Multi-Channel Choice in Retail Banking Services: Exploring the Role of Service Characteristics

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Abstract. Companies are moving towards omni-channel management offering all products and services on all channels. Yet, some of these investments might be obsolete as certain products are associated with certain channels. At this point, service companies are still left behind as past research focused on product categories and it remains unclear if the results are transferrable to services. Our study addresses this gap by analyzing the influence of service characteristics on channel choice. We tested our research model by surveying 2,000 banking customers in Germany on their past channel choices for five financial services. The results show that complex services with a high value are rather purchased in a branch than the online channel. Thereby, demographics and behavior-related constructs are important control variables. The results improve the understanding of channel choice behavior in a multi-channel context for services and provide guidance for practitioners to right-channel IT investments.

Keywords: Multi-Channel Choice, Omni-Channel Management, Service Characteristics, Retail Banking Services, Multinomial Logistic Regression

1   Introduction

Recent research suggests that companies are moving from a multi-channel to an omni-channel management which seems to be the next generation of channel management [1]. Omni-channel management comes with several advantages: It allows customers to seamlessly shift between channels and use them simultaneously, and it improves the user experience [1]. To move from multi- to omni-channel capabilities, serious IT investments are required. For example, Commerzbank, the second largest bank in Germany, is investing more than 200 million Euro into their multi-channel banking platform to make services accessible on all channels [2]. Thereby, it is debatable whether all products and services have to be offered on each channel (omni-channel), or whether certain products and services are more suitable to particular channels than others (multi-channel). For instance, Gupta et al. [3] find that search goods are more likely to be purchased online, whereas experience goods are more likely to be purchased offline.

In general, the role of product categories on user's multi-channel choice is well established in retailing (e.g. [3, 4]). Yet, it is unclear if the results are transferrable to services. While products are tangible, exchangeable, tradable and preservable, services typically fulfill the opposite of characteristics: Intangible, heterogeneous, inseparable and perishable [5]. Yet, there is no commonly shared definition of services [5], and bundles of products and services further complicate the differentiation. Nevertheless, most multi-channel studies have focused on clearly defined products (such as books) and services (e.g. [6–8]). Gupta et al. [3] examine the role of product categories for three products and one service. They find varying significances of price search intentions on channel switching behavior for the different product categories. Similarly, Gensler et al. [7] find different results for two product categories in retail banking that could not be explained theoretically. In particular for financial services, they suggest to examine the role of service categories in greater detail in future research. Also other researchers suggest to research the role of product categories on channel choice [9]. Thereby, it is important to note that product *categories* are "all the products offering the same general functionality" [10] whereas product *characteristics* are features of a product like color, weight, price, etc. Services can also be categorized along characteristics and be grouped into service categories. Thus, we aim to answer the following research question:

Do service characteristics influence user's channel choice across all stages of the buying process in the context of a multi-channel environment in financial services?

To address this question, we build on the multi-channel literature from peer-reviewed papers which report channel behavior in a multi-channel context. Based on the literature, we developed a research model and surveyed banking customers in Germany on their past channel choices for five financial services. Due to the mixed results regarding the effects of demographics on individuals' channel choice, we additionally controlled for several demographic characteristics and experiences.

The contribution of this work is manifold as we consider service characteristics of five different financial services across four different stages of the buying process. Moreover, we study different channels using a strong empirical foundation of 2,000 banking customers. In addition, we focus on the users' demographics and the often neglected importance of service characteristics on channel choice. Our research also comes with implications for practitioners: Following an omni-channel strategy of providing all products and services on all channels without a clear objective can result in waste of scarce resources. Instead, managers should carefully balance which products and services are offered on which channel. Our study is to be distinguished from other studies as it addresses channel choices of purchases rather than tasks (e.g. [11]) and it is conducted in a multi- and not a single-channel environment.

The remainder of this paper is organized as follows: Chapter 2 recaps the related work. In chapter 3, we describe the constructs and hypotheses to answer our research question. Chapter 4 outlines the data collection and the applied research methodology. In chapter 5, we summarize the results of our research and discuss them in more detail in chapter 6. Finally, we conclude our research in chapter 7.

