000	-2,121	3351	,034	-,10905	,05141	-,20984	-,00825
	Equal variances not assumed			-2,130	3347,088	,033	-,10905	,05120	-,20944	-,00865

Utilitarian Settings

	Product Groups	N	Mean	Std. Deviation	Std. Error Mean
IMP_M_ALL	3 - Normal IMP	535	4,8274	1,73718	,07511
	4 - High IMP	1232	5,4821	1,39650	,03979

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
IMP_M_ALL	Equal variances assumed	64,201	,000	-8,387	1765	,000	-,65473	,07807	-,80784	-,50162
	Equal variances not assumed			-7,703	846,837	,000	-,65473	,08499	-,82155	-,48791

All Normal Important Settings

	Product Setting	N	Mean	Std. Deviation	Std. Error Mean
IMP_ALL_N	1 - Hedonic	475	4,8196	1,58328	,07265
	2 - Utilitarian	535	4,8274	1,73718	,07511

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
IMP_ALL_N	Equal variances assumed	7,300	,007	-,074	1008	,941	-,00777	,10507	-,21394	,19841
	Equal variances not assumed			-,074	1007,304	,941	-,00777	,10449	-,21281	,19728

All High Important Product Settings

	Setting	N	Mean	Std. Deviation	Std. Error Mean
IMP_ALL_PB	1 - Hedonic	1111	5,3267	1,32752	,03983
	2 - Utilitarian	1232	5,4821	1,39650	,03979

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
IMP_ALL_PB	Equal variances assumed	2,986	,084	-2,753	2341	,006	-,15541	,05644	-,26609	-,04473
	Equal variances not assumed			-2,761	2334,494	,006	-,15541	,05630	-,26581	-,04502

Comparing Means of Promotion vs. Brand/Preference within the Hedonic Setting

	Product Groups	N	Mean	Std. Deviation	Std. Error Mean
IMP_W_ALL	1 - Promotion	493	5,2671	1,36881	,06165
	2 - Brand	618	5,3743	1,29278	,05200

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
IMP_W_ALL	Equal variances assumed	4,300	,038	-1,338	1109	,181	-,10725	,08014	-,26449	,04998
	Equal variances not assumed			-1,330	1026,750	,184	-,10725	,08065	-,26552	,05101

Utilitarian 'High Importance Product Groups'

	Product Groups	N	Mean	Std. Deviation	Std. Error Mean
IMP_M_ALL	1 - Promotion	507	5,2604	1,49635	,06646
	2 - Brand	725	5,6372	1,30096	,04832

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
IMP_M_ALL	Equal variances assumed	21,005	,000	-4,701	1230	,000	-,37689	,08016	-,53416	-,21961
	Equal variances not assumed			-4,587	989,166	,000	-,37689	,08216	-,53812	-,21565

- BBBBB -

All Promotion Settings

	Setting	N	Mean	Std. Deviation	Std. Error Mean
IMP_ALL_P	1 - Hedonic	493	5,2671	1,36881	,06165
	2 - Utilitarian	507	5,2604	1,49635	,06646

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
IMP_ALL_P	Equal variances assumed	4,702	,030	,074	998	,941	,00672	,09076	-,17138	,18482
	Equal variances not assumed			,074	994,310	,941	,00672	,09065	-,17116	,18460

All Brand/Preference Settings

	Setting	N	Mean	Std. Deviation	Std. Error Mean
IMP_ALL_B	1 - Hedonic	618	5,3743	1,29278	,05200
	2 - Utilitarian	725	5,6372	1,30096	,04832

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
IMP_ALL_B	Equal variances assumed	,058	,809	-3,702	1341	,000	-,26292	,07102	-,40224	-,12359
	Equal variances not assumed			-3,704	1310,058	,000	-,26292	,07098	-,40217	-,12366

- CCCCC -

ANOVA to compare all Milk Settings by Importance

Oneway

Descriptives

IMP_M_ALL

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1 - High Importance (Promotion)	507	5,2604	1,49635	,06646	5,1298	5,3909	1,00	7,00
2 - High Importance (Brand-Preference)	725	5,6372	1,30096	,04832	5,5424	5,7321	1,00	7,00
3 - Normal Importance	535	4,8274	1,73718	,07511	4,6799	4,9750	1,00	7,00
Total	1767	5,2839	1,53703	,03656	5,2122	5,3556	1,00	7,00

Test of Homogeneity of Variances

IMP_M_ALL

Levene Statistic	df1	df2	Sig.
45,391	2	1764	,000

ANOVA

IMP_M_ALL

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	202,280	2	101,140	44,942	,000
Within Groups	3969,848	1764	2,250		
Total	4172,128	1766			

Robust Tests of Equality of Means

IMP_M_ALL

	Statistic[a]	df1	df2	Sig.
Welch	42,700	2	1053,242	,000
Brown-Forsythe	43,050	2	1501,485	,000

a. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons

Dependent Variable: IMP_M_ALL

Tukey HSD

Importance Group	Importance Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1- High Importance (Promotion)	2 - High Importance (Brand-Preference)	-,37689*	,08685	,000	-,5806	-,1732
	3 - Normal Importance	,43294*	,09298	,000	,2148	,6510
2 - High Importance (Brand-Preference)	1- High Importance (Promotion)	,37689*	,08685	,000	,1732	,5806
	3 - Normal Importance	,80983*	,08550	,000	,6093	1,0104
3 - Normal Importance	1- High Importance (Promotion)	-,43294*	,09298	,000	-,6510	-,2148
	2 - High Importance (Brand-Preference)	-,80983*	,08550	,000	-1,0104	-,6093

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

- DDDDD -

ANOVA to compare all Wine Settings by Importance

Oneway

Descriptives

IMP_W_ALL

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1 - Promotion	493	5,2671	1,36881	,06165	5,1459	5,3882	1,00	7,00
2 - Brand/Prefernce	618	5,3743	1,29278	,05200	5,2722	5,4765	1,00	7,00
3 - Normal Importance	475	4,8196	1,58328	,07265	4,6769	4,9624	1,00	7,00
Total	1586	5,1749	1,42752	,03585	5,1046	5,2452	1,00	7,00

Test of Homogeneity of Variances

IMP_W_ALL

Levene Statistic	df1	df2	Sig.
19,124	2	1583	,000

ANOVA

IMP_W_ALL

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	88,713	2	44,357	22,353	,000
Within Groups	3141,236	1583	1,984		
Total	3229,949	1585			

Robust Tests of Equality of Means

IMP_W_ALL

	Statistic[a]	df1	df2	Sig.
Welch	19,842	2	994,875	,000
Brown-Forsythe	21,811	2	1428,499	,000

a. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons

Dependent Variable: IMP_W_ALL

Tukey HSD

(I) ProductGroup_ALL_3_Gr opus	(J) ProductGroup_ALL_3_Gr opus	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1 - Promotion	2 - Brand/Prefernce	-,10725	,08506	,418	-,3068	,0923
	3 - Normal Importance	,44742*	,09057	,000	,2350	,6599
2 - Brand/Prefernce	1 - Promotion	,10725	,08506	,418	-,0923	,3068
	3 - Normal Importance	,55468*	,08596	,000	,3530	,7563
3 - Normal Importance	1 - Promotion	-,44742*	,09057	,000	-,6599	-,2350
	2 - Brand/Prefernce	-,55468*	,08596	,000	-,7563	,2530

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

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Appendix G - Data Analysis: Hypothesis 3

T-Test

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	2,00	158	3,0823	1,43640	,11427
	3,00	131	5,6336	1,89820	,16585

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	
CSD_ALL_Single	Equal variances assumed	10,983	,001	-12,995	287	,000	-2,55131	,19634	-2,93775	-2,16487	
	Equal variances not assumed			-12,668	238,271	,000	-2,55131	,20140	-2,94807	-2,15455	

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	2,00	158	3,0823	1,43640	,11427
	4,00	147	6,0952	1,86655	,15395

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	
CSD_ALL_Single	Equal variances assumed	9,386	,002	-15,861	303	,000	-3,01296	,18996	-3,38676	-2,63915	
	Equal variances not assumed			-15,715	273,887	,000	-3,01296	,19173	-3,39041	-2,63551	

T-Test

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	6,00	137	2,6569	1,55506	,13286
	7,00	106	5,2830	1,91612	,18611

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	
CSD_ALL_Single	Equal variances assumed	1,793	,182	-11,791	241	,000	-2,62608	,22271	-3,06480	-2,18737	
	Equal variances not assumed			-11,484	199,321	,000	-2,62608	,22867	-3,07700	-2,17517	

- FFFFF -

T-Test

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	6,00	137	2,6569	1,55506	,13286
	8,00	118	5,7797	1,79808	,16553

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
CSD_ALL_Single	Equal variances assumed	1,559	,213	-14,872	253	,000	-3,12273	,20997	-3,53624	-2,70921
	Equal variances not assumed			-14,712	233,085	,000	-3,12273	,21225	-3,54090	-2,70455

T-Test

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	10,00	136	3,4265	1,58993	,13634
	11,00	116	5,5086	2,06627	,19185

