

Investigating the links between the use of the internet, value co-creation, and customer satisfaction in the banking sector¹

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Abstract

Purpose of the paper: Because of the 2007 financial crisis, the necessity for banks to (re)build a strong dialogue with customers and improve their satisfaction has been particularly felt. Marketing scholars respond to this challenge by encouraging value co-creation initiatives. The aim of this paper is to analyse the role of Internet banking in stimulating value co-creation processes and the consequent effects on customer satisfaction.

Methodology: Based on a review of literature on Internet banking, value co-creation, and customer satisfaction in the banking sector, the links between these variables are theoretically outlined and tested through an empirical investigation. Results are analysed with a regression analysis.

Results: The results show how, by leveraging digital channels, real-time interactions and advanced advisory services can be implemented in order to encourage clients to participate in the process and meet their own needs, thus increasing their satisfaction.

Practical implications: To practitioners, the study provides suggestions on how to improve customer satisfaction by offering opportunities for clients to access services and products through Internet technologies and encouraging them to become increasingly active in the co-creation process.

Originality and value: Although the literature on banking management is prolific with regard to studies on Internet banking, value co-creation, and customer satisfaction, these dimensions are often studied separately. This work is the first useful attempt to investigate the links between these dimensions and to test them with an empirical analysis.

Key words: internet banking; value co-creation; customer satisfaction; banking sector; regression analysis

1. Introduction

Since the global financial crisis of 2007, the banking sector has experienced several challenges due to many companies and families failing to repay loans, in addition to serious episodes of mismanagement.

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The consequences of the crisis for banks were not just financial; the crisis severely affected consumer behaviour (Hermann, 2009), causing an extraordinary decrease in consumer confidence (Solomon, 2009). The banking system was particularly affected in terms of relationships with consumers who attributed to banks a dominant role in the eruption of the crisis. Banks need to (re)build a strong dialogue with customers and regain their trust. The first step should be to abandon the restrictive, paternalistic practices of the past and become a partner that cares for the financial health of its customers, helping them to become financially secure and confident.

The scientific community has shown great interest in these issues, and several marketing scholars suggest overcoming the dominant company-centric approach to value creation in favour of value co-creation strategies with customers (Ramaswamy and Gouillart, 2010).

According to the value co-creation view, banks should create value with their customers through interactions, dialogue, and mutual involvement in order to obtain reciprocal benefit. The principal benefit for the bank consists in increasing its knowledge of consumer behaviour, thus aligning the services towards what the customer is directly asking for in order to improve satisfaction.

The Information and Communication Technology (ICT) evolution has significantly modified the way customers have access to banking services, transforming the nature of the relationship between banks and customers (Payne *et al.*, 2018). Technologies such as self-service devices, automated teller machines (ATM), Internet banking, and mobile banking allow banks to offer a wide range of service channels to their customers and instant solutions to their problems. In particular, Internet banking allows customers to conduct financial transactions, such as account transfers, paying bills, stock-exchange transactions, and other financial services on a secure website offered by the financial institution (Martins *et al.*, 2014), usually accessed via a laptop device or desktop PC (Shaikh and Karjaluoto, 2015). This new service channel enables customers to become more independent in managing their finances and savings and in carrying out financial transactions, thus actively participating in the creation and provision of financial services according to a value co-creation logic (Liang and Nguyen, 2018). At the same time, Internet banking offers additional benefits to banks in terms of cost savings and cross-selling activity (Baabdullah *et al.*, 2019; Sharma *et al.*, 2015). Moreover, several studies show that Internet banking adoption has a positive impact on customer satisfaction (Hamidi and Safareeyeh, 2019; Toor *et al.*, 2016; Worku *et al.*, 2016).

Based on these considerations, we can state that new bank marketing strategies should involve three important factors: service innovation in terms of Internet banking, value co-creation, and customer satisfaction.

The aim of this paper is to analyse the links between these variables by answering the following research questions:

RQ1: Does the use of Internet banking services affect the customers' value co-creation behaviours?

RQ2: Does the use of Internet banking services affect customer satisfaction?

RQ3: Do customers' value co-creation behaviours affect their satisfaction?

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Through a literary review, the links between Internet banking, value co-creation, and customer satisfaction in the banking sector are theoretically outlined in this work and then tested with an empirical analysis; based on the results, conclusions and practical implications are presented.

2. Literature review

2.1 Value co-creation and Internet banking

For several decades, the theories of bank marketing have considered the customer as being passive and the customer value “as the value that the customer generates for the bank, rather than the value banks can offer to their customers” (Payne *et al.* 2000, p. 267).

With the emergence of Service-Dominant logic (Vargo and Lusch, 2004, 2006), the value co-creation perspective has spread in marketing discipline. According to this logic, value is always co-created in interactions between providers and customers through the exchange of knowledge, skills, and resources (Vargo and Lusch, 2004). The provider can only propose a value and provide a service as input for its realization (Flint, 2006), but value is always determined by the beneficiary as either “value-in-use” (Vargo and Lusch, 2004) or “value-in-context” (Vargo and Lusch, 2008).

The perspective of value co-creation shifts the focus to the active participation of the customer in the service offered by the bank (Formisano *et al.*, 2018). Customer participation in defining and creating the service allows banks to create superior value (Prahalad and Ramaswamy, 2004a, 2004b); the literature provides several case studies of banks that faced the financial crisis by involving customers in value co-creation initiatives (Mainardes *et al.*, 2017). Many of the empirical findings acknowledge the importance of co-creation in helping banks to recover consumer confidence (Ramaswamy and Gouillart, 2010) and to better overcome the economic crisis (Preikschas *et al.*, 2014).

However, the literature does not provide a clear framework outlining the strategies that banks should pursue to promote co-creation. Moreover, empirical studies involve only the banking management, leaving a gap in the research about the value of co-creation behaviours of customers in the banking sector.

Some marketing theories, such as Service Science (Maglio and Spohrer, 2008), recognize technology platforms and ICT solutions as the main enablers of consumers' co-creative behaviours.

Banks are among the leaders in offering high quality and convenient services through high technology (Siddiqi, 2011) making the relationship with customers more virtual (Martovoy and Santos, 2012).