2 Related work

Some studies consider product categories as a determinant of channel choice (e.g. [3, 7, 12, 13]). For an overview, we provide a summary of 10 studies in Table 2. Several insights can be derived from the analysis: Almost all studies note that product categories and characteristics have an influence on user's channel choice (e.g. [7, 13]), customer segments (e.g. [14, 6]), and customer value (e.g. [4]). Only partially, product categories seem to have no impact as, for instance, Maity and Dass [12] could not find an influence of the product type on information search. Further, the related work reveals that researchers developed various characteristics to classify categories, namely complexity, perceived risk, purchase frequency, search/experience goods, etc. In addition, it becomes apparent from the analysis that many different channels and product categories have been examined, but hardly any services. Focusing on services, Table 1 displays studies from the context of financial services. The comparison shows that service characteristics are only one covariate of channel choice and that there is a broader picture behind channel choices in a multi-channel environment. Beyond the service characteristics, the stage of the buying process, the channel characteristics, and the demographics influence user's channel choice. For instance, Gensler et al. [7] suggest that the stage of the buying process has a moderating impact on channel choice, and many other researchers also included several stages in their studies (e.g. [3, 15, 16]). This paper addresses all aspects except for the already well-studied channel characteristics such as price, risk or convenience (e.g. [17]).

Table 1. Related work on multi-channel choices in financial services

Source	Channels (among others)	Several stages	Channel Charact.	Demo-graphics	Service Charact.	Services
[18]	Branch, Internet, phone	-	X	X	X	1; 5-8
[19]	Branch, Internet	X	X	X	-	-
[20]	Branch, Internet, ATM	-	X	-	-	-
[16]	Branch, Internet	X	X	X	X	6
[21]	Branch, Internet, phone	X	-	X	-	1-4; 6; 8
[7]	Branch, Internet, phone	X	X	X	-	1; 2

1: Checking account; 2: Securities account; 3: Credit; 4: Savings account; 5: Retirement provision; 6: Mortgage; 7: Insurance; 8: Investments

In financial services, only Black et al. [18] and Frambach et al. [16] considered the service characteristics. The former study is an explorative, qualitative work that yielded valuable insights into channel choices in services but that, to the best of our knowledge, has not yet been validated by practice. The latter study is an empirical analysis but only includes one service (mortgage) and thus it does not allow for comparisons between different services. Other studies of channel choice in financial services do not account for service characteristics (e.g. [19–21]). Overall, we can derive from the related work that product and service characteristics influence user's channel choice.

Table 2. Subset of related work on product categories in a multi-channel context

Study	Channel	Categories	Results
[18]	1, 2, 3	Financial products	- Type of financial product a key influencer for channel selection - Product description along complexity and perceived risk
[15]	1, 2, 4, 5, 7	10 broad categories	- Different channels used for searching different product categories - Assessment of shopping attributes differs for product categories and channels - Categorized along purchase frequency, durability and degree of entertainment
[22]	1, 2, 4	Fashion	- Product-channel associations (e.g. store for personal items; Internet for functional repeat purchases)
[13]	1, 2, 4	11 categories	- Hypothesized about products-channel-associations; investigated channel migration along product type - Results show that product categories generally influence customer's channel choice
[3]	1, 2	Flight tickets, books, wine, stereo systems	- Drivers and inhibitors of channel switching differ across product categories - Categorization along search and experience goods - Search goods more likely to be purchased online, whereas experience goods more likely offline
[6]	2, 3, 4	Household and personal products	- Multichannel behavior across product categories; categories influence of consumer segments - Classification along complexity, purchase frequency and tangibility - Covariates of multichannel shopping (i.e. channel choice) differ across product categories
[7]	1, 2, 3, 6	Checking account, brokerage account	- Results indicate that effects of channel choice attributes could differ between product categories - Assumption that product categories might explain differences and suggest to undertake further research
[23]	1, 2, 4	Furniture, appliances, music, books, etc.	- Generally, significant relation between product categories and cross-channel free-riding behavior - Free-riding behavior differs across respective product categories
[12]	1, 2, 5	Airline tickets, food delivery	- Product type moderates effect of media richness on perceived fit, satisfaction, and channel choice - No support for the moderating effect of product type on information search
[14]	1, 2, 3	Mobile solutions (telecomm.)	- Replication of [6]; perceived product complexity determines affiliation to certain customer segments - Covariates of multichannel shopping differ across categories
[24]	1, 2	Apparel, consumer electronics	- Product category affects usage of on- vs. offline channels in each stage - Shoppers more involved with a category use Internet (maybe due to increased purchase frequency)