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
CSD_ALL_Single	Equal variances assumed	8,906	,003	-9,029	250	,000	-2,08215	,23060	-2,53632	-1,62798
	Equal variances not assumed			-8,847	213,991	,000	-2,08215	,23536	-2,54607	-1,61823

T-Test

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	10,00	136	3,4265	1,58993	,13634
	12,00	96	5,5000	1,84105	,18790

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
CSD_ALL_Single	Equal variances assumed	,842	,360	-9,160	230	,000	-2,07353	,22637	-2,51955	-1,62751
	Equal variances not assumed			-8,932	185,229	,000	-2,07353	,23215	-2,53153	-1,61553

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	14,00	198	2,9545	1,61935	,11508
	15,00	156	5,5192	2,15368	,17243

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
CSD_ALL_Single	Equal variances assumed	18,345	,000	-12,787	352	,000	-2,56469	,20057	-2,95915	-2,17022
	Equal variances not assumed			-12,371	280,109	,000	-2,56469	,20731	-2,97277	-2,15660

T-Test

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	14,00	198	2,9545	1,61935	,11508
	16,00	159	4,8994	1,87992	,14909

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
CSD_ALL_Single	Equal variances assumed	,103	,749	-10,495	355	,000	-1,94483	,18531	-2,30926	-1,58039
	Equal variances not assumed			-10,326	313,199	,000	-1,94483	,18834	-2,31539	-1,57426

T-Test

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	18,00	130	3,0846	1,61406	,14156
	19,00	113	5,5664	1,99498	,18767

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
CSD_ALL_Single	Equal variances assumed	5,653	,018	-10,713	241	,000	-2,48176	,23165	-2,93808	-2,02543
	Equal variances not assumed			-10,557	215,218	,000	-2,48176	,23508	-2,94510	-2,01841

- HHHHH -

T-Test

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	18,00	130	3,0846	1,61406	,14156
	20,00	122	5,0902	1,97507	,17881

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
CSD_ALL_Single	Equal variances assumed	,875	,350	-8,850	250	,000	-2,00555	,22662		-2,45188	-1,55921
	Equal variances not assumed			-8,794	233,989	,000	-2,00555	,22807		-2,45488	-1,55622

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	22,00	159	3,4214	1,50688	,11950
	23,00	112	5,2321	2,27395	,21487

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
CSD_ALL_Single	Equal variances assumed	16,845	,000	-7,883	269	,000	-1,81076	,22971		-2,26302	-1,35850
	Equal variances not assumed			-7,365	178,305	,000	-1,81076	,24586		-2,29594	-1,32558

T-Test

Group Statistics

	Group_Exp_Settings	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_Single	22,00	159	3,4214	1,50688	,11950
	24,00	106	5,0943	2,01200	,19542

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
CSD_ALL_Single	Equal variances assumed	3,681	,056	-7,728	263	,000	-1,67296	,21647		-2,09920	-1,24672
	Equal variances not assumed			-7,303	181,358	,000	-1,67296	,22907		-2,12493	-1,22098

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Appendix H - Data Analysis: Hypothesis 4

Comparing the Impact of Basic Recovery to Recovery Plus Measure on CSD

	GROUP_CSD_ALL_ALL_BRRP_ALL	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_ALL_BRRP	1 - Basic Recovery	734	5,4673	2,05607	,07589
	2 - Recovery Plus	748	5,4091	1,94118	,07098

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
CSD_ALL_ALL_BRRP	Equal variances assumed	5,095	,024	,561	1480	,575	,05821	,10385	-,14550	,26193
	Equal variances not assumed			,560	1471,430	,575	,05821	,10391	-,14561	,26204

T-Test

Comparing the Basic Recovery Measure by Different Product Settings

	Group	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_ALL_BR_Single	1 - Hedonic	353	5,4873	1,95996	,10432
	2 - Utilitarian	381	5,4488	2,14369	,10982

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
CSD_ALL_ALL_BR_Single	Equal variances assumed	4,110	,043	,253	732	,800	,03843	,15199	-,25995	,33682
	Equal variances not assumed			,254	731,873	,800	,03843	,15147	-,25894	,33580

T-Test

Comparing the Recovery Plus Measure by Different Product Settings

	Group	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_ALL_RP_Single	1 - Hedonic	361	5,8338	1,84844	,09729
	2 - Utilitarian	387	5,0129	1,94413	,09883

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
CSD_ALL_ALL_RP_Single	Equal variances assumed	,730	,393	5,909	746	,000	,82088	,13892	,54815	1,09360
	Equal variances not assumed			5,919	745,726	,000	,82088	,13868	,54863	1,09312

T-Test

Comparing the Impact of the Basic Recovey Measure to the Recovery Plus Measure on CSD

	GROUP_CSD_ALL_ALL_BRRP_ALL	N	Mean	Std. Deviation	Std. Error Mean
CSD_ALL_ALL_BRRP	1 - Basic Recovery	734	5,4673	2,05607	,07589
	2 - Recovery Plus	748	5,4091	1,94118	,07098

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
CSD_ALL_ALL_BRRP	Equal variances assumed	5,095	,024	,561	1480	,575	,05821	,10385	-,14550	,26193
	Equal variances not assumed			,560	1471,430	,575	,05821	,10391	-,14561	,26204

T-Test

Comparing Different Recovery Measures within the Utilitarian Setting

	Group	N	Mean	Std. Deviation	Std. Error Mean
CSD_M_ALL_BRRP	1 - Basic Recovery M.	381	5,4488	2,14369	,10982
	2 - Recovery Plus M.	387	5,0129	1,94413	,09883

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
CSD_M_ALL_BRRP	Equal variances assumed	14,561	,000	2,953	766	,003	,43590	,14763	,14609	,72571
	Equal variances not assumed			2,950	756,347	,003	,43590	,14774	,14586	,72593

T-Test

Comparing Different Recovery Measures within the Hedonic Setting

	Group	N	Mean	Std. Deviation	Std. Error Mean
CSD_W_ALL_BRRP	1 - Basic Recovery M.	353	5,4873	1,95996	,10432
	2 - Recovery Plus M.	361	5,8338	1,84844	,09729

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
CSD_W_ALL_BRRP	Equal variances assumed	1,390	,239	-2,431	712	,015	-,34654	,14255	-,62641	-,06668
	Equal variances not assumed			-2,429	707,369	,015	-,34654	,14264	-,62660	-,06649

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ANOVA

Oneway

Descriptives

CSD_W_ALL_RP_SingleItem

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1,00	118	5,78	1,798	,166	5,45	6,11	1	9
2,00	147	6,10	1,867	,154	5,79	6,40	1	9
3,00	96	5,50	1,841	,188	5,13	5,87	1	9
Total	361	5,83	1,848	,097	5,64	6,03	1	9

Test of Homogeneity of Variances

CSD_W_ALL_RP_SingleItem

Levene Statistic	df1	df2	Sig.
,132	2	358	,877

Test of Homogeneity of Variances

CSD_W_ALL_RP_SingleItem

Levene Statistic	df1	df2	Sig.
,132	2	358	,877

ANOVA

CSD_W_ALL_RP_SingleItem

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	21,090	2	10,545	3,123	,045
Within Groups	1208,938	358	3,377		
Total	1230,028	360			

Robust Tests of Equality of Means

CSD_W_ALL_RP_SingleItem

	Statistic[a]	df1	df2	Sig.
Welch	3,063	2	223,790	,049
Brown-Forsythe	3,134	2	335,818	,045

a. Asymptotically F distributed.

Post Hoc Tests

Comparing CSD within Hedonic Recovery Plus Settings

Dependent Variable: CSD_W_ALL_RP_SingleItem

Tukey HSD

(I) ProductGroup_ALL_3_Gropus	(J) ProductGroup_ALL_3_Gropus	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1 - Promotion	2 - Brand/Preference	-,316	,227	,348	-,85	,22
	3 - Normal Importance	,280	,253	,510	-,31	,87
2 - Brand/Preference	1 - Promotion	,316	,227	,348	-,22	,85
	3 - Normal Importance	,595*	,241	,037	,03	1,16
3 - Normal Importance	1 - Promotion	-,280	,253	,510	-,87	,31
	2 - Brand/Preference	-,595*	,241	,037	-1,16	-,03

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

Appendix I - Data Analysis: Hypothesis 5

Comparing Unavailability without Recovery Measures to Unavailability with Basic Recovery Measures

	GroupRecovery_ALL_ALL_ALL	N	Mean	Std. Deviation	Std. Error Mean
Conseq_Eval_ST_ALL_ALL_ALL	2 - Unavail. without R.C.	918	2,6249	1,25084	,04128
	3 - Unavail. with Basic R. M.	734	4,7216	1,44743	,05343
Conseq_Eval_LT_ALL_ALL_ALL	2 - Unavail. without R.C.	918	3,6619	1,08160	,03570
	3 - Unavail. with Basic R. M.	734	4,8615	1,23121	,04544
Conseq_Behav_ST_ALL_ALL_ALL	2 - Unavail. without R.C.	918	3,8293	1,06025	,03499
	3 - Unavail. with Basic R. M.	734	4,8828	1,30990	,04835
Conseq_Behav_LT_ALL_ALL_ALL	2 - Unavail. without R.C.	918	4,1594	1,11786	,03689
	3 - Unavail. with Basic R. M.	734	5,0186	1,25345	,04627

