

# **Determinants of Multi-Channel Behavior: Exploring Avenues for Future Research in the Service Industry**

*Research-in-Progress*

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## **Abstract**

*The rise of new technologies has led companies to offer their products and services on multiple channels. This has turned consumers into multi-channel shoppers and rendered their channel choice unpredictable. Yet, a thorough understanding of multi-channel behavior is needed to influence it appropriately. We conducted a systematic literature review on the determinants of multi-channel behavior with a focus on services, and numerically assessed the research frequency of each behavioral influence. Our results show that multi-channel behavior is influenced by the stage of the buying process, the channel characteristics, the consumer attributes and the product category. Moreover, we discovered that services are under-researched compared to the retail sector. Based on these under-researched areas, we derive three research questions that enhance the knowledge on multi-channel behavior in the service industry. Further, we offer an outlook for an upcoming laboratory experiment.*

**Keywords:** Multi-channel behavior, channel choice, services

## **Introduction**

Just a decade ago, customers relied on travel agents in physical branches to book flight tickets or a vacation package. With the rise of the Internet, this has drastically changed as firms increasingly offer multiple channels for their products and services (Neslin and Shankar 2009). Even more, well-integrated channels have become a competitive advantage and allow companies to differentiate themselves from their competitors (Hoong 2013). In turn, also customers exhibit a multi-channel behavior (e.g. Verhoef et al. 2007) which renders their channel choice unpredictable. This can have severe consequences for companies, for instance when consumers engage in free-riding behavior (e.g. Chou et al. 2015). Thus, a thorough understanding of the terminology and the determinants of multi-channel behavior is needed.

We understand *multi-channel behavior* as a subset of consumer behavior that applies in a multi-channel environment. Consumer behaviors include amongst others cross-buying, purchase frequency, share of wallet allocations, channel migration, and channel choice (Sullivan and Thomas 2004). On the other hand, during a choice, various alternatives are evaluated and the final decision is made by the decision-maker (Kohli et al. 2004). Combining these definitions, *multi-channel choice* is a subset of the overall consumer behavior and refers to consumers' evaluations of channel selections throughout the different stages of the purchasing process and the subsequent use phase in a multi-channel environment. Mostly, the terms *multi-channel choice* and *multi-channel behavior* are used interchangeably, but it is important to distinguish the concepts to understand, whether constructs influence only channel choice or consumer behavior in general.

Multi-channel behavior in the context of physical products is widely researched (e.g. Inman et al. 2004; Keen et al. 2004; Thomas and Sullivan 2005), but not all results are transferrable to services. Thus, a separate research stream might be necessary, since services constitute an entirely different sector (e.g. Fisher 1939) and have very distinct properties (Macintyre et al. 2011). These properties involve mainly intangibility, heterogeneity, inseparability and perishability (Parry et al. 2011) which means that they cannot be touched, identically reproduced, separated from consumption or stored. Overall, there is no unanimously shared definition of services among researchers (Parry et al. 2011). On the other hand, products are characterized, among others, by their tangibility, exchangeability and tradability, possibility of ownership and preservability (Parry et al. 2011). Moreover, products have a longer history of availability on multiple channels than services and past research has shown that experience with a product category might be a driver of channel choice (e.g. Strebel et al. 2004). Also in terms of their influence on multi-channel behavior, products and services are assessed differently (e.g. Gupta et al. 2004). As products and services differ considerably in their properties, we would expect the determinants of multi-channel behavior to differ between products and services.

Some researchers examined multi-channel behavior with services, in particular in financial services (e.g. Albesa 2007; Black et al. 2002; Gensler et al. 2012), but they have a different focus: Either they consider single dimensions such as the different stages of the buying process, the moderating role of product characteristics, the channel characteristics, different channels, etc., or they touched all relevant dimensions, but neglect several important characteristics.

Apart from the special role of services, the scientific contributions in this topic encompass a wide range of disciplines and they are missing a coherent picture of the determinants of multi-channel behavior. Neslin et al. (2006) and Neslin and Shankar (2009) provided a loose list of these covariates, but did not cluster them or show the direction of their effects. Thus, we have identified a need to integrate the knowledge into a coherent structure such as a morphological box. Furthermore, we offer questions for future research and practical implications for practitioners.