Apparently, solutions like Internet banking, by providing new channels to access services without interactions with the staff, should hinder the emergence of value co-creation paths with customers. Prahalad and Ramaswamy (2004b) state, on the contrary, that self-service practices, such

as those offered by Internet banking, enable the involvement of customers in value co-creation process as they tend to feel empowered by the valorization of their freedom in conducting the consumption experience. Customers feel more productive and efficient in attaining and producing Internet services in comparison with traditional tools to have the same kinds of services (Alalwan *et al.*, 2018). For this reason, Nuttavuthisit (2010) suggests that organizations should design systems for more independent interactions as the first step in value co-creation. Consumer need to recognize the benefit of self-service in order to be motivated to take part in the process (Grönroos, 2008). Several studies demonstrate that in order for value co-creation to take place, it is not enough to invest in new technologies and ongoing improvements, but banks should also use these technologies to stimulate dialogue with customers and better integrate them in the process (Prahalad and Ramaswamy, 2004b; Ballantyne and Varey, 2006; Hoyer *et al.*, 2010). According to Cambra-Fierro (2017), Internet banking facilitates dynamic relationships and interactive experiences and activities between banks and customers.

Based on the literature, we suggest the following hypothesis:

H1: The use of Internet banking services has positive effects ($\beta > 0$) on value co-creation behaviours.

2.2 Customer satisfaction and Internet banking

Customer satisfaction can be defined as a positive disconfirmation between the perceived service and the expected service (Oliver, 1999). Bank customer satisfaction is regarded as banks fully meeting the customers' expectations (Bloemer *et al.*, 1998) as well as the positive feeling or attitude formed by bank customers after service (Jamal and Naser, 2002).

Generally, customer satisfaction in the banking sector is evaluated in five service quality dimensions according to the SERVQUAL model: reliability, responsiveness, assurance, tangibles, and empathy. However, Toor *et al.* (2016) state that due to the increasing competition in the banking sector over the last few years, banks have focused on Internet banking as the main tool to attain customer satisfaction; it is therefore necessary to consider Internet banking adoption when evaluating customer satisfaction.

Several studies demonstrate a significant and positive relationship between Internet banking and customer satisfaction (Hossain *et al.*, 2019; Sampaio *et al.*, 2017; Hamzah *et al.*, 2017; Amin, 2016; Raza *et al.*, 2015; Sharma and Malviya, 2014; Kervin, 2014; Taleghani *et al.*, 2014; Nimaco *et al.*, 2013; Vasista, 2013). Internet banking has become one of the essential banking tools that can, if properly implemented, increase customer satisfaction and give banks a competitive advantage (Hammound *et al.*, 2018).

Authors highlight different factors of Internet banking that lead to customer satisfaction. According to Liébana, Muñoz, and Rejón (2013), accessibility, ease of use, trust, and usefulness are the principal factors. Qureshi (2008) identify four factors affecting customer satisfaction, which are the perceived usefulness, perceived ease of use, security, and privacy provided by Internet banking. Jun and Palacios (2016) add mobile

convenience, accuracy, and continuous improvement to these factors. Robertson *et al.* (2016) find that reliability, user-friendly, enjoyment, and perceived control of the service provided by Internet banking are positively associated with customer satisfaction. The study by Gunawardana *et al.* (2015) reveals that reliability and convenience of Internet banking services have positive impacts on customer satisfaction. Rashidi and Mansoori (2015) find that Internet banking provides customers with reduced costs and categorization of services, and a close relationship between banks and their customers is created and maintained, which can ultimately lead to customer satisfaction. Worku *et al.* (2016) state that there is a significant relationship between customer satisfaction and 24-7 access to bank accounts as well as the possibility of optimized control and monitoring of bank accounts. Kumbhar (2011) notes that Internet banking brings convenience, customer centricity, enhanced service quality, and cost effectiveness, thus increasing customer satisfaction with banking services. Carse (1999) claims that the potential for customers to manage their banking transactions at any time and location increases their satisfaction. According to Nupur (2010), it is the possibility of access to a quicker and dependable service that satisfies customers. Dianat *et al.* (2019) find that there is a significant relationship between banking website usability and user satisfaction while, according to Hossain *et al.* (2018), difficult technologies combined with complex processes can lead to customer dissatisfaction.

Some authors underline the importance of Internet banking in satisfying different market segments, such as the demands of the electronic market (Balachandher *et al.*, 2001) and the “un-banked customers” (Karjaluo *et al.*, 2002).

According to the relevant literature, we propose the following hypothesis:

H2: The use of Internet banking services has positive effects ($\beta > 0$) on customer satisfaction.

2.3 Value co-creation and customer satisfaction

Several authors state that by establishing value co-creation paths with customers, banks can attain a greater number of satisfied customers (Cambra-Fierro *et al.*, 2017; Hossain *et al.*, 2019) and, consequently, gain a greater share of the financial market (Al-Dmour *et al.*, 2019; Silver and Vegholm, 2009) and better financial performances (Mbama and Ezepue, 2018). Bendapudi and Leone (2003) investigated the psychological implications of co-creation for customers, concluding that the quality of the results and satisfaction are influenced by customer participation. González-Mansilla (2019) prove that customer perception of the value co-creation process has a positive impact on brand equity and perceived value, which in turn are positively linked with customer satisfaction. Clauss *et al.* (2019) identify a significant indirect effect of customers’ perceived business model innovativeness on customer satisfaction via customer value co-creation behaviour.

Regarding the reasons why value co-creation should increase customer satisfaction, the literature presents several theories.

First, according to Kuokkala *et al.* (2010), value co-creation helps to overcome the problem of asymmetrical information in the context of financial transactions and to make correct decisions (Mishkin, 1992). Value co-creation improves the levels of mutual understanding (Binks and Ennew, 1997), with consequences such as more higher levels of customer satisfaction. These higher levels of satisfaction derive from the fact that by participating in the relationship with the bank, customers get a better understanding of how and why decisions are made and how services are delivered, and they may be more aware of the constraints on the service provider in terms of what can and cannot be delivered (Kuokkala *et al.*, 2010). The provision of consistent and reliable information to customers favours their positive satisfaction judgements (Rejikumar and Aswathy Asokan, 2017). On the other hand, by acquiring more information and understanding about customers' needs, banks can adapt the final service to them (Harkison, 2018; Wu *et al.*, 2018); however, this result depends on the willingness of customers to provide appropriate information. This means that value co-creation requires continuous dialogue between the bank and the customer, collaboration in the services production, in the definition of objectives and solutions (Pralhad and Ramaswamy, 2004a, p. 8).