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
Conseq_Eval_ST_ALL_ALL_ALL	Equal variances assumed	5,575	,018	-31,560	1650	,000	-2,09671	,06644	-2,22701	-1,96640
	Equal variances not assumed			-31,054	1455,032	,000	-2,09671	,06752	-2,22915	-1,96426
Conseq_Eval_LT_ALL_ALL_ALL	Equal variances assumed	21,839	,000	-21,057	1650	,000	-1,19954	,05697	-1,31128	-1,08781
	Equal variances not assumed			-20,757	1469,455	,000	-1,19954	,05779	-1,31290	-1,08619
Conseq_Behav_ST_ALL_ALL_ALL	Equal variances assumed	68,939	,000	-18,066	1650	,000	-1,05349	,05831	-1,16787	-,93912
	Equal variances not assumed			-17,651	1395,897	,000	-1,05349	,05968	-1,17057	-,93641
Conseq_Behav_LT_ALL_ALL_ALL	Equal variances assumed	32,455	,000	-14,705	1650	,000	-,85921	,05843	-,97382	-,74461
	Equal variances not assumed			-14,520	1482,486	,000	-,85921	,05918	-,97529	-,74314

Comparing Unavailability with Basic R. M. to Unavailability with Recovery Plus M.

	GroupRecovery_ALL_ALL_ALL	N	Mean	Std. Deviation	Std. Error Mean
Conseq_Eval_ST_ALL_ALL_ALL	3 - Unavail. with Basic R. M.	734	4,7216	1,44743	,05343
	4 - Unavail. with Recovery M. Plus	748	4,9470	1,39814	,05112
Conseq_Eval_LT_ALL_ALL_ALL	3 - Unavail. with Basic R. M.	734	4,8615	1,23121	,04544
	4 - Unavail. with Recovery M. Plus	748	4,9541	1,29375	,04730
Conseq_Behav_ST_ALL_ALL_ALL	3 - Unavail. with Basic R. M.	734	4,8828	1,30990	,04835
	4 - Unavail. with Recovery M. Plus	748	5,0214	1,34626	,04922
Conseq_Behav_LT_ALL_ALL_ALL	3 - Unavail. with Basic R. M.	734	5,0186	1,25345	,04627
	4 - Unavail. with Recovery M. Plus	748	4,9929	1,24517	,04553

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
Conseq_Eval_ST_ALL_ALL_ALL	Equal variances assumed	,205	,651	-3,049	1480	,002	-,22535	,07392	-,37035	-,08036
	Equal variances not assumed			-3,048	1475,772	,002	-,22535	,07394	-,37040	-,08031
Conseq_Eval_LT_ALL_ALL_ALL	Equal variances assumed	3,052	,081	-1,411	1480	,158	-,09261	,06563	-,22134	,03612
	Equal variances not assumed			-1,412	1478,614	,158	-,09261	,06560	-,22128	,03606
Conseq_Behav_ST_ALL_ALL_ALL	Equal variances assumed	,719	,397	-2,008	1480	,045	-,13856	,06902	-,27394	-,00318
	Equal variances not assumed			-2,008	1479,894	,045	-,13856	,06900	-,27390	-,00321
Conseq_Behav_LT_ALL_ALL_ALL	Equal variances assumed	,060	,806	,397	1480	,692	,02575	,06491	-,10157	,15307
	Equal variances not assumed			,397	1479,036	,692	,02575	,06491	-,10158	,15307

Anova to Compare the Availability Settings - Part 1

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Group_Exp_Settings	(J) Group_Exp_Settings	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Conseq_Eval_ST_ALL_ALL_AV	1,00	5,00	-,06410	,14262	,998	-,4714	,3431
		9,00	,12750	,14423	,950	-,2844	,5394
		13,00	-,07668	,12606	,990	-,4366	,2833
		17,00	,20585	,13967	,681	-,1930	,6047
		21,00	,17429	,13564	,793	-,2130	,5616
	5,00	1,00	,06410	,14262	,998	-,3431	,4714
		9,00	,19160	,15506	,819	-,2512	,6344
		13,00	-,01258	,13831	1,000	-,4075	,3824
		17,00	,26995	,15082	,473	-,1607	,7006
		21,00	,23840	,14710	,585	-,1817	,6584
	9,00	1,00	-,12750	,14423	,950	-,5394	,2844
		5,00	-,19160	,15506	,819	-,6344	,2512
		13,00	-,20418	,13998	,691	-,6039	,1955
		17,00	,07835	,15235	,996	-,3567	,5134
		21,00	,04680	,14867	1,000	-,3777	,4713
	13,00	1,00	,07668	,12606	,990	-,2833	,4366
		5,00	,01258	,13831	1,000	-,3824	,4075
		9,00	,20418	,13998	,691	-,1955	,6039
		17,00	,28253	,13527	,294	-,1038	,6688
		21,00	,25098	,13111	,394	-,1234	,6254
	17,00	1,00	-,20585	,13967	,681	-,6047	,1930
		5,00	-,26995	,15082	,473	-,7006	,1607
		9,00	-,07835	,15235	,996	-,5134	,3567
		13,00	-,28253	,13527	,294	-,6688	,1038
		21,00	-,03156	,14425	1,000	-,4435	,3804
	21,00	1,00	-,17429	,13564	,793	-,5616	,2130
		5,00	-,23840	,14710	,585	-,6584	,1817
		9,00	-,04680	,14867	1,000	-,4713	,3777
		13,00	-,25098	,13111	,394	-,6254	,1234
		17,00	,03156	,14425	1,000	-,3804	,4435
Conseq_Eval_LT_ALL_ALL_AV	1,00	5,00	-,05503	,13949	,999	-,4533	,3433
		9,00	,09142	,14107	,987	-,3114	,4943
		13,00	-,12850	,12329	,904	-,4806	,2236
		17,00	,25814	,13661	,409	-,1320	,6482
		21,00	,40882*	,13267	,026	,0300	,7877
	5,00	1,00	,05503	,13949	,999	-,3433	,4533
		9,00	,14644	,15166	,929	-,2866	,5795
		13,00	-,07347	,13528	,994	-,4598	,3128
		17,00	,31317	,14752	,276	-,1081	,7344
		21,00	,46385*	,14387	,016	,0530	,8747
	9,00	1,00	-,09142	,14107	,987	-,4943	,3114
		5,00	-,14644	,15166	,929	-,5795	,2866
		13,00	-,21992	,13691	,595	-,6109	,1710
		17,00	,16672	,14901	,874	-,2588	,5922
		21,00	,31740	,14541	,247	-,0978	,7326
	13,00	1,00	,12850	,12329	,904	-,2236	,4806
		5,00	,07347	,13528	,994	-,3128	,4598
		9,00	,21992	,13691	,595	-,1710	,6109
		17,00	,38664*	,13231	,041	,0088	,7645
		21,00	,53732*	,12823	,000	,1711	,9035
	17,00	1,00	-,25814	,13661	,409	-,6482	,1320
		5,00	-,31317	,14752	,276	-,7344	,1081
		9,00	-,16672	,14901	,874	-,5922	,2588
		13,00	-,38664*	,13231	,041	-,7645	-,0088
		21,00	,15068	,14109	,894	-,2522	,5536
	21,00	1,00	-,40882*	,13267	,026	-,7877	-,0300
		5,00	-,46385*	,14387	,016	-,8747	-,0530
		9,00	-,31740	,14541	,247	-,7326	,0978
		13,00	-,53732*	,12823	,000	-,9035	-,1711
		17,00	-,15068	,14109	,894	-,5536	,2522