1: Store/branch; 2: Internet; 3: Telephone/Call Center; 4: Catalog; 5: Mobile; 6: ATM; 7: Other

3 Development of constructs and hypotheses

After scanning existing literature on the effects of the most common service characteristics, we realized that there is quite some research in the field of products, but only few results on services. Thus, based on the related work, we formulate a set of hypotheses that can be tested for services rather than products. We focus our hypotheses on the two main banking channels that are also apparent from the related work section: the branch and the online channel.

3.1 Service complexity

Service complexity is a well-known construct to characterize a service. The construct is adapted from product complexity and is defined as "the extent to which the consumer perceives a service to be difficult to understand or use" [22:112]. Complexity of products is addressed by several researchers (e.g. [14, 6, 16, 18]). Black et al. [18] recognize the importance of complexity of financial products on channel choice. Even advanced Internet users in their focus groups had strong reservations for purchasing complex services online, and they preferred to go to the store [18]. Frambach et al. [16] also study service complexity and find that people prefer the offline channel for complex services. They argue that customers need help in their decision making and thus opt for the branch. Finally, Konus et al. [6] find that the Internet is too complex for shopping, whereas this finding could not be supported in a replication study [14].

Hypothesis 1 (H1): For services with a high complexity, customers prefer the branch, while for services with a low complexity, they prefer the online channel.

3.2 Service value

Service value describes the monetary value of a service purchased. Service value is closely associated with perceived risk, because when the involved sums are high, then there is a greater probability of making a bad decision [26]. Burke [15] supports this finding by stating that customers are more likely to visit the store when looking for expensive and infrequently purchased goods. Service value also impacts the number of channels used. Heitz-Spahn [23] argues that customers engage in more searching when the product or service is expensive and thus automatically use more channels. Sullivan and Thomas [13] find that channel choice varies by the total amount of money spent.

Hypothesis 2 (H2): For services with a high value, customers prefer the branch, while for services with a low value, they prefer the online channel.

3.3 Service purchase frequency

Purchase frequency describes the "total number of purchase occasions" [12:16]. Purchase frequency has been studied in the context of product categories by various researchers (e.g. [13, 15, 23, 27]). Customers tend to choose the store when purchasing

goods infrequently, because they need advice from knowledgeable sales people [15]. Sullivan and Thomas [13] find a relationship between channel choice and purchase frequency as customers which use the Internet and the catalog buy more frequently than customers which choose the store.

Hypothesis 3 (H3): For services with a high purchase frequency, customers prefer the online channel, while for services with a low purchase frequency, they prefer the branch.

3.4 Service usage frequency

To our knowledge, service usage frequency has not been studied in the context of multi-channel choices. Gensler et al. [7] suggest studying usage frequency to explain differences between financial products. For our research, we interpret service usage frequency as the frequency a customer is using or interacting with the service after its purchase. A comparable way of looking at usage frequency is the product return behavior of customers. Several researchers have shown that the more often customers return products, the more likely they use a digital channel and vice versa (e.g. [28]).

Hypothesis 4 (H4): For services with a high usage frequency, customers prefer the online channel, while for services with a low usage frequency, they prefer the branch.