Second, through successful value co-creation processes, organizations can improve efficiency and efficacy, thus producing customer satisfaction (Moretta Tartaglione *et al.*, 2018; Prahalad and Ramaswamy, 2000). Efficiency can be improved through customer participation in service development that could replace employees and reduce costs, as well as reduce the need for market research. Customer satisfaction increases if efficiency turns into cost savings for him/her. Efficacy can increase because, according to Hoyer *et al.* (2010), co-created services are more attractive and innovative on a commercial level and ensure high differentiation in the market. According to Etgar (2008), through co-creation, customers can exercise greater control over the quality of the service offered by reducing the gap between the expected and the perceived service.

Other scholars trace the link between value co-creation and satisfaction to some psychological mechanisms of customers. For example, Franke (2010, p. 125) describe the value enhancement that a customer attributes to a self-designed product/service derived solely from the feeling that "I designed it myself". In these cases, customer satisfaction is enhanced by customers' feelings of pride due to their direct participation in the creation of value (Franke and Schreier, 2010).

Heitmann *et al.* (2007) introduce the concept of "decision satisfaction", which is the satisfaction derived from the purchasing decision process itself. This type of satisfaction goes beyond the satisfaction with the final service because it is associated with the service development process. The more the consumer is involved in this process, the more this kind of satisfaction will increase, regardless of the result. In general, customers evaluate their commitment to the co-creation process as a rewarding experience, and they perceive a level of satisfaction greater than that derived from the simple evaluation of the quality of the service (Franke and Schreier,

2010). Customers' satisfaction also derives from the degree to which they are satisfied with their performance during co-creation and with their participation in the provision of services (Bendapudi and Leone, 2003).

With more specific reference to Internet services, Jiménez-Barreto and Campo-Martínez (2018) show a direct and significant relationship between perceived quality and willingness to participate in online co-creation experiences.

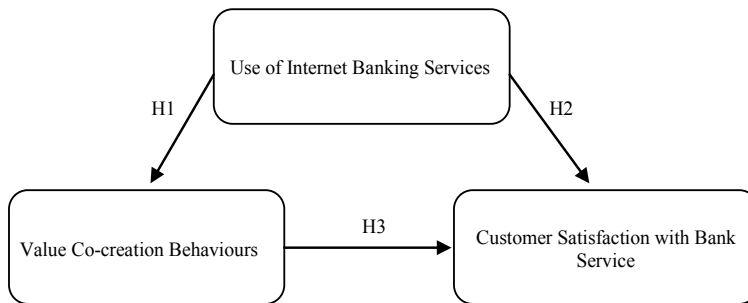
Based on these theories, we propose the following hypothesis:

H3: Value co-creation behaviours have positive effects ($\beta > 0$) on customer satisfaction.

3. Method

To test the research hypotheses, we conducted an empirical investigation based on the research model illustrated in Figure 1.

Fig. 1: The research model



Source: Our elaboration

The questionnaire is composed of three measurement scales, described in Table 1.

Tab. 1: Questionnaire structure

Measurement scale	N. items	Source
Use of Internet Banking Services (IBS use)	15	Authors' elaboration
Value Co-creation Behaviours (VCB)	13	Yi and Gong (2013)
Customer Satisfaction with Bank Services (CSBS)	9	Geetika <i>et al.</i> (2008); Jham and Khan (2008)

Source: Our elaboration

The scale for measuring the use of Internet banking services was created by the authors through interviews and discussions with three bank managers and 15 bank customers. The most common and relevant online banking services were identified, and respondents were asked to indicate

on a 5-point rating scale their usual habits in using Internet banking to access these services.

For the value co-creation measurement, the “customer value co-creation behaviour scale” (Yi and Gong, 2013) was selected. This scale ties customer value co-creation behaviour to two distinct dimensions: participation and citizenship. For this study, we decided to analyse the customers’ citizenship behaviours because they represent the highest level of engagement and participation of customers in the value co-creation process (Yi and Gong, 2013).

According to Navarro *et al.* (2016), customers’ citizenship behaviours, for example, helping other customers, being tolerant, and providing help or feedback to employees, are those more related to customer satisfaction. Moreover, Van Tonder and De Beer (2018) find a strong relationship between satisfaction with the service provided and customer citizenship behaviours (consumer advocacy and the helping of other customers) in the context of Internet banking.

The scale for customer satisfaction was created by selecting items from several scales related to the satisfaction with bank services (Geetika *et al.*, 2008; Jham and Khan, 2008).

Some of the most common scales to measure customer satisfaction in banks, such as the SERVQUAL model (Parasuraman *et al.*, 1988) and the SERVPERF (Cronin and Taylor, 1992), have not been considered suitable for this research because they are also focused on tangible aspects that are the least influenced by the use of online services and value co-creation. Jham and Khan (2008, p. 35) define customer satisfaction as “a multi-dimensional construct, which has been conceptualized as a prerequisite for building relationships and is generally described as the full meeting of one’s expectations, and is the feeling or attitude of a customer towards a product or service after it has been used”. The work of Geetika *et al.* (2008) helps to evaluate customer satisfaction related to Internet banking as it shows how users of e-banking give utmost importance to excellent services.

The questionnaire was administered in June 2018 through Google Forms to the customers of three banks in central Italy by email or WhatsApp. Participants responded to each item using a 5-point Likert scale.

To test the validity of each scale, an Exploratory Factor Analysis was conducted. The Principal Components Analysis (PCA) was used to explore the structure of the questionnaire. Internal consistency reliability was tested by the use of the Cronbach’s alpha coefficient. Finally, to test the correlations between the variables, the Pearson correlation coefficient between scales was calculated and the regression analysis was conducted.

4. Results

A total of 269 responses were obtained, of which 262 were valid. The characteristics of respondents are described in Table 2.

Tab. 2: Sample characteristics

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Age		Levels of education		Profession	
18–30	39%	Primary education	0%	Executive/Official	7.6%
31–50	37.5%	Lower secondary education	1.5%	Entrepreneur	9.5%
51–70	19.7%	Upper secondary education	29%	Independent contractor	19.3%
+ 70	3.8%	First stage of tertiary education	50.8%	Unemployed	1.5%
Sex		Second stage of tertiary education	18.7%	Civil servant	11.4%
Male	52.1%			Employee	25%
Female	47.9%			Student	12.5%
				Housewife	3%
				Pensioner	5.3%
				Other	4.9%

Source: Our elaboration

In the first section of the questionnaire, information on the type and duration of the relationship with the bank was collected (Table 3). In the case of relationships with several banks, it was specified that the questionnaire should be answered by thinking of the bank considered as the main bank.