Patric Spethmann
DBA programme
URN 6161989

Anova to Compare the Availability Settings - Part 2

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Group Exp Settings	(J) Group Exp Settings	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Conseq_Behav_ST_ALL_ALL_AV	1,00	5,00	-,02120	,14818	1,000	-,4443	,4019
		9,00	,05686	,14986	,999	-,3711	,4848
		13,00	-,11221	,13097	,956	-,4862	,2618
		17,00	,25231	,14512	,506	-,1621	,6667
		21,00	,49766*	,14093	,006	,0952	,9001
	5,00	1,00	,02120	,14818	1,000	-,4019	,4443
		9,00	,07806	,16110	,997	-,3820	,5381
		13,00	-,09100	,14370	,989	-,5013	,3193
		17,00	,27351	,15670	,502	-,1740	,7210
		21,00	,51886*	,15283	,009	,0824	,9553
	9,00	1,00	-,05686	,14986	,999	-,4848	,3711
		5,00	-,07806	,16110	,997	-,5381	,3820
		13,00	-,16907	,14543	,855	-,5844	,2462
		17,00	,19545	,15829	,820	-,2566	,6475
		21,00	,44080	,15446	,050	-,0003	,8819
	13,00	1,00	,11221	,13097	,956	-,2618	,4862
		5,00	,09100	,14370	,989	-,3193	,5013
		9,00	,16907	,14543	,855	-,2462	,5844
		17,00	,36451	,14055	,100	-,0368	,7659
		21,00	,60986*	,13622	,000	,2209	,9988
	17,00	1,00	-,25231	,14512	,506	-,6667	,1621
		5,00	-,27351	,15670	,502	-,7210	,1740
		9,00	-,19545	,15829	,820	-,6475	,2566
		13,00	-,36451	,14055	,100	-,7659	,0368
		21,00	,24535	,14987	,574	-,1826	,6733
	21,00	1,00	-,49766*	,14093	,006	-,9001	-,0952
		5,00	-,51886*	,15283	,009	-,9553	-,0824
		9,00	-,44080	,15446	,050	-,8819	,0003
		13,00	-,60986*	,13622	,000	-,9988	-,2209
		17,00	-,24535	,14987	,574	-,6733	,1826
Conseq_Behav_LT_ALL_ALL_AV	1,00	5,00	,06710	,13483	,996	-,3179	,4521
		9,00	,06280	,13636	,997	-,3266	,4522
		13,00	-,17947	,11918	,661	-,5198	,1609
		17,00	,23206	,13205	,494	-,1450	,6091
		21,00	,34328	,12824	,081	-,0229	,7095
	5,00	1,00	-,06710	,13483	,996	-,4521	,3179
		9,00	-,00429	,14659	1,000	-,4229	,4143
		13,00	-,24657	,13076	,412	-,6200	,1268
		17,00	,16496	,14259	,857	-,2422	,5721
		21,00	,27618	,13907	,351	-,1210	,6733
	9,00	1,00	-,06280	,13636	,997	-,4522	,3266
		5,00	,00429	,14659	1,000	-,4143	,4229
		13,00	-,24227	,13234	,446	-,6202	,1356
		17,00	,16925	,14404	,849	-,2421	,5806
		21,00	,28047	,14056	,346	-,1209	,6818
	13,00	1,00	,17947	,11918	,661	-,1609	,5198
		5,00	,24657	,13076	,412	-,1268	,6200
		9,00	,24227	,13234	,446	-,1356	,6202
		17,00	,41153*	,12789	,017	,0463	,7767
		21,00	,52275*	,12395	,000	,1688	,8767
	17,00	1,00	-,23206	,13205	,494	-,6091	,1450
		5,00	-,16496	,14259	,857	-,5721	,2422
		9,00	-,16925	,14404	,849	-,5806	,2421
		13,00	-,41153*	,12789	,017	-,7767	-,0463
		21,00	,11122	,13638	,965	-,2782	,5007
	21,00	1,00	-,34328	,12824	,081	-,7095	,0229
		5,00	-,27618	,13907	,351	-,6733	,1210
		9,00	-,28047	,14056	,346	-,6818	,1209
		13,00	-,52275*	,12395	,000	-,8767	-,1688
		17,00	-,11122	,13638	,965	-,5007	,2782

Anova to Compare the Unavailability without Recovery Measures Settings - Part 1

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Group_Exp_Settings	(J) Group_Exp_Settings	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Conseq_Eval_ST_ALL_ALL_NR	2,00	6,00	,28983	,14458	,340	-,1230	,7027
		10,00	-,17815	,14486	,822	-,5918	,2355
		14,00	,11137	,13211	,959	-,2659	,4886
		18,00	-,04489	,14665	1,000	-,4637	,3739
		22,00	-,33584	,13912	,152	-,7331	,0614
	6,00	2,00	-,28983	,14458	,340	-,7027	,1230
		10,00	-,46798*	,14991	,023	-,8961	-,0399
		14,00	-,17846	,13763	,787	-,5715	,2146
		18,00	-,33472	,15164	,235	-,7678	,0983
		22,00	-,62567*	,14437	,000	-1,0379	-,2134
	10,00	2,00	,17815	,14486	,822	-,2355	,5918
		6,00	,46798*	,14991	,023	,0399	,8961
		14,00	,28951	,13793	,289	-,1044	,6834
		18,00	,13326	,15191	,952	-,3006	,5671
		22,00	-,15770	,14465	,885	-,5708	,2554
	14,00	2,00	-,11137	,13211	,959	-,4886	,2659
		6,00	,17846	,13763	,787	-,2146	,5715
		10,00	-,28951	,13793	,289	-,6834	,1044
		18,00	-,15625	,13980	,874	-,5555	,2430
		22,00	-,44721*	,13188	,009	-,8238	-,0706
	18,00	2,00	,04489	,14665	1,000	-,3739	,4637
		6,00	,33472	,15164	,235	-,0983	,7678
		10,00	-,13326	,15191	,952	-,5671	,3006
		14,00	,15625	,13980	,874	-,2430	,5555
		22,00	-,29095	,14644	,351	-,7091	,1272
	22,00	2,00	,33584	,13912	,152	-,0614	,7331
		6,00	,62567*	,14437	,000	,2134	1,0379
		10,00	,15770	,14465	,885	-,2554	,5708
		14,00	,44721*	,13188	,009	,0706	,8238
		18,00	,29095	,14644	,351	-,1272	,7091
Conseq_Eval_LT_ALL_ALL_NR	2,00	6,00	,31633	,12595	,122	-,0434	,6760
		10,00	-,02494	,12620	1,000	-,3853	,3355
		14,00	,05824	,11509	,996	-,2704	,3869
		18,00	,08380	,12776	,987	-,2810	,4487
		22,00	,00040	,12120	1,000	-,3457	,3465
	6,00	2,00	-,31633	,12595	,122	-,6760	,0434
		10,00	-,34128	,13060	,095	-,7142	,0317
		14,00	-,25809	,11990	,261	-,6005	,0843
		18,00	-,23253	,13210	,492	-,6098	,1447
		22,00	-,31593	,12577	,122	-,6751	,0432
	10,00	2,00	,02494	,12620	1,000	-,3355	,3853
		6,00	,34128	,13060	,095	-,0317	,7142
		14,00	,08318	,12016	,983	-,2600	,4263
		18,00	,10875	,13234	,964	-,2692	,4867
		22,00	,02534	,12602	1,000	-,3345	,3852
	14,00	2,00	-,05824	,11509	,996	-,3869	,2704
		6,00	,25809	,11990	,261	-,0843	,6005
		10,00	-,08318	,12016	,983	-,4263	,2600
		18,00	,02556	,12179	1,000	-,3223	,3734
		22,00	-,05784	,11489	,996	-,3860	,2703
	18,00	2,00	-,08380	,12776	,987	-,4487	,2810
		6,00	,23253	,13210	,492	-,1447	,6098
		10,00	-,10875	,13234	,964	-,4867	,2692
		14,00	-,02556	,12179	1,000	-,3734	,3223
		22,00	-,08341	,12758	,987	-,4477	,2809
	22,00	2,00	-,00040	,12120	1,000	-,3465	,3457
		6,00	,31593	,12577	,122	-,0432	,6751
		10,00	-,02534	,12602	1,000	-,3852	,3345
		14,00	,05784	,11489	,996	-,2703	,3860
		18,00	,08341	,12758	,987	-,2809	,4477

Anova to Compare the Unavailability without Recovery Measures Settings – Part 2

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Group_Exp_Settings	(J) Group_Exp_Settings	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Conseq_Behav_ST_ALL_ALL_NR	2,00	6,00	,30749	,12351	,128	-,0452	,6602
		10,00	,04824	,12376	,999	-,3052	,4017
		14,00	,03173	,11286	1,000	-,2906	,3540
		18,00	,08079	,12528	,988	-,2770	,4386
		22,00	-,01112	,11885	1,000	-,3505	,3283
	6,00	2,00	-,30749	,12351	,128	-,6602	,0452
		10,00	-,25925	,12807	,329	-,6250	,1065
		14,00	-,27576	,11758	,177	-,6115	,0600
		18,00	-,22671	,12954	,499	-,5967	,1432
		22,00	-,31861	,12333	,102	-,6708	,0336
	10,00	2,00	-,04824	,12376	,999	-,4017	,3052
		6,00	,25925	,12807	,329	-,1065	,6250
		14,00	-,01651	,11783	1,000	-,3530	,3200
		18,00	,03254	,12978	1,000	-,3381	,4032
		22,00	-,05936	,12358	,997	-,4123	,2935
	14,00	2,00	-,03173	,11286	1,000	-,3540	,2906
		6,00	,27576	,11758	,177	-,0600	,6115
		10,00	,01651	,11783	1,000	-,3200	,3530
		18,00	,04905	,11943	,999	-,2920	,3901
		22,00	-,04285	,11267	,999	-,3646	,2789
	18,00	2,00	-,08079	,12528	,988	-,4386	,2770
		6,00	,22671	,12954	,499	-,1432	,5967
		10,00	-,03254	,12978	1,000	-,4032	,3381
		14,00	-,04905	,11943	,999	-,3901	,2920
		22,00	-,09190	,12510	,978	-,4492	,2654
	22,00	2,00	,01112	,11885	1,000	-,3283	,3505
		6,00	,31861	,12333	,102	-,0336	,6708
		10,00	,05936	,12358	,997	-,2935	,4123
		14,00	,04285	,11267	,999	-,2789	,3646
		18,00	,09190	,12510	,978	-,2654	,4492
Conseq_Behav_LT_ALL_ALL_NR	2,00	6,00	,25902	,13042	,351	-,1134	,6315
		10,00	,14613	,13067	,874	-,2270	,5193
		14,00	,04447	,11917	,999	-,2959	,3848
		18,00	,08617	,13228	,987	-,2916	,4640
		22,00	,21349	,12549	,531	-,1449	,5719
	6,00	2,00	-,25902	,13042	,351	-,6315	,1134
		10,00	-,11289	,13523	,961	-,4991	,2733
		14,00	-,21454	,12415	,513	-,5691	,1400
		18,00	-,17284	,13678	,805	-,5635	,2178
		22,00	-,04552	,13023	,999	-,4174	,3264
	10,00	2,00	-,14613	,13067	,874	-,5193	,2270
		6,00	,11289	,13523	,961	-,2733	,4991
		14,00	-,10165	,12442	,964	-,4570	,2537
		18,00	-,05995	,13703	,998	-,4513	,3314
		22,00	,06736	,13048	,996	-,3053	,4400
	14,00	2,00	-,04447	,11917	,999	-,3848	,2959
		6,00	,21454	,12415	,513	-,1400	,5691
		10,00	,10165	,12442	,964	-,2537	,4570
		18,00	,04170	,12611	,999	-,3184	,4018
		22,00	,16902	,11896	,714	-,1707	,5088
	18,00	2,00	-,08617	,13228	,987	-,4640	,2916
		6,00	,17284	,13678	,805	-,2178	,5635
		10,00	,05995	,13703	,998	-,3314	,4513
		14,00	-,04170	,12611	,999	-,4018	,3184
		22,00	,12732	,13210	,929	-,2499	,5046
	22,00	2,00	-,21349	,12549	,531	-,5719	,1449
		6,00	,04552	,13023	,999	-,3264	,4174
		10,00	-,06736	,13048	,996	-,4400	,3053
		14,00	-,16902	,11896	,714	-,5088	,1707
		18,00	-,12732	,13210	,929	-,5046	,2499