Hence, this paper aims to conceptualize the covariates of multi-channel behavior with a special focus on services. The remainder of this paper is organized as follows: Chapter 2 recaps on the related work while Chapter 3 outlines the methodological approach for the literature review. Thereafter, we summarize the results including the different dimensions of the morphological box in Chapter 4. In Chapter 5, we analyze the research distribution of each dimension and offer avenues for future research. Finally, Chapter 6 concludes the paper with a summary and a brief outlook on our future work.

## Related work

Since the turn of the century, multi-channel behavior became a widely researched topic (Neslin and Shankar 2009). One particular area of research interest is customer analysis and segmentation. For instance, researchers have found that multi-channel customers increase sales (Kumar and Venkatesan 2005; Kushwaha and Shankar 2013), are more loyal (Ansari et al. 2008; Shankar et al. 2003), and are more innovative (Farag et al. 2006). Another area, which is also the focus of this work, comprises the influencing factors of multi-channel behavior. Multi-channel behavior has several antecedents, namely the stage of the buying process, channel attributes, consumer characteristics, and product attributes.

A buying process consists of several stages and various researchers identified stage-channel associations (e.g. Gensler et al. 2012; Verhoef et al. 2007). For instance, many consumers associate the search stage with the Internet, but the purchase stage with the store (Verhoef et al. 2007). Moreover, there are channel spillover effects when a consumer chooses the same channel in a later stage of the buying process (e.g. Gensler et al. 2012).

Prior literature also documents numerous channel characteristics (see Neslin et al. 2006 for a partial list). For instance, perceived convenience (e.g. Gensler et al. 2012; Verhoef et al. 2007), perceived risk (e.g. Black et al. 2002; Verhoef et al. 2007), privacy (e.g. Albesa 2007; Verhoef et al. 2007), perceived price (e.g. Gensler et al. 2012; Venkatesan et al. 2007), social interaction (e.g. Albesa 2007; Frambach et al. 2008), product assortment (e.g. Melis et al. 2015; Noble et al. 2005), service (e.g. Burke 2002; Konuş et al. 2014), immediate availability (e.g. Venkatesan et al. 2007), negotiation possibilities (e.g. Verhoef et al. 2007), accessibility (e.g. Black et al. 2002; Frambach et al. 2008), and channel design (e.g. Schoenbachler and Gordon 2002) are determinants of multi-channel choice. Table 1 provides an excerpt of research focusing on multi-channel behavior and customers channel choice.

Reference	Dependent variable	Channels	Context				Product Charact.
			Several stages	Channel Charact.	Demo-graphics	Psycho-graphics	
Tse and Yim 2001	Channel choice	Store, Internet	-	X	-	-	-
Black et al. 2002	Channel choice	Internet, branch, call center	-	X	X	X	X
Schoenbachler and Gordon 2002	Channel choice	Store, catalog, Internet	-	X	X	-	X
Gupta et al. 2004	Channel Switching	Store, Internet	X	X	X	-	X
Keen et al. 2004	Channel Choice	Store, catalog, Internet	-	X	X	X	X
Balasubramanian et al. 2005	n/a	Store, Internet	X	X	-	-	-
McGoldrick and Collins 2007	Attitude score for certain channels	Store, Internet, catalog	-	X	X	-	X
Konus et al. 2008	Channel utility of different phases	Store, Internet, catalog	X	X	X	X	X
Cortinas et al. 2010	Entropy of multi-channel behavior	Branch, Internet, call center, ATM	X	-	X	-	X
Gensler et al. 2012	Channel choice intention	Branch, Internet, call center, ATM	X	X	X	-	-
De Keyser et al. 2015	Channel usage	Store, Internet, call center	X	X	X	X	X

Almost all studies also include individuals' demographics. Mostly, the studies examine age, gender, and income, but occasionally also consider education, occupation, or geo-demographics (e.g. Inman et al. 2004), or study psychographics when examining the consumer characteristics (e.g. Konuş et al. 2008; de Keyser et al 2015). Various researchers argue that attitude (e.g. Keen et al. 2004; Konuş et al. 2008), loyalty (e.g. Konuş et al. 2008; Melis et al. 2015), and goals (e.g. Balasubramanian et al. 2005) are also

determinants of multi-channel behavior. For instance, Konus et al. (2008) document that the attitude towards a specific channel influences the choice of it.