Tab. 3: Relationship with the bank

Type of relationship		Length of the relationship	
Personal	79.5%	<5 years	33.7%
Business	4.2%	5–10 years	29.9%
Both	16.3%	>10 years	36.4%
Contemporary relationships with other banks		Corporate relationship with the bank	
Yes	30.4%	Yes	11.8%
No	69.6%	No	88.2%

Source: Our elaboration

Subsequently, information on the use of Internet banking was collected (Table 4), and 70.5% of respondents said they prefer remote channels such as the telephone and Internet to access banking services. More than 90% of the sample regularly uses Internet banking mainly for both consultative operations and transactions (51.3%), while 9.5% of the sample declared that they had never used Internet banking.

Tab. 4: Internet banking use

Preferences for service provision	
I prefer physical branches	29.5%
I prefer remote channels	70.5%
Use of Internet banking	
Yes, for consultative operations	20.5%
Yes, for transactions	18.6%
Yes, for consultative operations and transactions	51.3%
No, never	9.5%

Source: Our elaboration

Respondents who declared they did not use Internet banking were invited to indicate the reasons against its use. As shown in Table 5, respondents affirmed that they did not need it, did not know how you use it, and preferred to directly address the banking staff.

Tab. 5: Reasons against using Internet banking

Reasons against the use of Internet banking (9.5% of the sample)	
I don't need it	26.9%
It is not secure	0%
I don't know how to use it	23.1%
It is too complicated	3.8%
My bank does not provide the service	0%
I do not have a personal computer or an Internet connection	7.7%
I prefer to directly address the staff	30.8%
For another reason	7.7%

Source: Our elaboration

Analysing the socio-demographic profile of those who do not use Internet banking (Table 6), it appears that the majority are women with upper secondary or the first stage of tertiary education (79.2%).

Tab. 6: Characteristics of those who do not use Internet banking

Age		Levels of education		Profession	
18-30	28%	Primary education	0%	Entrepreneur	4%
31-50	24%	Lower secondary education	4.2%	Independent contractor	4%
51-70	40%	Upper secondary education	29.2%	Unemployed	8%
+ 70	8%	First stage of tertiary education	50%	Civil servant	16%
Sex		Second stage of tertiary education	16.6%	Employee	20%
Male	20.8%			Student	28%
Female	79.2%			Housewife	12%
				Pensioner	8%

Source: Our elaboration

4.1 Factor Analysis and Hypotheses Test

According to the results of factor analysis (Table 7), the Kaiser-Meyer-Olkin score (.841 < KMO < .942) and Bartlett's test of sphericity ($p < 0.001$) show the adequacy of the sample size for each scale and satisfy the requirements for carrying out a Principal Component Analysis (Hair *et al.*, 2005).

Tab. 7: Factor analysis

		IBS use	VCB	CSBS
Kaiser-Meyer-Olkin for sampling adequacy (KMO)		.854	.841	.942
Bartlett's Test of Sphericity	Approx. Chi-square	1778.750	1941.603	2034.113
	Df	105	78	36
	Sig.	.000	.000	.000

Source: Our elaboration

Based on the Principal Components Analysis, all items were considered significant, presenting a factor loading > 0.50 (Table 8).

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Tab. 8: Principal Component analysis

Construct	Item	Factor Loading
Use of Internet Banking Services	I usually use the Internet Banking for national transfers	.729
	I usually use the Internet Banking for foreign transfers	.597
	I usually use the Internet Banking to recharge my mobile credit	.599
	I usually use the Internet Banking for Purchase/sale of securities	.548
	I usually use the Internet Banking for stock quotes	.598
	I usually use the Internet Banking for balance control and transaction history	.536
	I usually use the Internet Banking for payments	.697
	I usually use the Internet Banking for credit card and debit card lock	.703
	I usually use the Internet Banking to recharge a prepaid card	.759
	I usually use the Internet Banking for the credit card transaction alerts	.768
	I usually use the Internet Banking for the bank account transaction alerts	.785
	I usually use the Internet Banking for the OTP generation	.786
	I usually use the Internet Banking to find the nearest ATMs/branches	.684
	I usually use the Internet Banking for booking appointments at the branch	.655
I usually use the Internet customer support services (chat, video chat, VoIP)	.603	
Value Co-creation Behaviour	If I have a useful idea on how to improve the service, I talk to my bank	.590
	When I receive a good service from my bank, I provide positive feedback	.607
	When a problem occurs, I notify the bank staff	.532
	I spoke positively about my bank with other people	.629
	I have recommended my bank to other people	.671
	I encouraged friends and relatives to use the services provided by my Bank	.671
	I deal with other clients of the Bank	.742
	I help other customers if they seem to have problems	.747
	I teach other customers how to use the services correctly	.758
	I give advice to other customers	.758
	If the service is sometimes not delivered as expected, I am willing to endure it	.614
If an operator sometimes makes a mistake during service delivery, I am willing to be tolerant	.654	
If I sometimes have to wait longer than the normal waiting time to receive the service, I am willing to adapt	.654	
Customer Satisfaction with Bank Services	I am satisfied with the simplicity of procedures of my bank	.789
	I am satisfied with the timeliness of procedures of my bank	.783
	I am satisfied with the type of services offered by my bank	.797
	I am satisfied with the benefits obtained from the management of savings and finances	.766
	I received the services I wanted from my bank	.874
	The services received from my bank were in line with my needs	.863
	If a friend were in the same situation as me, I would recommend the same services of my bank	.817
	The services I received from my bank helped me deal with problems more effectively	.868
	I am generally satisfied with the services received from my bank	.872

Source: Our elaboration

In terms of the reliability of the analysis results, Cronbach's Alpha values for each scale are > 0.7 and present high values included in a range from 0.895 to 0.951, showing a high reliability of the factors (Table 9).

Tab. 9: Reliability analysis

	IBS use	VCB	CSBS
N. Items	15	13	9
Cronbach's alpha	.913	.895	.951
Cronbach's alpha based on standardized items	.913	.894	.952

Source: Our elaboration

By calculating the Pearson Correlation coefficient between constructs, it is evident that there is a significant and positive correlation between them (Table 10).

In particular, correlations between the use of Internet Banking Services (IBS use) and Value Co-creation Behaviours (VCB) and Customer Satisfaction (CSBS) show moderate values, while the correlation between Value Co-creation Behaviours and Customer Satisfaction is stronger ($r > 0.5$).