Anova to Compare the Unavailability with Basic Recovery Measure Settings - Part 1

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Group_Exp_Settings	(J) Group_Exp_Settings	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Conseq_Eval_ST_ALL_ALL_BR	3,00	7,00	,33326	,18914	,491	-,2072	,8737
		11,00	-,00349	,18458	1,000	-,5309	,5239
		15,00	,13039	,17157	,974	-,3598	,6206
		19,00	,02166	,18587	1,000	-,5094	,5528
		23,00	,17519	,18632	,936	-,3572	,7076
	7,00	3,00	-,33326	,18914	,491	-,8737	,2072
		11,00	-,33675	,19453	,512	-,8926	,2191
		15,00	-,20287	,18224	,876	-,7236	,3178
		19,00	-,31160	,19576	,604	-,8710	,2478
		23,00	-,15808	,19618	,966	-,7186	,4025
	11,00	3,00	,00349	,18458	1,000	-,5239	,5309
		7,00	,33675	,19453	,512	-,2191	,8926
		15,00	,13388	,17750	,975	-,3733	,6410
		19,00	,02515	,19136	1,000	-,5216	,5719
		23,00	,17867	,19179	,938	-,3693	,7267
	15,00	3,00	-,13039	,17157	,974	-,6206	,3598
		7,00	,20287	,18224	,876	-,3178	,7236
		11,00	-,13388	,17750	,975	-,6410	,3733
		19,00	-,10873	,17884	,990	-,6197	,4023
		23,00	,04480	,17931	1,000	-,4675	,5571
	19,00	3,00	-,02166	,18587	1,000	-,5528	,5094
		7,00	,31160	,19576	,604	-,2478	,8710
		11,00	-,02515	,19136	1,000	-,5719	,5216
		15,00	,10873	,17884	,990	-,4023	,6197
		23,00	,15352	,19304	,968	-,3980	,7051
	23,00	3,00	-,17519	,18632	,936	-,7076	,3572
		7,00	,15808	,19618	,966	-,4025	,7186
		11,00	-,17867	,19179	,938	-,7267	,3693
		15,00	-,04480	,17931	1,000	-,5571	,4675
		19,00	-,15352	,19304	,968	-,7051	,3980
Conseq_Eval_LT_ALL_ALL_BR	3,00	7,00	,36252	,16037	,212	-,0957	,8208
		11,00	,09187	,15650	,992	-,3553	,5390
		15,00	,05495	,14547	,999	-,3607	,4706
		19,00	,19104	,15760	,831	-,2593	,6414
		23,00	,35028	,15798	,231	-,1011	,8017
	7,00	3,00	-,36252	,16037	,212	-,8208	,0957
		11,00	-,27066	,16494	,572	-,7420	,2006
		15,00	-,30757	,15452	,349	-,7491	,1339
		19,00	-,17148	,16599	,907	-,6458	,3028
		23,00	-,01224	,16634	1,000	-,4875	,4631
	11,00	3,00	-,09187	,15650	,992	-,5390	,3553
		7,00	,27066	,16494	,572	-,2006	,7420
		15,00	-,03691	,15050	1,000	-,4669	,3931
		19,00	,09918	,16225	,990	-,3644	,5628
		23,00	,25842	,16262	,606	-,2062	,7231
	15,00	3,00	-,05495	,14547	,999	-,4706	,3607
		7,00	,30757	,15452	,349	-,1339	,7491
		11,00	,03691	,15050	1,000	-,3931	,4669
		19,00	,13609	,15164	,947	-,2972	,5694
		23,00	,29533	,15203	,377	-,1391	,7297
	19,00	3,00	-,19104	,15760	,831	-,6414	,2593
		7,00	,17148	,16599	,907	-,3028	,6458
		11,00	-,09918	,16225	,990	-,5628	,3644
		15,00	-,13609	,15164	,947	-,5694	,2972
		23,00	,15924	,16368	,926	-,3084	,6269
	23,00	3,00	-,35028	,15798	,231	-,8017	,1011
		7,00	,01224	,16634	1,000	-,4631	,4875
		11,00	-,25842	,16262	,606	-,7231	,2062
		15,00	-,29533	,15203	,377	-,7297	,1391
		19,00	-,15924	,16368	,926	-,6269	,3084

Anova to Compare the Unavailability with Basic Recovery Measure Settings - Part 2

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Group Exp Settings	(J) Group Exp Settings	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Conseq_Behav_ST_ALL_ALL_BR	3,00	7,00	,56568*	,16973	,012	,0807	1,0506
		11,00	,12911	,16563	,971	-,3442	,6024
		15,00	,11563	,15396	,975	-,3243	,5555
		19,00	,40035	,16680	,157	-,0762	,8769
		23,00	,41760	,16719	,126	-,0601	,8953
	7,00	3,00	-,56568*	,16973	,012	-1,0506	-,0807
		11,00	-,43656	,17457	,125	-,9354	,0622
		15,00	-,45005	,16353	,067	-,9173	,0172
		19,00	-,16533	,17567	,936	-,6673	,3366
		23,00	-,14808	,17605	,960	-,6511	,3549
	11,00	3,00	-,12911	,16563	,971	-,6024	,3442
		7,00	,43656	,17457	,125	-,0622	,9354
		15,00	-,01348	,15928	1,000	-,4686	,4416
		19,00	,27123	,17172	,612	-,2194	,7619
		23,00	,28849	,17211	,548	-,2033	,7802
	15,00	3,00	-,11563	,15396	,975	-,5555	,3243
		7,00	,45005	,16353	,067	-,0172	,9173
		11,00	,01348	,15928	1,000	-,4416	,4686
		19,00	,28472	,16049	,483	-,1738	,7433
		23,00	,30197	,16090	,417	-,1578	,7617
	19,00	3,00	-,40035	,16680	,157	-,8769	,0762
		7,00	,16533	,17567	,936	-,3366	,6673
		11,00	-,27123	,17172	,612	-,7619	,2194
		15,00	-,28472	,16049	,483	-,7433	,1738
		23,00	,01725	,17322	1,000	-,4777	,5122
	23,00	3,00	-,41760	,16719	,126	-,8953	,0601
		7,00	,14808	,17605	,960	-,3549	,6511
		11,00	-,28849	,17211	,548	-,7802	,2033
		15,00	-,30197	,16090	,417	-,7617	,1578
		19,00	-,01725	,17322	1,000	-,5122	,4777
Conseq_Behav_LT_ALL_ALL_BR	3,00	7,00	,48089*	,16304	,038	,0150	,9468
		11,00	,15791	,15911	,920	-,2967	,6125
		15,00	,08136	,14790	,994	-,3412	,5039
		19,00	,14202	,16023	,950	-,3158	,5998
		23,00	,32007	,16061	,347	-,1388	,7790
	7,00	3,00	-,48089*	,16304	,038	-,9468	-,0150
		11,00	-,32298	,16769	,387	-,8021	,1562
		15,00	-,39953	,15709	,113	-,8484	,0493
		19,00	-,33887	,16875	,339	-,8210	,1433
		23,00	-,16083	,16911	,933	-,6440	,3224
	11,00	3,00	-,15791	,15911	,920	-,6125	,2967
		7,00	,32298	,16769	,387	-,1562	,8021
		15,00	-,07655	,15301	,996	-,5137	,3606
		19,00	-,01589	,16495	1,000	-,4872	,4554
		23,00	,16215	,16533	,924	-,3102	,6345
	15,00	3,00	-,08136	,14790	,994	-,5039	,3412
		7,00	,39953	,15709	,113	-,0493	,8484
		11,00	,07655	,15301	,996	-,3606	,5137
		19,00	,06066	,15417	,999	-,3798	,5012
		23,00	,23871	,15456	,636	-,2029	,6803
	19,00	3,00	-,14202	,16023	,950	-,5998	,3158
		7,00	,33887	,16875	,339	-,1433	,8210
		11,00	,01589	,16495	1,000	-,4554	,4872
		15,00	-,06066	,15417	,999	-,5012	,3798
		23,00	,17804	,16640	,893	-,2974	,6535
	23,00	3,00	-,32007	,16061	,347	-,7790	,1388
		7,00	,16083	,16911	,933	-,3224	,6440
		11,00	-,16215	,16533	,924	-,6345	,3102
		15,00	-,23871	,15456	,636	-,6803	,2029
		19,00	-,17804	,16640	,893	-,6535	,2974