Another strong indicator of channel choice is customer's prior experience. Thereby, this comprises the consumer's experience with the channel (Ansari et al. 2008; Dholakia et al. 2005; Frambach et al. 2008), the Internet (Ansari et al. 2008; Farag et al. 2006; Frambach et al. 2008), (home) shopping experience (Farag et al. 2006; Schoenbachler and Gordon 2002), experience with the product or the firm (Nicholson et al. 2002; Strebel et al. 2004; Sullivan and Thomas 2004), and the time and quality of the experience (Ansari et al. 2008; Schoenbachler and Gordon 2002).

Finally, product categories are studied by researchers in the area of multi-channel behavior. Products and services can be classified according to the purchase frequency (e.g. Inman et al. 2004; Keen et al. 2004; Konus et al. 2008), transaction volume (e.g. Black et al. 2002; Keen et al. 2004; Venkatesan et al. 2007), complexity /differentiation (e.g. Black et al. 2002; Inman et al. 2004; Konus et al. 2008), and search vs. experience goods (e.g. Gupta et al. 2004; Heitz-Spahn 2013; Maity and Dass 2014). Product-channel associations link certain products with certain channels (e.g. Cortinas et al. 2010; Gensler et al. 2012).

The related work shows that the determinants of multi-channel behavior are well-researched. Yet, prior work is scattered around a variety of studies and a coherent structure is missing. Furthermore, the contributions fall into the context of retailing, but channel preferences might be specific to context (Wood and Neal 2009) and products. Thus, this work represents a meaningful complement of the existing literature by proposing the structure of multi-channel behavior and by refocusing the context of services.

## **Methodology**

For the conceptualization of multi-channel behavior and the development of the morphological box, we conducted a systematic literature review following the suggestions of Webster and Watson (2002). The literature review is organized around the concept of multi-channel behavior. In this literature review, we only considered peer-reviewed articles from highly ranked journals. As a starting point, we considered various articles (e.g. Black et al. 2002; Neslin et al. 2006; Schoenbachler and Gordon 2002) including an overview of multi-channel behavior. Each of them is referenced more than 300 times by other researchers which provides sufficient evidence of their representativeness for the topic.

Drawing on these articles, we developed several keyword-based search strings and used them in the online databases AIS library, ScienceDirect, EBSCOhost and Google Scholar to find more articles being relevant for the conceptualization of multi-channel behavior. The search strings include the terms "multi-channel" AND "consumer behavior", "multi-channel" AND "purchase decisions" OR "multi-channel behavior", "channel choice" and yield between 300 and 1,000 articles per search string and database. Most studies focused on products. Thus, in order to find more literature on services and financial services, we added the terms "services", "financial services" or "banking" to the search string (e.g. "multi-channel" AND "consumer behavior" AND "services"). Financial services were included in the search string as they are one important domain of the overall service industry and they have a long history of multi-channel management (Hoehle et al. 2012). We used these keywords because they describe the relevant aspects of our research goal, namely the consumer behavior in a multi-channel environment with a focus on services. In addition, the keywords of the first articles gave an indication for the search strings. For the term "multi-channel", we utilized different notations such as "multichannel" or "multi-channel".

As each search string resulted in 300 to 1,000 hits, we aimed to narrow down the results and thus, developed further inclusion and exclusion criteria. In particular, we constrained our search to articles published between 1999 and today, because the Internet, especially as a purchasing channel, was not relevant in the 1990s and before. In addition, results on determinants of multi-channel behavior might not comparable across several decades. We also mainly excluded articles because (a) they examine the behavior in a single channel (e.g. online) and not in a multi-channel environment, (b) they treat task-channel fits and not the choices during the purchasing process, or (c) they do not aim to explain the behavior, but the consequences of it. Articles are included when they cover the search and/or purchase of goods and services in a multi-channel context. Thus, we mainly considered articles that are focusing on channel choice, channel usage, or intentions to use a channel. Overall, 53 articles are incorporated into the final morphological box.