Tab. 10: Pearson correlation

		IBS use	VCB	CSBS
IBS use	Pearson Correlation	1	.242**	.228**
	Sig. (2-tailed)		.000	.000
	N	237	237	237
VCB	Pearson Correlation	.242**	1	.532**
	Sig. (2-tailed)	.000		.000
	N	237	237	237
CSBS	Pearson Correlation	.228**	.532**	1
	Sig. (2-tailed)	.000	.000	
	N	237	237	237

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

Source: Our elaboration

To test the research hypotheses, a regression analysis was conducted.

The results show that the use of Internet Banking Services has a significant positive effect on Value Co-creation Behaviours ($\beta > 0$), confirming Hypothesis 1 (Table 11).

Tab. 11: Regression analysis IBS use-VCB

Variable	B	Std. Error	β	t	p- value
Constant	2.730	.202		13.503	.000
Use of Internet Banking S.	.209	.055	.242	3.827	.000

R = .242

R² = .059

R² adjusted = .055

Dependent variable: Value Co-creation Behaviours

Source: Our elaboration

Results also show the significant positive effect of the use of Internet Banking Services on Customer Satisfaction with the Bank Services ($\beta > 0$), confirming the Hypothesis 2 (Table 12).

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Tab. 12: Regression analysis IBS use-CSBS

Variable	B	Std. Error	β	t	p- value
Constant	3.357	.187		18.002	.000
Use of Internet Banking S.	.181	.050	.228	3.584	.000

R = .228

R² = .052

R² adjusted = .048

Dependent variable: Customer Satisfaction with Bank Services

Source: Our elaboration

Finally, the regression analysis indicates a significant positive relationship between Value Co-creation Behaviours and Customer Satisfaction with Bank Services ($\beta > 0$), confirming the Hypothesis 3 (Table 13).

Tab. 13: Regression analysis VCB-CSBS

Variable	B	Std. Error	β	t	p- value
Constant	2.302	.181		12.689	.000
Use of Internet Banking S.	.489	.051	.532	9.636	.000

R = .532

R² = .283

R² adjusted = .280

Dependent variable: Customer Satisfaction with Bank Services

Source: Our elaboration

5. Discussion

Findings of this work offer interesting evidence for the development of strategies in the banking sector based on the Internet banking tool and aimed at increasing customer satisfaction through value co-creation. In particular, the links between three variables have been analysed: the use of Internet banking services by customers, their level of satisfaction with the bank services, and their value co-creation behaviours.

The first result of this research shows that the use of Internet banking by customers to access the most important services has positive effects on their value co-creation behaviour. In particular, the co-creation behaviours considered in this analysis are those of citizenship, consisting of voluntary extra-role behaviours that provide an unexpected value to the organization (Yi and Gong, 2013), such as the provision of feedback, service promotion to other people, helping other customers, and tolerance of service failures (Bove *et al.*, 2008; Yi *et al.*, 2011). According to relevant literature, these behaviours help banks in building strong relationships

with customers (Cambra-Fierro *et al.*, 2017), recovering their confidence (Ramaswamy and Gouillart, 2010), and creating a superior value (Payne *et al.*, 2008) in order to better overcome the consequences of the economic/financial crisis (Mainardes *et al.*, 2017; Preikschas *et al.*, 2014). As stated by Cambra-Fierro *et al.* (2017), customers' value co-creation behaviours are important for building trust and joint learning in the retail banking sector, where the low levels of customer trust in financial institutions and the high level of competition make it necessary to innovate and to be closer to the customers. The Internet represents a virtual space where banks can specialize and complement their resources, collaborating with customers who represent valuable resources that can reduce uncertainty and risk. As highlighted by Neghina *et al.* (2017), this process is even more important in professional services, such as banking, where knowledge intensity and workforce professionalism stimulate consumers to co-create for developmental motives, intended as the development of the customer's operand and operant resources, and not for empowerment motives that reflect the desire to influence the service process or outcome. This means that in these cases, the aim of customers is to improve their knowledge and skills and not to control the co-creation interactions.

In line with the relevant literature (Amin, 2016; Hamzah *et al.*, 2017; Hossain *et al.*, 2019; Kervin, 2014; Nimako *et al.*, 2013; Raza *et al.*, 2015; Sampaio *et al.*, 2017; Sharma and Maloviya, 2014; Taleghani *et al.*, 2014; Vasista, 2013), this analysis also shows that the use of Internet banking services has positive effects on customer satisfaction. Previous works are focused on the different factors or characteristics of Internet banking that lead to customer satisfaction, such as accessibility, ease of use, usefulness, security, convenience, accuracy, and privacy (Gunawardana *et al.*, 2015; Jun and Palacios, 2016; Liébana *et al.*, 2013; Robertson *et al.*, 2016; Worku *et al.*, 2016). This paper, instead, is not aimed at analysing the main features of Internet banking that increase satisfaction but correlates the use of the main services offered by banks through Internet banking with the overall level of customer satisfaction, showing that the higher the use of Internet banking to access bank services, the higher the customer satisfaction. This result is particularly important, considering that customer satisfaction created by Internet banking will be directly reflected in customer loyalty (Alalwan *et al.*, 2018), trust, and positive word-of-mouth (Sampaio *et al.*, 2017), with positive effects on the bank's reputation (Hamzah *et al.*, 2017) and financial performance (Mbama and Ezepue, 2018). Moreover, customer satisfaction with Internet services improve the level of communication with customers (Rostami *et al.*, 2016), and it is the most important factor for attracting and retaining foreign bank customers (Moghavvemi *et al.*, 2018). Although Internet banking through customer satisfaction is one of the essential tools that give banks a competitive advantage, it needs to be properly implemented and managed (Hammoud *et al.*, 2018). Alternatively, it can lead to customer dissatisfaction as in the case of difficult technologies combined with complex processes (Hossain *et al.*, 2018). Moreover, the role of branch service quality cannot be ignored and multi-channel banking, which integrates traditional banking with Internet banking, remains the most suitable strategy for customer satisfaction (Bapat, 2017).