Anova to Compare the Unavailability with Basic Recovery Measure Settings - Part 1

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Group_Exp_Settings	(J) Group_Exp_Settings	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Conseq_Eval_ST_ALL_ALL_RP	4,00	8,00	,19513	,17192	,867	-,2961	,6863
		12,00	,21166	,18252	,856	-,3098	,7331
		16,00	,32965	,15915	,303	-,1251	,7844
		20,00	,50498*	,17034	,037	,0183	,9917
		24,00	,50575	,17723	,050	-,0006	1,0121
	8,00	4,00	-,19513	,17192	,867	-,6863	,2961
		12,00	,01654	,19117	1,000	-,5297	,5627
		16,00	,13453	,16900	,968	-,3483	,6174
		20,00	,30985	,17959	,515	-,2033	,8230
		24,00	,31063	,18613	,553	-,2212	,8424
	12,00	4,00	-,21166	,18252	,856	-,7331	,3098
		8,00	-,01654	,19117	1,000	-,5627	,5297
		16,00	,11799	,17977	,986	-,3957	,6316
		20,00	,29332	,18976	,635	-,2489	,8355
		24,00	,29409	,19596	,664	-,2658	,8540
	16,00	4,00	-,32965	,15915	,303	-,7844	,1251
		8,00	-,13453	,16900	,968	-,6174	,3483
		12,00	-,11799	,17977	,986	-,6316	,3957
		20,00	,17533	,16740	,902	-,3030	,6536
		24,00	,17610	,17441	,915	-,3222	,6744
	20,00	4,00	-,50498*	,17034	,037	-,9917	-,0183
		8,00	-,30985	,17959	,515	-,8230	,2033
		12,00	-,29332	,18976	,635	-,8355	,2489
		16,00	-,17533	,16740	,902	-,6536	,3030
		24,00	,00077	,18468	1,000	-,5269	,5284
	24,00	4,00	-,50575	,17723	,050	-1,0121	,0006
		8,00	-,31063	,18613	,553	-,8424	,2212
		12,00	-,29409	,19596	,664	-,8540	,2658
		16,00	-,17610	,17441	,915	-,6744	,3222
		20,00	-,00077	,18468	1,000	-,5284	,5269
Conseq_Eval_LT_ALL_ALL_RP	4,00	8,00	,02950	,15800	1,000	-,4219	,4809
		12,00	,16015	,16774	,932	-,3191	,6394
		16,00	,28148	,14626	,388	-,1364	,6994
		20,00	,41493	,15655	,087	-,0324	,8622
		24,00	,67037*	,16288	,001	,2050	1,1357
	8,00	4,00	-,02950	,15800	1,000	-,4809	,4219
		12,00	,13065	,17569	,976	-,3713	,6326
		16,00	,25198	,15532	,584	-,1918	,6958
		20,00	,38543	,16505	,181	-,0861	,8570
		24,00	,64087*	,17106	,003	,1521	1,1296
	12,00	4,00	-,16015	,16774	,932	-,6394	,3191
		8,00	-,13065	,17569	,976	-,6326	,3713
		16,00	,12133	,16522	,978	-,3507	,5934
		20,00	,25478	,17440	,689	-,2435	,7531
		24,00	,51022	,18010	,053	-,0044	1,0248
	16,00	4,00	-,28148	,14626	,388	-,6994	,1364
		8,00	-,25198	,15532	,584	-,6958	,1918
		12,00	-,12133	,16522	,978	-,5934	,3507
		20,00	,13345	,15385	,954	-,3061	,5730
		24,00	,38889	,16029	,149	-,0691	,8469
	20,00	4,00	-,41493	,15655	,087	-,8622	,0324
		8,00	-,38543	,16505	,181	-,8570	,0861
		12,00	-,25478	,17440	,689	-,7531	,2435
		16,00	-,13345	,15385	,954	-,5730	,3061
		24,00	,25544	,16973	,661	-,2295	,7404
	24,00	4,00	-,67037*	,16288	,001	-1,1357	-,2050
		8,00	-,64087*	,17106	,003	-1,1296	-,1521
		12,00	-,51022	,18010	,053	-1,0248	,0044
		16,00	-,38889	,16029	,149	-,8469	,0691
		20,00	-,25544	,16973	,661	-,7404	,2295

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Anova to Compare the Unavailability with Basic Recovery Measure Settings - Part 2

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Group Exp Settings	(J) Group Exp Settings	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Conseq_Behav_ST_ALL_ALL_RP	4,00	8,00	,12107	,16415	,977	-,3479	,5901
		12,00	,44692	,17427	,107	-,0510	,9448
		16,00	,44594*	,15196	,040	,0118	,8801
		20,00	,52303*	,16265	,017	,0583	,9877
		24,00	,72686*	,16922	,000	,2434	1,2104
	8,00	4,00	-,12107	,16415	,977	-,5901	,3479
		12,00	,32586	,18253	,476	-,1957	,8474
		16,00	,32488	,16137	,336	-,1362	,7859
		20,00	,40196	,17147	,178	-,0880	,8919
		24,00	,60580*	,17772	,009	,0980	1,1136
	12,00	4,00	-,44692	,17427	,107	-,9448	,0510
		8,00	-,32586	,18253	,476	-,8474	,1957
		16,00	-,00098	,17165	1,000	-,4914	,4895
		20,00	,07610	,18119	,998	-,4416	,5938
		24,00	,27994	,18711	,667	-,2547	,8146
	16,00	4,00	-,44594*	,15196	,040	-,8801	-,0118
		8,00	-,32488	,16137	,336	-,7859	,1362
		12,00	,00098	,17165	1,000	-,4895	,4914
		20,00	,07709	,15984	,997	-,3796	,5338
		24,00	,28092	,16653	,541	-,1949	,7567
	20,00	4,00	-,52303*	,16265	,017	-,9877	-,0583
		8,00	-,40196	,17147	,178	-,8919	,0880
		12,00	-,07610	,18119	,998	-,5938	,4416
		16,00	-,07709	,15984	,997	-,5338	,3796
		24,00	,20384	,17634	,857	-,3000	,7077
	24,00	4,00	-,72686*	,16922	,000	-1,2104	-,2434
		8,00	-,60580*	,17772	,009	-1,1136	-,0980
		12,00	-,27994	,18711	,667	-,8146	,2547
		16,00	-,28092	,16653	,541	-,7567	,1949
		20,00	-,20384	,17634	,857	-,7077	,3000
Conseq_Behav_LT_ALL_ALL_RP	4,00	8,00	,28598	,15214	,415	-,1487	,7207
		12,00	,41369	,16152	,108	-,0478	,8752
		16,00	,47409*	,14084	,010	,0717	,8765
		20,00	,47710*	,15075	,020	,0464	,9078
		24,00	,67326*	,15684	,000	,2251	1,1214
	8,00	4,00	-,28598	,15214	,415	-,7207	,1487
		12,00	,12771	,16918	,975	-,3557	,6111
		16,00	,18811	,14956	,808	-,2392	,6154
		20,00	,19112	,15893	,836	-,2630	,6452
		24,00	,38727	,16472	,175	-,0834	,8579
	12,00	4,00	-,41369	,16152	,108	-,8752	,0478
		8,00	-,12771	,16918	,975	-,6111	,3557
		16,00	,06040	,15909	,999	-,3942	,5150
		20,00	,06341	,16793	,999	-,4164	,5432
		24,00	,25956	,17342	,667	-,2359	,7551
	16,00	4,00	-,47409*	,14084	,010	-,8765	-,0717
		8,00	-,18811	,14956	,808	-,6154	,2392
		12,00	-,06040	,15909	,999	-,5150	,3942
		20,00	,00301	,14815	1,000	-,4203	,4263
		24,00	,19916	,15434	,790	-,2418	,6401
	20,00	4,00	-,47710*	,15075	,020	-,9078	-,0464
		8,00	-,19112	,15893	,836	-,6452	,2630
		12,00	-,06341	,16793	,999	-,5432	,4164
		16,00	-,00301	,14815	1,000	-,4263	,4203
		24,00	,19615	,16344	,837	-,2708	,6631
	24,00	4,00	-,67326*	,15684	,000	-1,1214	-,2251
		8,00	-,38727	,16472	,175	-,8579	,0834
		12,00	-,25956	,17342	,667	-,7551	,2359
		16,00	-,19916	,15434	,790	-,6401	,2418
		20,00	-,19615	,16344	,837	-,6631	,2708

T-Test

Comparing Unavail. with Basic Rec. M. to Unavail. with Recovery Plus M.