In the end, the results of the literature review are conceptualized in a morphological box similar to the work of Meth et al. (2013). We deliberately decided to develop a morphological box rather than a taxonomy as many different dimensions are discussed in the literature which characteristics are not always mutually exclusive or collectively exhaustive (Nickerson et al. 2013). We have also considered flow charts such as the Conceptual Model of Post-Adoptive Behavior by Jasperson et al. (2005) yet these would have focused on one purchasing process. The morphological box is more flexible to the diverse range of multi-channel behavior influences. The dimensions are derived from the related work (e.g. Neslin and Shankar 2009; Neslin et al. 2006) and were subsequently refined during the literature review.

In a second step, we counted the frequency of characteristics under examination (see Chapter 5) to identify directions for future research. We included a dimension or characteristic whenever it was examined as a dependent or independent variable in the model presented in the studied articles. Thereby, it is irrespective if the variable proved to be significant or not. Including insignificant variables in the analysis will provide a more complete picture on the entire research field and thus, will prevent us (and other researchers) to incorrectly identify research gaps that are already studied in literature. Further, we counted a dimension or characteristic when it was included in a conceptual or theoretical framework.

## Results

Figure 1 displays the results of our literature review. As indicated in Figure 1, the dimensions of context, consumer and product influence a consumer’s multi-channel behavior. In the following, we discuss the impact of each dimension and their characteristics on channel choice in detail.

Channel		Stage-channel associat.	Internet	Store	Catalog	Call-center	Self-service
		Stage	Pre-purchase		Purchase	Post-purchase / use	
Context	Channel Attributes	Advantages	Perceived convenience	Immediate availability	Social interaction	Product assortment	
		Disadvantages	Perceived Risk		Perceived Price	Privacy / Security	
Consumer	Demographics		Age	Gender	Income	Education	Occupation
	Psychographics		Attitude		Loyalty	Goals	Lifestyle
	Experience		Internet experience	Channel experience	Shopping experience	Product/firm experience	Time/quality experience
Product	Product characteristics		Complexity		Frequency	Monetary	
	Type of product		Search			Experience	

**Figure 1. Morphological box of determinants of multi-channel behavior**

### Context

As mentioned in the related work section, stage-channel associations link a stage of the purchasing process with a certain channel. For instance, the Internet is preferred for search whereas many purchases still occur in the store (Verhoef et al. 2007). Gensler et al. (2012) find similar associations in a retail banking context. The channel is also affected by channel spillover (Gensler et al. 2012) or channel lock-in (Verhoef et al. 2007), when using a channel in one stage is affecting the choice of the same channel in another stage. In particular, channel choice in the pre-purchase and purchase stage are closely aligned (e.g. Gensler et al. 2012). Hence, it is insufficient to examine a single stage. Rather the entire purchase history needs to be considered.

Like Verhoef et al. (2007), we group the channel characteristics into advantages and disadvantages. All advantages are positively related to consumers' channel choice. Thus, the more consumers perceive a certain channel as convenient, the more likely they will choose this channel during the purchasing process. The perceived convenience is one of the main drivers of the Internet channel choice (e.g. Albesa 2007; Gensler et al. 2012). In this context, immediate availability disfavors the Internet or catalog as consumers cannot take possession of the products immediately but have to wait for shipment (Venkatesan et al. 2007; Wolfenbarger and Gilly 2001). Moreover, channels are equipped with different product assortments and possibilities for social interactions. For example, consumers with a preference for social interactions are more likely to choose the offline channel, as they can come in direct contact with other customers or salespersons when visiting a store (e.g. Balasubramanian et al. 2005). Similar to the social interaction, the product assortment influences consumers' channel selection. However, the results on the impact of the product assortment are somewhat mixed. While Noble et al. (2005) cannot support any influence, Verhoef et al. (2007) find a significant effect of product assortment on consumers' selection of the Internet channel. Other studies (e.g. Konuş et al. 2014; Melis et al. 2015) support the importance of product assortment.