3.5 Stage-channel associations

Finally, we study stage-channel associations. Stage-channel associations "exist when consumers associate a certain stage of the buying process with a particular channel" [5:989]. Thereby, stages represent the various phases of the buying process. Channels, like the branch or the Internet, are the contact points that customers employ for information, contracting, and use. For example, the Internet is often associated with the search stage, while the store is associated with the purchase stage [8]. Other researchers find similar stage-channel associations (e.g. [15, 22, 27]), but it is unclear if they also exist in the context of services.

Hypothesis 5 (H5): The buying process stage has a moderating impact on users' channel choice as the information stage is associated with the online channel while the purchase stage is associated with the branch.

3.6 Demographics, Internet usage and Internet experience

The influences of demographics on channel choice in a multi-channel environment are questionable. Some researchers argue that there is no relationship between demographics and channel choice (e.g. [6, 21]). Older studies, however, find that age [18, 29, 30], income [18], education [29], and gender [30] influence individuals' channel choice. Thereby, young, male customers with high income and education favor the Internet. Therefore, we control our data for demographical differences.

Beyond demographics, we also control for the influence of behavior-related constructs (e.g. Internet experience, Internet usage, online banking usage, etc.) on

channel choice. It is not surprising that Internet experience favors the channel choice of the Internet channel (e.g. [16]). Yet, we have found no other studies that consider the effect of online banking usage and mobile banking usage on channel choice in a multi-channel environment. In addition, no other study considered the effect of low experiences on online banking in a multi-channel context.

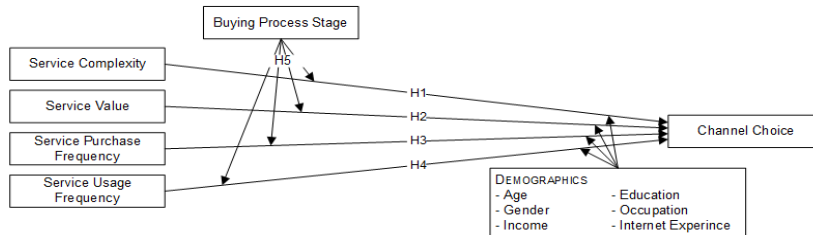The hypotheses introduced above are integrated in a research model (see Figure 1).

Figure 1. Research model

4 Research methodology

4.1 Data collection

To test our hypotheses, we build on a dataset that was collected and analyzed by Graupner et al. [31]. The authors employed a market research firm that conducted a survey among 2,012 German retail banking customers from May to June 2015. The survey was hosted online and assessed the actual past channel choice for different financial services. Intentionally, customers without Internet access were excluded from this study as they are not able to use the online channel of this study. The financial services under observation were credit, checking account, savings account, securities account, and retirement provision and each service is represented at least 300 times in our survey. Although theory of planned behavior states that behavioral intentions are antecedents for actual behavior [32], asking for actual behavior is advantageous over intentions to use a channel as intended behavior may not result in actual behavior. The survey covered seven different channels that are the most common ones in German retail banking: branch, online, mobile, telephone, postal, family and friends, and other. For the definitions of the respective channels see Hoehle et al. [33]. Family and friends are not a banking channel per se but a way to inform oneself or to receive counseling. We have chosen the sector of financial services for our study as it offers a wide range of services to compare and as multiple channels are already available since decades [33].

Table 3 displays the demographics. The sample of our data collection comprises more men than women with an average age of 42 years. 29% of the respondents report an average income between 1,500€ and 2,499€ per month and 70% are employed. The sample is representative for the German Internet population of 2015.

Table 3. Demographics

Attribute		Total	%	Attribute		Total	%
Gender	Male	1,066	53%	**Income**	< 1,500€	521	26%
	Female	946	47%		1,500-2,499€	590	29%
Age	18-29	410	20%		2,500-3,499€	502	25%
	30-39	550	27%		> 3,500€	399	20%
	40-49	405	20%	**Education**	In training	190	9%
	50-59	370	18%		Working	1,405	70%
	>60	277	14%		Not working	417	21%

4.2 Measurement of dependent variable

The dependent variable is the channel choice of the customer for the information, counseling, contracting, and usage stage for the respective financial service. During the information stage, customers search for information (e.g. by scanning the website) while during the counseling stage they are actively seeking advice from a person, for instance in the branch or in the online channel (e.g. video chat with an advisor). For the contracting and usage stage see Gensler et al. [7]. In the survey, the respondents specified the chosen channel for one service in each stage of the purchasing process. Channel choice is a categorical variable as there is no hierarchy between the channels.