	GroupRecovery_ALL_ALL_ALL	N	Mean	Std. Deviation	Std. Error Mean
Hedonic	3 - Unavail. with Basic R. M.	353	4,8848	1,15812	,06164
	4 - Unavail. with Recovery Plus	361	5,1607	1,09954	,05787
Utilitarian	3 - Unavail. with Basic R. M.	381	4,8585	1,13780	,05829
	4 - Unavail. with Recovery Plus	387	4,8092	1,19536	,06076

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
Hedonic	Equal variances assumed	,660	,417	-3,265	712	,001	-,27587	,08450	-,44177	-,10997
	Equal variances not assumed			-3,263	708,094	,001	-,27587	,08455	-,44187	-,10987
Utilitarian	Equal variances assumed	1,939	,164	,585	766	,559	,04927	,08424	-,11609	,21463
	Equal variances not assumed			,585	765,132	,559	,04927	,08420	-,11603	,21457

Table of Means - Part 1

Table of Means

Group_Exp_Settings		Conseq_Eval_ST_ALL	Conseq_Eval_LT_ALL	Conseq_Behav_ST_ALL	Conseq_Behav_LT_ALL
1,00	Mean	5,9359	5,8919	5,8626	5,6429
	N	182	182	182	182
	Std. Deviation	1,38887	1,40984	1,49320	1,27787
2,00	Mean	2,6013	3,7300	3,8987	4,2785
	N	158	158	158	158
	Std. Deviation	1,24065	1,09309	1,01211	1,16984
3,00	Mean	4,8270	5,0229	5,1349	5,2010
	N	131	131	131	131
	Std. Deviation	1,42586	1,23079	1,31121	1,29343
4,00	Mean	5,2290	5,2018	5,3810	5,3651
	N	147	147	147	147
	Std. Deviation	1,36146	1,26452	1,26599	1,10852
5,00	Mean	6,0000	5,9470	5,8838	5,5758
	N	132	132	132	132
	Std. Deviation	1,17797	1,12027	1,13618	1,07014
6,00	Mean	2,3114	3,4136	3,5912	4,0195
	N	137	137	137	137
	Std. Deviation	1,25323	1,20696	1,16876	1,24181
7,00	Mean	4,4937	4,6604	4,5692	4,7201
	N	106	106	106	106
	Std. Deviation	1,46149	1,13807	1,20314	1,11757
8,00	Mean	5,0339	5,1723	5,2599	5,0791
	N	118	118	118	118
	Std. Deviation	1,26490	1,20282	1,31117	1,11935
9,00	Mean	5,8084	5,8005	5,8058	5,5801
	N	127	127	127	127
	Std. Deviation	1,12728	1,10973	1,17622	1,11761
10,00	Mean	2,7794	3,7549	3,8505	4,1324
	N	136	136	136	136
	Std. Deviation	1,20440	,99317	,95134	1,01128
11,00	Mean	4,8305	4,9310	5,0057	5,0431
	N	116	116	116	116
	Std. Deviation	1,42476	1,19137	1,31140	1,25919
12,00	Mean	5,0174	5,0417	4,9340	4,9514
	N	96	96	96	96
	Std. Deviation	1,43586	1,18790	1,33212	1,28507
13,00	Mean	6,0126	6,0204	5,9748	5,8223
	N	212	212	212	212
	Std. Deviation	1,17677	1,06508	1,22867	1,10691
14,00	Mean	2,4899	3,6717	3,8670	4,2340
	N	198	198	198	198
	Std. Deviation	1,23159	1,11417	1,15701	1,25745
15,00	Mean	4,6966	4,9679	5,0192	5,1197
	N	156	156	156	156
	Std. Deviation	1,42400	1,20737	1,25652	1,24661

Table of Means - Part 2

Table of Means

Group_Exp_Settings		Conseq_Eval_ST_ALL	Conseq_Eval_LT_ALL	Conseq_Behav_ST_ALL	Conseq_Behav_LT_ALL
16,00	Mean	4,8994	4,9203	4,9350	4,8910
	N	159	159	159	159
	Std. Deviation	1,39507	1,23501	1,29777	1,34358
17,00	Mean	5,7300	5,6338	5,6103	5,4108
	N	142	142	142	142
	Std. Deviation	1,27529	1,37254	1,38492	1,30264
18,00	Mean	2,6462	3,6462	3,8179	4,1923
	N	130	130	130	130
	Std. Deviation	1,27708	1,09005	1,05337	,99600
19,00	Mean	4,8053	4,8319	4,7345	5,0590
	N	113	113	113	113
	Std. Deviation	1,38996	1,22160	1,36652	1,24022
20,00	Mean	4,7240	4,7869	4,8579	4,8880
	N	122	122	122	122
	Std. Deviation	1,48187	1,33407	1,32914	1,24693
21,00	Mean	5,7616	5,4831	5,3650	5,2996
	N	158	158	158	158
	Std. Deviation	1,28967	1,19834	1,27405	1,17426
22,00	Mean	2,9371	3,7296	3,9099	4,0650
	N	159	159	159	159
	Std. Deviation	1,22857	,95774	,95885	,92813
23,00	Mean	4,6518	4,6726	4,7173	4,8810
	N	112	112	112	112
	Std. Deviation	1,56883	1,36815	1,34768	1,30745
24,00	Mean	4,7233	4,5314	4,6541	4,6918
	N	106	106	106	106
	Std. Deviation	1,40932	1,44514	1,46416	1,26466
Total	Mean	4,5286	4,8232	4,8754	4,9354
	N	3353	3353	3353	3353
	Std. Deviation	1,82430	1,45104	1,44985	1,30986

Appendix J – Factor Analyses: CMBM

Factor Analysis WITH CMBM

Correlation Matrix

		CMBM_ALL	IMP_ALL_ALL_1	IMP_ALL_ALL_2	IMP_ALL_ALL_3	CSD_ALL_Single	CSD_WM_Multi_1	CSD_WM_Multi_2	CSD_WM_Multi_3	CSD_WM_Multi_4	Conseq_Eval_ST_ALL_ALL_L	Conseq_Eval_LT_ALL_ALL_L	Conseq_Behav_ST_ALL_ALL_ALL	Conseq_Behav_LT_ALL_ALL_ALL
Correlation	CMBM_ALL	1,000	,079	,092	,102	,038	,064	,046	,052	,047	,009	,012	,026	,010
	IMP_ALL_ALL_1	,079	1,000	,780	,829	,016	,012	,001	,002	,010	,002	,108	,131	,156
	IMP_ALL_ALL_2	,092	,780	1,000	,865	,002	-,005	-,016	-,010	-,010	-,011	,081	,098	,116
	IMP_ALL_ALL_3	,102	,829	,865	1,000	-,001	-,006	-,017	-,013	-,010	-,010	,085	,111	,128
	CSD_ALL_Single	,038	,016	,002	-,001	1,000	,867	,860	,872	,855	,819	,714	,651	,553
	CSD_WM_Multi_1	,064	,012	-,005	-,006	,867	1,000	,920	,929	,900	,818	,705	,649	,536
	CSD_WM_Multi_2	,046	,001	-,016	-,017	,860	,920	1,000	,948	,922	,831	,699	,651	,550
	CSD_WM_Multi_3	,052	,002	-,010	-,013	,872	,929	,948	1,000	,940	,844	,713	,663	,554
	CSD_WM_Multi_4	,047	,010	-,010	-,010	,855	,900	,922	,940	1,000	,836	,700	,644	,546
	Conseq_Eval_ST_ALL_ALL	,009	,002	-,011	-,010	,819	,818	,831	,844	,836	1,000	,769	,704	,605
	Conseq_Eval_LT_ALL_ALL	,012	,108	,081	,085	,714	,705	,699	,713	,700	,769	1,000	,831	,749
	Conseq_Behav_ST_ALL_ALL	,026	,131	,098	,111	,651	,649	,651	,663	,644	,704	,831	1,000	,760
	Conseq_Behav_LT_ALL_ALL	,010	,156	,116	,128	,553	,536	,550	,554	,546	,605	,749	,760	1,000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,926
Bartlett's Test of Sphericity	Approx. Chi-Square	51613,828
	df	78
	Sig.	,000

Communalities

	Initial	Extraction
CMBM_ALL	1,000	,833
IMP_ALL_ALL_1	1,000	,848
IMP_ALL_ALL_2	1,000	,868
IMP_ALL_ALL_3	1,000	,905
CSD_ALL_Single	1,000	,834
CSD_WM_Multi_1	1,000	,881
CSD_WM_Multi_2	1,000	,892
CSD_WM_Multi_3	1,000	,912
CSD_WM_Multi_4	1,000	,882
Conseq_Eval_ST_ALL_ALL_ALL	1,000	,832
Conseq_Eval_LT_ALL_ALL_ALL	1,000	,776
Conseq_Behav_ST_ALL_ALL_ALL	1,000	,718
Conseq_Behav_LT_ALL_ALL_ALL	1,000	,617