While factors such as the convenience, immediacy, social interaction, or product assortment might have a positive influence on the channel choice, consumers might be negatively influenced by factors such as perceived risks, prices, and privacy. The higher the perceived costs of a channel will be, the more likely the consumer chooses a different channel. Thereby, costs do not only cover monetary expenditures, but also search costs, switching costs, or travel costs (e.g. Dholakia et al. 2005; Noble et al. 2005). Like perceived risk, the perceived price correlates negatively with the choice of that channel (Verhoef et al. 2007). On the other hand, Gensler et al. (2012) find no influence of the perceived price on channel choice. Privacy, defined as „the users' worries about the acquisition and subsequent use of information generated or acquired about them“ (Albesa 2007, p.495) is particularly applicable to the Internet channel. Although, Bellman et al. (1999) argue that privacy was not an issue in their study, Burke (2002) and Verhoef et al. (2007) observe negative influences on the respective channel choice. If users do not feel safe when providing their payment details on the Internet, they might prefer to buy the products directly in a store. Security is subject to similar mechanism as privacy (Hoehle and Huff 2009).

### ***Consumer characteristics***

A second dimension influencing consumers' channel selection comprises consumer characteristics. The influence and direction of demographics on channel choice is, at least, disputable. In sum, many researchers (e.g. Black et al. 2002; Strebel et al. 2004; Venkatesan et al. 2007) come to the result that younger customers prefer the online over the offline channel. Thereby, also income (Black et al. 2002), education (Strebel et al. 2004), and gender (Venkatesan et al. 2007) are thought to have influence on consumer's channel selection, i.e. males with a higher income and higher education are more likely to choose the Internet channel. On the other hand, many other researchers believe that demographics are not a reliable differentiator for channel choice (e.g. Cortinas et al. 2010; Konuş et al. 2008). Furthermore, lifestyle is thought to be a better concept to segment consumers than demographics. For instance, individuals following a technological lifestyle favor the Internet channel (Bellman et al. 1999).

Although there is no unanimously shared definition on psychographics (Wells 1975), the term encompasses mostly the study of “values, attitudes, and personality traits” (Wells 1975, p.197). Within this umbrella term, attitude, loyalty, and goals are determinants of the channel choice. For instance, Konuş et al. (2008) demonstrate the importance of attitude on channel choice and also economic theory has identified attitude to be a key role in choice behavior (McFadden 2001). When it comes to goals, it is most important, whether consumers are seeking an enjoyable experience (hedonic) or whether they are looking for the best deal (utilitarian). While the Internet largely supports the attainment of functional goals (i.e. efficiency), stores and catalogs are the preferred channels for hedonic objectives (e.g. Balasubramanian et al. 2005).

A strong determinant of channel choice is the experience of a consumer. The more experienced a consumer is with a certain channel and the better and more recent these experiences are, the more likely the consumer will choose that channel again. As stated above, experiences include experiences with a channel, the Internet in general, (home) shopping experience and experience with the product or the firm.

**Product**

Product categories have been identified as a moderating role of channel choice. They can be categorized according to product complexity, purchase and usage frequency, and transaction volume. Products with a high purchase frequency and a low transaction volume (e.g. books) are more likely to be bought through the Internet channel (e.g. Gupta et al. 2004), whereas complex experience goods are more prevalent in the offline channel (e.g. Maity and Dass 2014). A high purchase frequency is also associated with a multi-channel behavior (Kumar and Venkatesan 2005). Services again have their own set of covariates that are similar, but not equal to their product counterparts (see Chapter 1). Finally, researchers classify products and services according to experience vs. search. Experience products (e.g. wine) are less likely to be obtained through an electronic channel than search products such as books (Gupta et al. 2004). Other researchers come to a similar conclusions (e.g. Heitz-Spahn 2013; Maity and Dass 2014).