Finally, the regression analysis indicates a significant positive relationship between value co-creation behaviours and customer satisfaction, which is in line with the results of other scholars (Cambra-Fierro *et al.*, 2017; Hossain *et al.*, 2019). The application of value co-creation theories to the study of the banking sector shifts the focus to the client as an operand resource in the value-creating process (Vargo and Lusch, 2004). In fact, according to the Service-Dominant logic, the service provider “... cannot deliver value, but only offer value propositions” and “... value is always uniquely and phenomenologically determined by the beneficiary” (Vargo and Lusch, 2008, p. 7). Consequently, the value co-creation view also moves the analysis from the output to the outcome. The results of this study show that one of the outcomes of value co-creation for banks is the increase in customer satisfaction. Based on the results of previous works, we can state that this effect generates other advantages for banks that need to rebuild their image, reputation, and customer relationships, such as a positive impact on brand equity and perceived value (González-Mansilla *et al.*, 2019) and major innovativeness of the business model (Clauss *et al.*, 2019). If carefully managed, the value co-creation process enables banks to create superior value propositions that will result in higher levels of customer retention and positive WOM behaviours, reinforcing the competitive positions of banks (Cambra-Fierro *et al.*, 2017).

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6. Conclusions and implications

During the last decade, the banking sector has experienced several challenges due to the financial crisis, the evolution of ICT, changes in consumers' behaviour, and growing competition. Banks need to rethink their managerial and marketing policies in order to regain the trust of their customers and build stronger and more stable relationships with them.

Marketing scholars propose overcoming these challenges by stimulating paths of value co-creation with customers, offering innovative services through the Internet, and increasing customer satisfaction.

This paper analyses the links between these dimensions, filling a gap in the literature and trying to offer useful suggestions to the bank managers for the development of comprehensive strategies that are not focused just on one or another variable. In fact, as highlighted by the results of this work, the three dimensions (Internet banking, value co-creation, and customer satisfaction) are positively and significantly correlated with each other. In practical terms, this means that when bank managers decide to implement Internet banking services, they must focus on those aspects of e-services that have a greater impact on customer satisfaction and that are able to create an online space that fosters participation and dialogue with the customers to stimulate them to co-create value. In the elaboration of value co-creation policies, on the other hand, managers must focus on those services and characteristics of Internet banking that are more suitable for co-creative practices, and they must try to exploit each occasion of co-creation with customers to increase their satisfaction. Finally, if the bank's aim is to increase customer satisfaction, bank managers must consider

both value co-creation and Internet banking as useful tools to achieve this goal.

The results of strategies based simultaneously on all three factors will be the ability to create stronger and lasting relationships with customers, exploit the exchange of competencies and resources with them to reduce costs, increase knowledge, and offer best services.

This paper is based on an exploratory factor analysis and regression analysis conducted to validate the model but, in light of the results, further analyses are needed to deepen the understanding of the links between the variables investigated with a confirmatory factor analysis analysis con structural equation modeling.

References

- ALALWAN A.A., BAABDULLAH A.M., RANA N.P., TAMILMANI K., DWIVEDI K. (2018), "Examining adoption of mobile internet in Saudi Arabia: Extending TAM with perceived enjoyment, innovativeness and trust", *Technology in Society*, vol. 55, n. 1, pp. 100-110.
- AL-DMOUR H.H., ALGHARABAT R.S., KHAWAJA R., AL-DMOUR R.H. (2019), "Investigating the impact of ECRM success factors on business performance of Jordanian commercial banks", *Asia Pacific Journal of Marketing and Logistics*, vol. 31, n. 1, pp. 105-127.
- AMIN M. (2016), "Internet banking service quality and its implication on e-customer satisfaction and e-customer loyalty", *International Journal of Bank Marketing*, vol. 34, n. 3, pp. 280-306.
- BAABDULLAH A.M., ALALWAN A.A., RANA N.P., KIZGIN H., PATIL P. (2019), "Consumer use of mobile banking (M-Banking) in Saudi Arabia: Towards an integrated model", *International Journal of Information Management*, vol. 44, n. 1, pp. 38-52.
- BALACHANDHER K.G., VAITHILINGAM S., ISMAIL N., PRASAD R. (2001), "Electronic banking in Malaysia: Note on evolution of service and consumer reactions", *Journal of Internet Banking and Commerce Electronic Banking*, vol. 51, n. 1, pp. 135-147.
- BALLANTYNE D., VAREY R.J. (2006), "Creating value-in-use through marketing interaction: the exchange logic of relating, communicating and knowing", *Marketing Theory*, vol. 6, n. 3, pp. 335-348.
- BAPAT D. (2017), "Exploring the antecedents of loyalty in the context of multi-channel banking", *International Journal of Bank Marketing*, vol. 35, n. 2, pp. 174-186.
- BENDAPUDI N., LEONE R.P. (2003), "Psychological implications of customer participation in co-production", *Journal of Marketing*, vol. 67, n. 1, pp. 14-28.
- BINKS M.R., ENNEW C.T. (1997), "Smaller Businesses and Relationship Banking: The Impact of Participative Behavior", *Entrepreneurship: Theory and Practice*, vol. 21, n. 4, pp. 83-92.
- BLOEMER J., BRIJS T., SWINNEN G., VANHOOF K. (2002), "Identifying latently dissatisfied customers and measures for dissatisfaction management", *International Journal of Bank Marketing*, vol. 20, n. 1, pp. 27-37.