Table 4 illustrates the channel choices across the different stages of the buying process. It displays that the branch and the online channel are by far the most often chosen channels in our data set as they cover 70% of all choices. Thus, we will focus our results and the subsequent discussion on these two channels.

Table 4. Channel Choices across different stages of the buying process

Channel	Information	Counseling	Contracting	Usage[*]	Total choices
Branch	755 (38%)	1,038 (52%)	1,183 (59%)	437 (20%)	3,413 (35%)
Online	939 (47%)	546 (27%)	633 (31%)	719 (33%)	2,837 (35%)
Mobile	34 (2%)	22 (1%)	16 (1%)	40 (2%)	112 (1%)
Phone	20 (1%)	54 (3%)	34 (2%)	127 (6%)	235 (3%)
Postal	25 (1%)	15 (1%)	59 (3%)	127 (6%)	226 (3%)
Friends	157 (8%)	99 (5%)	n/a	n/a	256 (3%)
Other	82 (4%)	53 (3%)	87 (4%)	17 (1%)	239 (3%)
None	n/a	185 (9%)	n/a	684 (32%)	869 (11%)

[*] Multiple answers possible

4.3 Measurement of independent variables

The independent variables are the service characteristics of service complexity, value, usage frequency and purchase frequency. The assessment of the independent variables was not conducted by the survey participants themselves. Instead, the values were gathered by asking ten employees of different seniority and from different departments of a large German commercial bank for their expert assessment. This approach was used to reach an objective and transferrable evaluation of the respective financial services. An evaluation by the survey participants might have caused a social desirability bias towards rating their own choice (i.e. financial service) as particularly

difficult and complex to manage. The bank employees were given a short questionnaire where they had to specify the service characteristics for each financial service on a 5-Point-Likert scale ranging from 5 ("very high") to 1 ("very low"). The inter-rater reliability of their judgements was low and explanations could solve all disagreements. For the analysis, the average of the different responses was used for each characteristic rather than the most frequent entry of the assessment to allow for more fine-grained differences in the evaluation of the respective dimensions.

4.4 Data analysis

Based on the related work, we assume that customers are influenced in their channel choice during the different stages of the buying process based on service complexity, value, usage frequency and purchase frequency. In addition, the stage is hypothesized to have an effect on the dependent variable. Thus, the channel choice is expressed by the following formula (1):

$$CC_{c,s,t} = \alpha_{c,s,t} + \beta_{c,s,t} \times Complex + \gamma_{c,s,t} \times Value + \delta_{c,s,t} \times Use_{frequ} + \eta_{c,s,t} \times Purch_{frequ} + \chi_s \times Stage \qquad (1)$$

whereas,

$CC_{c,s,t}$	Channel choice of customer c for service s in stage t
$\alpha_{c,s,t}$	Constant for channel c for service s in stage t
$\beta_{c,s,t}$	Factor for service complexity for channel c for service s in stage t
$\gamma_{c,s,t}$	Factor for service value for channel c for service s in stage t
$\delta_{c,s,t}$	Factor for service purchase frequency for channel c for service s in stage t
$\eta_{c,s,t}$	Factor for service usage frequency for channel c for service s in stage t
χ_s	Factor for stage of the purchasing process for service s

As the dependent variable is a nominal variable, we used a multinomial logistic regression (MLR) method to calculate the research model. Thereby, we employed the statistical software R and especially the nnet package that can be used for Feed-Forward Neural Networks and Multinomial Log-Linear Models. The MLR is an extension of the binary logistic regression by estimating separate binary models for each category. In the end, only N-1 binary logistic regression models are displayed as one category serves as a reference and each binary model estimates the effect in comparison to this reference category (in our case the online channel).