**Research distribution and services relevance**

Having a clear understanding of which factors influence consumers’ channel selection, we analyzed the examined literature with regard to the frequency of studies on these factors. By conducting such an analysis, we aimed to identify relevant research gaps. We summarized the results of the frequency analysis in Figure 2. Thereby, the number in brackets indicates the frequency of the respective aspects studied by researchers. The color-coding provides a visual help. Retailing (i.e. the left side of Figure 2) has been studied 45 times whereas services have only been considered 8 times in the past. Even a dedicated search string for services could not resolve this imbalance.

It is apparent that the Internet and the store are studied extensively. Only a limited number of studies involved self-service terminals, such as ATMs, or call centers. Concerning the stage, most researchers dedicate their work to the pre-purchase and purchase stage, for instance by studying research shopping (Verhoef et al. 2007), i.e. searching in one channel and buying in another one. Less attention is drawn to the post-purchase phase, e.g. when consumers use services related to the product or provide feedback on it. When comparing the channel attributes, there is a clear focus on the perceived benefits. Yet, this may be due to the nature of focusing on the enablers of channel choice and not its inhibitors. Product characteristics have been examined less frequently compared to the other dimensions. This is despite their known moderating role (e.g. Kushwaha and Shankar 2013). Finally, the dimensions of consumer characteristics, demographics and experience are studied extensively, while studies on psychographics remain rare.

Retailing (Secondary Sector)*					Services (Tertiary Sector)*						
Stage-channel associat. (5)	Internet (41)	Store (37)	Catalog (21)	Call-center (4)	Self-Service (0)	Stage-channel associat. (1)	Internet (8)	Store (7)	Catalog (0)	Call-center (3)	Self-Service (2)
	Pre-purchase (26)		Purchase (43)		Post-purchase / use (6)		Pre-purchase (3)		Purchase (6)		Post-purchase / use (4)
Perceived convenience (19)	Immediate availability (7)		Social interaction (9)		Product assortment (17)	Perceived convenience (4)	Immediate availability (0)		Social interaction (2)		Product assortment (0)
Perceived Risk (13)		Perceived Price (10)			Privacy / Security (12)	Perceived Risk (3)		Perceived Price (1)			Privacy / Security (2)
Age (30)	Gender (30)	Income (23)	Education (16)	Occupation (8)		Age (7)	Gender (4)	Income (6)	Education (4)	Occupation (3)	
Attitude (7)		Loyalty (6)		Goals (27)	Lifestyle (4)	Attitude (1)		Loyalty (0)		Goals (4)	Lifestyle (1)
Internet experience (9)	Channel experience (8)	Shopping experience (5)	Product/firm exp. (5)	Time/quality of exp. (2)		Internet experience (2)	Channel experience (3)	Shopping experience (0)	Product/firm exp. (0)	Time/quality of exp. (0)	
Complexity (4)		Frequency (11)			Monetary (9)	Complexity (4)		Frequency (1)			Monetary (1)
Search (5)			Experience (5)			Search (0)			Experience (0)		
Not examined			Examined less than 5 times			Examined less than 10 times			Examined 10 times or more		

\*A clear-cut differentiation was not always possible, in particular when studies examined both, products and services (e.g. Gupta et al. 2004)

**Figure 2. Morphological box of determinants of multi-channel behavior in retailing and services**

When distinguishing between the (e-)retailing and the service industry, several differences are apparent. First, the catalog and the call center play a minor role in services as most services are branch- or Internet-based. The pre-purchase phase is less important, too. In contrast, the post-purchase stage is more important in services as most products have a long product life cycle. Perceived benefits have been reviewed more infrequently than perceived costs in the services sector. The same holds true for psychographics and experience factors. Finally, also product characteristics in services are yet to be explored in greater detail (Gensler et al. 2012), especially since they can also be classified in different categories (Durkin et al. 2008).

What is the use of the morphological box and the frequency analysis? We demonstrate implications for researchers and practitioners. Researchers can benefit from avenues for future research. Based on the under-researched areas in services, we derive three exemplary research questions that enhance the knowledge on multi-channel behavior in the service industry.