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7,072	54,399	54,399	7,072	54,399	54,399	7,069
2	2,708	20,829	75,228	2,708	20,829	75,228	2,727
3	1,018	7,828	83,056	1,018	7,828	83,056	1,018
4	,862	6,629	89,685				
5	,257	1,977	91,662				
6	,223	1,716	93,378				
7	,197	1,517	94,895				
8	,170	1,309	96,204				
9	,153	1,179	97,383				
10	,126	,966	98,349				
11	,096	,741	99,090				
12	,071	,549	99,639				
13	,047	,361	100,000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Scree Plot

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Component Matrix[a]

	Component		
	1	2	3
CSD_WM_Multi_3	,944		
CSD_WM_Multi_2	,934		
CSD_WM_Multi_4	,929		
CSD_WM_Multi_1	,927		
Conseq_Eval_ST_ALL_ALL_ALL	,910		
CSD_ALL_Single	,908		
Conseq_Eval_LT_ALL_ALL_ALL	,858		
Conseq_Behav_ST_ALL_ALL_ALL	,815		
Conseq_Behav_LT_ALL_ALL_ALL	,721		
IMP_ALL_ALL_3		,950	
IMP_ALL_ALL_2		,930	
IMP_ALL_ALL_1		,918	
CMBM_ALL			,901

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Pattern Matrix[a]

	Component		
	1	2	3
CSD_WM_Multi_3	,951		
CSD_WM_Multi_2	,940		
CSD_WM_Multi_4	,935		
CSD_WM_Multi_1	,933		
Conseq_Eval_ST_ALL_ALL_ALL	,914		
CSD_ALL_Single	,913		
Conseq_Eval_LT_ALL_ALL_ALL	,851		
Conseq_Behav_ST_ALL_ALL_ALL	,804		
Conseq_Behav_LT_ALL_ALL_ALL	,707		
IMP_ALL_ALL_3		,953	
IMP_ALL_ALL_2		,933	
IMP_ALL_ALL_1		,921	
CMBM_ALL			,908

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.[a]

a. Rotation converged in 3 iterations.

- AAAAAA -

Structure Matrix

	Component		
	1	2	3
CSD_WM_Multi_3	,944		
CSD_WM_Multi_2	,934		
CSD_WM_Multi_4	,929		
CSD_WM_Multi_1	,926		
Conseq_Eval_ST_ALL_ALL_ALL	,911		
CSD_ALL_Single	,908		
Conseq_Eval_LT_ALL_ALL_ALL	,859		
Conseq_Behav_ST_ALL_ALL_ALL	,816		
Conseq_Behav_LT_ALL_ALL_ALL	,722		
IMP_ALL_ALL_3		,949	
IMP_ALL_ALL_2		,930	
IMP_ALL_ALL_1		,921	
CMBM_ALL			,901

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

Component Correlation Matrix

Component	1	2	3
1	1,000	,056	-,022
2	,056	1,000	-,041
3	-,022	-,041	1,000

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

Factor Analysis WITOUT CMBM

Correlation Matrix

		IMP_ALL_ALL_1	IMP_ALL_ALL_2	IMP_ALL_ALL_3	CSD_ALL_Single	CSD_WM_Multi_1	CSD_WM_Multi_2	CSD_WM_Multi_3	CSD_WM_Multi_4	Conseq_Eval_ST_ALL_ALL_ALL	Conseq_Eval_LT_ALL_ALL_ALL	Conseq_Behav_ST_ALL_ALL	Conseq_Behav_LT_ALL_ALL
Correlation	IMP_ALL_ALL_1	1,000	,780	,829	,016	,012	,001	,002	,010	,002	,108	,131	,156
	IMP_ALL_ALL_2	,780	1,000	,865	,002	-,005	-,016	-,010	-,010	-,011	,081	,098	,116
	IMP_ALL_ALL_3	,829	,865	1,000	-,001	-,006	-,017	-,013	-,010	-,010	,085	,111	,128
	CSD_ALL_Single	,016	,002	-,001	1,000	,867	,860	,872	,855	,819	,714	,651	,553
	CSD_WM_Multi_1	,012	-,005	-,006	,867	1,000	,920	,929	,900	,818	,705	,649	,536
	CSD_WM_Multi_2	,001	-,016	-,017	,860	,920	1,000	,948	,922	,831	,699	,651	,550
	CSD_WM_Multi_3	,002	-,010	-,013	,872	,929	,948	1,000	,940	,844	,713	,663	,554
	CSD_WM_Multi_4	,010	-,010	-,010	,855	,900	,922	,940	1,000	,836	,700	,644	,546
	Conseq_Eval_ST_ALL_ALL_ALL	,002	-,011	-,010	,819	,818	,831	,844	,836	1,000	,769	,704	,605
	Conseq_Eval_LT_ALL_ALL_ALL	,108	,081	,085	,714	,705	,699	,713	,700	,769	1,000	,831	,749
	Conseq_Behav_ST_ALL_ALL_ALL	,131	,098	,111	,651	,649	,651	,663	,644	,704	,831	1,000	,760
	Conseq_Behav_LT_ALL_ALL_ALL	,156	,116	,128	,553	,536	,550	,554	,546	,605	,749	,760	1,000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,926
Bartlett's Test of Sphericity	Approx. Chi-Square	51545,745
	df	66
	Sig.	,000

Communalities

	Initial	Extraction
IMP_ALL_ALL_1	1,000	,850
IMP_ALL_ALL_2	1,000	,869
IMP_ALL_ALL_3	1,000	,905
CSD_ALL_Single	1,000	,829
CSD_WM_Multi_1	1,000	,865
CSD_WM_Multi_2	1,000	,880
CSD_WM_Multi_3	1,000	,899
CSD_WM_Multi_4	1,000	,870
Conseq_Eval_ST_ALL_ALL_ALL	1,000	,832
Conseq_Eval_LT_ALL_ALL_ALL	1,000	,744
Conseq_Behav_ST_ALL_ALL_ALL	1,000	,678
Conseq_Behav_LT_ALL_ALL_ALL	1,000	,544

Extraction Method: Principal Component Analysis.

- CCCCCC -

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7,070	58,916	58,916	7,070	58,916	58,916	7,069
2	2,695	22,461	81,377	2,695	22,461	81,377	2,712
3	,892	7,435	88,812				
4	,257	2,143	90,955				
5	,223	1,859	92,814				
6	,198	1,653	94,467				
7	,170	1,418	95,886				
8	,153	1,277	97,163				
9	,126	1,047	98,210				
10	,096	,803	99,013				
11	,071	,596	99,609				
12	,047	,391	100,000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Scree Plot

- DDDDD -

Component Matrix[a]

	Component	
	1	2
CSD_WM_Multi_3	,944	
CSD_WM_Multi_2	,934	
CSD_WM_Multi_4	,929	
CSD_WM_Multi_1	,927	
Conseq_Eval_ST_ALL_ALL_ALL	,910	
CSD_ALL_Single	,908	
Conseq_Eval_LT_ALL_ALL_ALL	,859	
Conseq_Behav_ST_ALL_ALL_ALL	,815	
Conseq_Behav_LT_ALL_ALL_ALL	,721	
IMP_ALL_ALL_3		,950
IMP_ALL_ALL_2		,931
IMP_ALL_ALL_1		,919

Extraction Method: Principal Component Analysis.

a.

Pattern Matrix[a]

	Component	
	1	2
CSD_WM_Multi_3	,949	
CSD_WM_Multi_2	,939	
CSD_WM_Multi_4	,934	
CSD_WM_Multi_1	,931	
Conseq_Eval_ST_ALL_ALL_ALL	,913	
CSD_ALL_Single	,912	
Conseq_Eval_LT_ALL_ALL_ALL	,853	
Conseq_Behav_ST_ALL_ALL_ALL	,807	
Conseq_Behav_LT_ALL_ALL_ALL	,711	
IMP_ALL_ALL_3		,952
IMP_ALL_ALL_2		,933
IMP_ALL_ALL_1		,921

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.[a]

a. Rotation converged in 3 iterations.

- EEEEEE -

Structure Matrix

	Component	
	1	2
CSD_WM_Multi_3	,945	
CSD_WM_Multi_2	,935	
CSD_WM_Multi_4	,930	
CSD_WM_Multi_1	,928	
Conseq_Eval_ST_ALL_ALL_ALL	,910	
CSD_ALL_Single	,909	
Conseq_Eval_LT_ALL_ALL_ALL	,858	
Conseq_Behav_ST_ALL_ALL_ALL	,814	
Conseq_Behav_LT_ALL_ALL_ALL	,720	
IMP_ALL_ALL_3		,952
IMP_ALL_ALL_2		,932
IMP_ALL_ALL_1		,922

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

Component Correlation Matrix

Component	1	2
1	1,000	,051
2	,051	1,000

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