- BLOEMER J., DE RUYTER K., PEETERS P. (1998), "Investigating drivers of bank loyalty: the complex relationship between image, service quality and satisfaction", *International Journal of Bank Marketing*, vol. 16, n. 7, pp. 276-286.
- BOVE L.L., PERVAN S.J., BEATTY S.E., SHIU E. (2008), "Service worker role in encouraging customer organizational citizenship behaviors", *Journal of Business Research*, vol. 62, n. 1, pp. 698-705.
- CAMBRA-FIERRO J., PÉREZ L., GROTT E. (2017), "Towards a co-creation framework in the retail banking services industry: Do demographics influence?", *Journal of Retailing and Consumer Services*, vol. 34, n. 1, pp. 219-228.
- CARSE H.T. (1999, "The effect of information technology on banking services: Economic review", *Federal Reserve bank of Richmond*, vol. 77, n. 1, pp. 16-28.
- CLAUSS T., KESTING T., NASKRENT J. (2019), "A rolling stone gathers no moss: the effect of customers' perceived business model innovativeness on customer value co-creation behavior and customer satisfaction in the service sector", *R&D Management*, vol. 49, n. 2, pp. 180-203.
- CRONIN J., TAYLOR S. (1992), "Measuring Service Quality: A Reexamination and Extension", *Journal of Marketing*, vol. 56, n. 4, pp. 55-68.
- DIANAT I., ADELI P., JAFARABADI M.A., KARIMI M.A. (2019), "User-centred web design, usability and user satisfaction: The case of online banking websites in Iran", *Applied Ergonomics*, vol. 81, n. 102892, pp. 1-8.
- ETGAR M. (2008), "A descriptive model of the consumer co-production process", *Journal of the Academy of Marketing Science*, vol. 36, n. 1, pp. 97-108.
- FLINT D.J. (2006), "Innovation, symbolic interaction and customer valuing: thoughts stemming from a service-dominant logic of marketing", *Marketing Theory*, vol. 6, n. 3, pp. 349-362.
- FORMISANO V., FEDELE M., CALABRESE M. (2018), "The strategic priorities in the materiality matrix of the banking enterprise", *The TQM Journal*, vol. 30, n. 5, pp. 589-671-25.
- FRANKE N., SCHREIER M. (2010), "Why Customers Value Self-Designed Products: The Importance of Process Effort and Enjoyment", *Journal of Product Innovation Management*, vol. 27, pp. 1020-1031.
- FRANKE N., SCHREIER M., KAISER U. (2010), "The "I Designed It Myself" Effect in Mass Customization", *Management Science*, vol. 56, n. 1, pp. 125-140.
- GEETIKA, N. TANUJ, ASHWINI U. (2008), "Internet banking in India: Issues and prospects", *Journal of Bank Management*, vol. VII, n. 2, pp. 47-61.
- GONZÁLEZ-MANSILLA O., BERENGUER-CONTRÍ G., SERRA-CANTALLOPS A. (2019), "The impact of value co-creation on hotel brand equity and customer satisfaction", *Tourism Management*, vol. 75, n. 1, pp. 51-65.
- GRÖNROOS C. (2008), "Service logic revisited: who creates value? And who co-creates?", *European Business Review*, vol. 20, n. 4, pp. 298-314.
- GUNAWARDANA H.M.R.S.S., KULATHUNGA D., PERERA W.L.M.V. (2015), "Impact of Self Service Technology Quality on Customer Satisfaction: A Case of Retail Banks in Western Province in Sri Lanka, Gadjah Mada", *International Journal of Business*, vol. 17, n. 1, pp. 1-24.
- HAIR J., BABIN B., MONEY A., SAMOUEL P. (2005), *Fundamentos de métodos de pesquisa em administração*, Bookman Companhia Ed.

Vincenzo Formisano
 Andrea Moretta Tartaglione
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 between the use of the
 internet, value co-creation,
 and customer satisfaction in
 the banking sector

- HAMIDI H., SAFAREEYEH M. (2019), "A model to analyze the effect of mobile banking adoption on customer interaction and satisfaction: A case study of m-banking in Iran", *Telematics and Informatics*, vol. 38, n. 1, pp. 166-181.
- HAMMOUD J., BIZRI R.M., EL BABA I. (2018), "The Impact of E-Banking Service Quality on Customer Satisfaction: Evidence From the Lebanese Banking Sector", *SAGE Open*, vol. 8, n. 3, pp. 1-12.
- HAMZAH Z.L., LEE S.P., MOGHAVVEMI S. (2017), "Elucidating perceived overall service quality in retail banking", *International Journal of Bank Marketing*, vol. 35, n. 5, pp. 781-804.
- HARKISON T. (2018), "The use of co-creation within the luxury accommodation experience - myth or reality?", *International Journal of Hospitality Management*, vol. 71, n. 1, pp. 11-18.
- HEITMANN M., LEHMANN D.R., HERRMANN A. (2007), "Choice Goal Attainment and Decision and Consumption Satisfaction", *Journal of Marketing Research*, vol. 44, n. 2, pp. 234-250.
- HERMANN S. (2009), "The crisis and customer behaviour: eight quick solutions", *Journal of Customer Behaviour*, vol. 8, n. 2, pp. 177-186.
- HOSSAIN M., ZHOU X., RAHMAN M. (2019), "Customer satisfaction under heterogeneous services of different self-service technologies", *Management and Marketing. Challenges for the Knowledge Society*, vol. 14, n. 1, pp. 90-107.
- HOSSAIN M.S., ZHOU X., RAHMAN M.F. (2018), "Examining the impact of QR codes on purchase intention and customer satisfaction on the basis of perceived flow", *International Journal of Engineering Business Management*, vol. 10, n. 1, pp. 1-11.
- HOYER W.D., CHANDY R., DOROTIC M., KRAFFT M., SINGH S.S. (2010), "Consumer Cocreation in New Product Development", *Journal of Service Research*, vol. 13, n. 3, pp. 283-296.
- JAMAL A., NASER K. (2002), "Customer satisfaction and retail banking: An assessment of some of the key antecedents of customer satisfaction in retail banking", *International Journal of Bank Marketing*, vol. 20, n. 4, pp. 146-160.
- JHAM, V., KHAN K.M. (2008), "Determinants of performance in retail banking: Perspectives of customer satisfaction and relationship marketing", *Singapore Management Review*, vol. 30, n. 2, pp. 35-45.
- JIMÉNEZ-BARRETO J., CAMPO-MARTÍNEZ S. (2018), "Destination website quality, users' attitudes and the willingness to participate in online co-creation experiences", *European Journal of Management and Business Economics*, vol. 27, n. 1, pp. 26-41.
- JUN M., PALACIOS S. (2016), "Examining the key dimensions of mobile banking service quality: an exploratory study", *International Journal of Bank Marketing*, vol. 34, n. 3, pp. 307-326.
- KARJALUOTO H., MATTILA M., PENTO T. (2002), "Factors underlying attitude formation towards online internet banking in Finland", *International Journal of Bank Marketing*, vol. 20, n. 6, pp. 261-272.
- KERVIN E.B. (2014), "Customer satisfaction and loyalty among internet banking users of Philippine National Bank in Batangas city", *Asia Pacific Journal of Multidisciplinary Research*, vol. 2, n. 2, pp. 41-48.
- KUMBHAR V.M. (2011), "Factors affecting customer satisfaction: Some evidence from Indian banks" *Romania Knowledge Management Research and Practice*, vol. 3, n. 4, pp. 1-14.