A channel's capability for social interaction has an important role in retailing. Surprisingly, it has only been considered twice in a multi-channel environment in the service industry (Black et al. 2002; Lamberti et al. 2014). Banking branches and stores offer possibilities to interact socially with the vendors or other customers. It is reasonable to assume that the social interaction is a major reason for consumers to choose the offline channel. **RQ1:** *How does a channel's capability for social interaction affect consumers' channel choice in the service industry?*

Loyalty has not been studied in the context of services, although it is ascribed a central role in banking (Du Toit et al. 2015). In the dataset of Cortinas et al. (2010), the average relationship of customers with their banks was more than 14 years. Loyalty can be divided into channel loyalty (e.g. Thomas and Sullivan 2005) and brand/firm loyalty (e.g. Konus et al. 2008), and it is documented to have an impact on channel choice in retailing. **RQ2:** *How does channel and firm loyalty affect consumers' channel choice in the service industry?*

Product categories in retailing have a moderating mediating role (see above). This relationship is yet unknown in financial services which can be segmented along different dimensions such as complexity, frequency or level of contact (Durkin et al. 2008). Other researchers have already suggested to study the role of product categories in banking (Gensler et al. 2012). **RQ3:** *How is channel choice moderated by different product categories of financial services (e.g. savings and investment)?*

Practitioners can use the morphological box as a guideline to evaluate their channels and to actively steer consumer behavior. First, they have to take stock which channels they are offering. Second, they can use it to segment their customer base along demographics, psychographics and experience. This can be used, for instance, to define target customers. Third, they can analyze, what measures they have taken to promote the channel advantages (e.g. convenient shopping experience, increased product assortment) and to reduce the channel disadvantages (e.g. refund money of fraud transaction). Finally, practitioners can use the morphological box to review their product portfolio and test it for stage-channel and product-channel associations.

## **Conclusion and outlook**

This work studies the determinants of multi-channel behavior. After conducting a literature review, a morphological box is developed that structures the different dimensions and characteristics of multi-channel behavior according to context, consumer and product. Subsequently, the research frequency of the morphological box is derived for retailing and services. It documents the under-researched areas in the service sector. Based on these areas, implications for researchers and practitioners are pointed out.

To evaluate the results of our study, it is important to reflect its limitations. Only 53 studies were considered in the literature review and it is likely that there exist further studies that examine multi-channel behavior. With more studies, the morphological box could be more detailed and the research frequency could have a different color-coding. Further, we only considered studies that investigate the channel choice in a multi-channel context for a purchase. More covariates could be transferred from research on adoption of single channels (e.g. the Internet) or on multi-channel behavior for tasks (e.g. bank transfer online or in a branch).



In the next step, we will use the results of the analysis for a laboratory experiment that aims to intervene in the online banking (channel) during the post-purchase stage. It is going to examine the effects of social interaction, product categories, and consumer characteristics on users' channel choice. As previous studies demonstrate gender-related differences, the experiment particularly aims to nudge women with a preference for the branch towards the online banking.

In the experiment, the participants will be shown the screen of a regular online banking, where they have to perform tasks, such as checking their portfolio performance or initiating a transfer. Each time, they will be given the choice which channel to use for the task whereas each channel will have different representations: The branch will be represented by making an appointment with the bank adviser, the telephone banking by entering and dialing a number, or the online banking by the regular interface of the online banking. Thereby, each channel will have different possibilities for social interactions.

To nudge the participants towards a certain channel, we will refer to the effect of priming (Palmer 1975). The priming will be operationalized by exposing the subjects to images or representations of the respective channels before the task. In other contexts, priming has proven to be a successful influence (Thaler and Sunstein 2008). In practice, priming could be imagined as an advertisement that consumers remember when thinking about their channel choice. Marketing communications have already shown to be influencers of channel choice (e.g. Venkatesan et al. 2007). Thus, the nudge is used to investigate RQ1 how a channel's capability for social interaction affects consumers' channel choice.

Beyond RQ1, the experiment could generate interesting findings on how much the channel choice of customers can be influenced by the design of channel and how it is moderated by the product category. Additionally, the experiment could be useful for banks to decrease the utilization of their branch staff by nudging customers towards the online channel for simple tasks. The staff is then able to focus exclusively on sales activities and is less occupied with administrative activities.

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