5 Results

First, Table 5 shows the dimensions of service characteristics. For example, the securities account and the retirement provision are rated much more complex than the checking or savings account. Moreover, checking and savings account are purchased and used more often than the retirement provision.

Second, we examined the distribution of the channel choices. Figure 2 shows the relative amount of the channel choices across the four stages of the buying process. The graphs are similar in their structure. Most customers inform themselves online with a range of 33% (retirement provision) to 54% (checking account) of the customers. The branch is used equally or less often at this stage. A major shift occurs in the counseling stage when more customers visit the branch. For all financial services, the branch is

predominant (between 48% and 56%). Only for the checking account, the difference between the online channel and the branch is small (9%).

Table 5. Dimensions of service characteristics

Service	Complexity	Value	Purchase frequency	Usage frequency
Credit	3.1	3.9	2.6	2.6
Checking account	1.5	2.0	5.0	3.6
Savings account	1.7	2.6	2.5	2.5
Securities account	3.9	3.7	3.0	2.7
Retirement provision	4.1	3.6	2.0	2.0

1=Very low; 2=Low; 3=Medium; 4=High; 5= Very high

Also in the contracting stage, most customers prefer the branch over other channels. The difference is particularly visible when studying the retirement provision as only 18% of the customers used the online channel to purchase the credit compared with 63% using the branch. Finally, most customers again use the online channel for the after-sales stage. Yet, here the data scatters from 37% (retirement provision) to 66% (checking account).
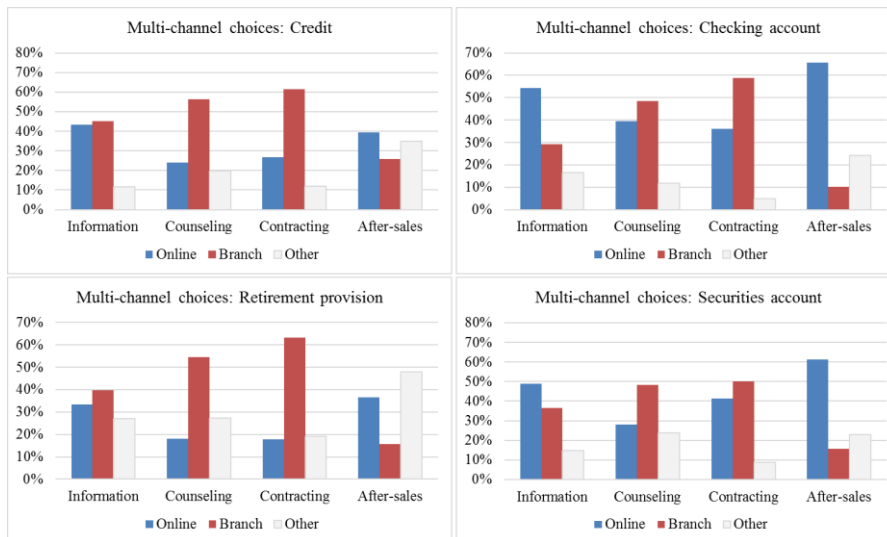

Figure 2. Channel choices of different financial services across stages of the buying process

In a next step, we analyzed whether the above mentioned differences, especially in the contracting and the after-sales stage, are significant or within ranges that can still be explained by coincidence. Table 6 displays the results of the MLR. Although the complete results are displayed, we only discuss the branch and the online channel.

The results show that the channel choice is significantly different in the branch and the online channel in the contracting stage (all characteristics significant) and the after-sales stage (only complexity and value significant). For instance, value of services yield in a different channel choice for the branch ($p < 0.01$) compared with the online channel in the contracting stage. Further, complexity leads to a different channel choice between

branch (p<0.04) and the online channel in the after-sales stage. The direction of the effects are consistent across all stages. Complexity and usage frequency always carry a negative sign, while the effect for value and purchase frequency is positive. We find more significant differences for other channels. Yet, the results for them are not reliable due to small case numbers (see Table 4).

Moreover, we estimate the effect of the stage of the purchasing process on the channel choice. Again, we used a MLR for the analysis and the results are shown in Table 6. There exists a relationship between the stage of the buying process and the chosen channel as the channel choice is significantly different for the branch and the online channel. Together with Table 4, we can state the online channel is associated with the information and after-sales stage, while the branch is associated with the counseling and the contracting stage.

Table 6. Results for stage-channel associations (H5b)

Channel	Stage	Channel	Stage
Branch	**-0.21 (0.00)**	FF[1]/ ATM	**-0.42 (0.00)**
Mobile	-0.09 (0.34)	Other	**-0.61 (0.00)**
Telephone	**0.21 (0.01)**	None	**0.27 (0.00)**
Postal	**0.76 (0.00)**		

Effects of buying process stage on channel choice. p-values in brackets. Values in bold are significant at the 5% level
1: Family and Friends

When controlling for demographics and behavior-related constructs, all demographics are significant at least in one stage, e.g. age (counseling and contracting stage), gender (all stages) or education (all stages except for counseling stage). This implies, for example, that women are using the branch significantly more often than men across all stages of the buying process. In addition, education is influential as customers with higher education are more likely to choose the online channel and they are less likely to draw upon counseling. On the other hand, channel choices seem to be almost independent of income and occupation. A similar picture arises from behavior-related constructs, where online banking usage and low experiences with the online banking are significant in all stages, whereas Internet usage is only significant in the information and contracting stage. It is evident that customers having low experiences with online banking are more inclined to avoid the online channel. The opposite holds true for online banking usage.

6   Discussion

We started from the question whether service characteristics influence channel choices. Our results show that the channel choice between the branch and the online channel is significantly different for the constructs of complexity, value, and usage frequency in the contracting and the after-sales stage. They are not significant in the first two stages. Thus, we can partly accept H1, H2, H3 and H4 as complexity and value influence channel choices in the last two stages while purchase frequency and usage frequency are only significant in one stage.

Table 7. Results of the research model across the different stages of the buying process

Stage	Information				Counseling			
Channel	Complex	Value	Purch_fre	Use_fre	Complex	Value	Purch_fre	Use_fre
Branch	-0.07 (0.77)	0.39 (0.31)	0.41 (0.53)	-1.13 (0.36)	-0.23 (0.41)	0.68 (0.10)	1.21 (0.08)	-2.43 (0.07)
Mobile	-0.84 (0.45)	0.92 (0.57)	1.78 (0.52)	-3.31 (0.55)	0.14 (0.81)	-0.07 (0.95)	0.21 (0.81)	-0.88 (0.50)
Telephone	1.17 (0.22)	-1.17 (0.43)	-3.47 (0.21)	6.49 (0.22)	0.29 (0.65)	0.44 (0.67)	-1.35 (0.50)	3.67 (0.36)
Postal	-0.73 (0.18)	1.08 (0.25)	**3.07 (0.00)**	**-6.66 (0.00)**	-1.20 (0.11)	1.39 (0.22)	**2.06 (0.02)**	**-4.67 (0.00)**
FF[1]	0.58 (0.25)	-0.80 (0.32)	1.01 (0.38)	-2.20 (0.33)	1.14 (0.06)	-1.34 (0.18)	0.29 (0.84)	-0.68 (0.80)
Other	-0.31 (0.62)	1.60 (0.11)	2.68 (0.13)	-6.20 (0.05)	-0.85 (0.32)	2.69 (0.06)	**5.49 (0.03)**	**-11.22 (0.01)**
None	n/a	n/a	n/a	n/a	-0.16 (0.70)	0.55 (0.39)	0.56 (0.61)	-0.77 (0.72)
Stage	Contracting				After-sales			
Channel	Complex	Value	Purch_fre	Use_fre	Complex	Value	Purch_fre	Use_fre
Branch	**-0.89 (0.00)**	**1.46 (0.00)**	**2.85 (0.00)**	**-5.95 (0.00)**	**-0.79 (0.03)**	**1.36 (0.01)**	0.46 (0.62)	-1.88 (0.30)
Mobile	0.51 (0.46)	-0.16 (0.90)	-0.24 (0.82)	0.52 (0.71)	-1.32 (0.30)	2.14 (0.26)	3.52 (0.29)	-5.71 (0.39)
Telephone	-0.64 (0.44)	1.31 (0.30)	1.86 (0.39)	-4.67 (0.26)	**-1.51 (0.02)**	**3.16 (0.00)**	3.42 (0.06)	-6.54 (0.61)
Postal	**-1.95 (0.01)**	**2.89 (0.01)**	**4.56 (0.02)**	**-9.56 (0.02)**	**-1.14 (0.02)**	**2.96 (0.00)**	**4.10 (0.00)**	**-9.00 (0.00)**
ATM	n/a	n/a	n/a	n/a	-1.20 (0.39)	0.74 (0.70)	0.90 (0.79)	-2.21 (0.75)
Other	**-1.33 (0.03)**	**3.35 (0.00)**	**6.48 (0.00)**	**-12.88 (0.00)**	-0.47 (0.21)	**2.36 (0.00)**	-0.04 (0.97)	**-2.98 (0.00)**
None	n/a	n/a	n/a	n/a	**-3.99 (0.00)**	**6.90 (0.00)**	**8.84 (0.00)**	**-18.59 (0.00)**

Number of observations: 2.012; Effects of service complexity, value, purchase frequency and usage frequency on channel choice. p-values in brackets.

Values in bold are significant at the 5% level

1: Family and Friends

H5 is fully supported as there is a significant effect of the stage on the channel choice. In addition, demographics and behavior-related constructs moderate the influence on channel choice, e.g. as males and customers with higher education favor the Internet channel. Thereby, our results confirm the idea that the channel choice is dependent on the purchased services and its characteristics.

Hence, our research is in line with prior studies on product categories which showed that the type of product or service influences the channel choice (e.g. [7, 13]). We agree with Black et al. [18] that banking customers rarely choose the online channel for complex services and we can confirm the findings of Burke [15] that customers prefer the store for expensive goods. Additionally, we can confirm the findings of other researchers (e.g. [15, 27, 8]) that certain stages are associated with certain channels. Finally, we find a significant influence of demographics on channel choice and thus disagree with some researchers (e.g. [6, 21]) in this regard.

7   Summary and conclusion

This work studies the influence of service characteristics on channel choice. Based on previous literature, we developed a research model including four service characteristics, and tested it across five financial services in the retail banking industry in Germany. Our results show that channel choices for the branch and the online channel are significantly different for the service characteristics during the contracting and the after-sales stage. Additionally, there is a relationship between the stage of the buying process and the channel chosen. In general, our results are in line with prior studies that examined product characteristics. Practitioners can use the results to determine which of their services to offer on which channel. We suggest digitizing less complex services with a low value, especially in the contracting stage. Further, practitioners can use stage-channel associations to tailor the channels according to customers' preferred contact points in each stage of the buying process.

However, this paper has some limitations. First, the channel choices are retrospective and only allow for a limited view on how customers purchase services in the future. Additionally, many banks did not offer all services online so that banking customers did not have a free choice across all channels. Second, the assessment of the service characteristics was performed by banking professionals (more objective but more distant from channel choices) and not the users (more subjective but more relatable to channel choices) themselves. It is debatable which assessment yields more meaningful results. Third, we neglected the channel characteristics that might have an influence on channel choices, too. Fourth, customers without Internet access were excluded as the survey was conducted online. Despite a high internet user penetration in Germany, this might create a bias towards the online channel. Finally, the paper only addresses the retail banking sector in Germany and the results might not be transferable to product-service bundles, other industries, or countries.

Thus, future research might replicate our study in other service industries (e.g. telecommunications, consulting or education) or other countries (e.g. United States or Austria). Moreover, the interesting results on demographics could be taken into account in future studies.

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