- KUOKKALA H.R., MÄENPÄÄ I., UUSITALO O. (2010), "The ingredients of customer value in banking services: Defining the needs of small and medium sized enterprises", in *Proceedings of Peer-Reviewed Symposium 2010, Annual Symposium for the Financial Services Institute*, September 9-11, 2010, St John's University, New York, USA (pp. 1-8)
- LEE K.C., CHUNG N. (2009), "Understanding factors affecting trust in and satisfaction with mobile banking in Korea: a modified DeLone and McLean's model perspective", *Interacting with Computers*, vol. 21, n. 5-6, pp. 385-392.
- LIANG C.C., NGUYEN N.L. (2018), "Marketing strategy of internet-banking service based on perceptions of service quality in Vietnam", *Electronic Commerce Research*, vol. 18, n. 1, pp. 629-646.
- LIÉBANA C., MUÑOZ L., REJÓN G. (2013), "The determinants of satisfaction with e-banking", *Industrial Management and Data Systems*, vol. 113, n. 5, 750-767.
- MAGLIO P.P., SPOHRER J. (2008), "Fundamentals of service science", *Journal of the Academy of Marketing Science*, vol. 36, n. 1, pp. 18-20.
- MAINARDES E.W., TEIXEIRA A., DA SILVEIRA P.C. (2017), "Determinants of co-creation in banking services", *International Journal of Bank Marketing*, vol. 35, n. 2, pp. 187-204.
- MARTINS C., OLIVEIRA T., POPOVIČ A. (2014), "Understanding the internet banking adoption: a unified theory of acceptance and use of technology and perceived risk application", *International Journal of Information Management*, vol. 34, n. 1, pp. 1-13.
- MARTOVOY A., SANTOS J. (2012), "Co-creation and co-profiting in financial services", *International Journal of Entrepreneurship and Innovation Management*, vol. 16, n. 1-2, pp. 114-135.
- MBAMA C.I., EZEPUE P.O. (2018), "Digital banking, customer experience and bank financial performance UK customers' perceptions", *International Journal of Bank Marketing*, vol. 36, n. 2, pp. 230-255.
- MISHKIN F. S. (1992), "Anatomy of a financial crisis", *Journal of Evolutionary Economics*, vol. 2, n. 2, pp. 115-130.
- MOGHAVVEMI S., LEE S.T., LEE P. (2018), "Perceived overall service quality and customer satisfaction A comparative analysis between local and foreign banks in Malaysia", *International Journal of Bank Marketing*, vol. 36, n. 5, pp. 908-930.
- MORETTA TARTAGLIONE A., CAVACECE Y., CASSIA F., RUSSO G. (2018), "The excellence of patient-centered healthcare: Investigating the links between empowerment, co-creation and satisfaction", *The TQM Journal*, vol. 30, n. 2, pp. 153-167.
- NAVARRO S., LLINARES C., GARZON D. (2016), "Exploring the relationship between co-creation and satisfaction using QCA", *Journal of Business Research*, vol. 69, n. 1, pp. 1336-1339.
- NEGHINA C., BLOEMER J., VAN BIRGELEN M., CANIËLS M.C.J. (2017), "Consumer motives and willingness to co-create in professional and generic services", *Journal of Service Management*, vol. 28, n. 1, pp. 157-181.
- NIMAKO S.G., GYAMFI N.K., WANDAOGOU A.M.M. (2013), "Customer satisfaction with internet banking service quality in the Ghanaian banking industry", *International Journal of Scientific and Technology Research*, vol. 2, n. 7, pp. 165-175.

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 Ylenia Cavacece
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 between the use of the
 internet, value co-creation,
 and customer satisfaction in
 the banking sector

- NUPUR J.M. (2010), "E-banking and customer' satisfaction in Bangladesh: an analysis", *International Review of Business Research Papers*, vol. 6, pp. 145-156.
- NUTTAVUTHISIT K. (2010), "If you can't beat them, let them join: the development of strategies to foster consumers' co-creative practices", *Business Horizons*, vol. 53, n. 3, pp. 315-324.
- OLIVER R.L. (1999), "Whence Consumer Loyalty?", *Journal of Marketing*, vol. 63, n. Special Issue 1999, pp. 33-44.
- PARASURAMAN A., ZEITHAML V.A., BERRY L. (1988), "SERVQUAL: a multiple-item scale for measuring customer perceptions of service quality", *Journal of Retailing*, vol. 64, n. Spring, pp. 12-40.
- PAYNE A.F., HOLT S., FROW P. (2000), "Integrating employee, customer and shareholder value through an enterprise performance model: an opportunity for financial services", *International Journal of Bank Marketing*, vol. 18, n. 6, pp. 258-273.
- PAYNE A.F., STORBACKA K., FROW P. (2008), "Managing the co-creation of value", *Journal of the Academy of Marketing Science*, vol. 36, n. 1, pp. 83-96.
- PAYNE E.M., PELTIER J.W., BARGER V.A. (2018), "Mobile banking and AI-enabled mobile banking The differential effects of technological and non-technological factors on digital natives' perceptions and behavior", *Journal of Research in Interactive Marketing*, vol. 12, n. 3, pp. 328-346.
- PRAHALAD C.K., RAMASWAMY V. (2000), "Co-opting Customer Competence", *Harvard Business Review*, vol. 78, n. 1, pp. 79-87.
- PRAHALAD C.K., RAMASWAMY V. (2004a), "Co-creation experiences: the next practice in value creation", *Journal of Interactive Marketing*, vol. 18, n. 3, pp. 5-14.
- PRAHALAD C.K., RAMASWAMY V. (2004b), "Co-creating unique value with customers", *Strategy and Leadership*, vol. 32, n. 3, pp. 4-9.
- PREIKSCHAS M.W., CABANELAS P., RÜDIGER K. (2014), "Fighting Against the Economic Crisis: Innovation in B-to-B Markets Through Co-creation", in Rüdiger K., Ortiz M.P., Blanco González A. eds. *Entrepreneurship, Innovation and Economic Crisis*, Berlin, Springer, pp. 31-40.
- QURESHI T.M., ZAFAR M.K., KHAN, M.B. (2008), "Customer Acceptance of Online Banking in Developing Economies", *Journal of Internet Banking and Commerce*, vol. 13, n. 1, p. 1.
- RAMASWAMY V., GOUILLART F.G. (2010), "Building the Co-Creative Enterprise", *Harvard Business Review*, vol. 88, n. 10, pp. 100-109.
- RASHIDI E., MANSOORI E. (2015), "Discussing the effects of internet banking on customer satisfaction", *Indian Journal of Fundamental and Applied Life Sciences*, vol. 5, n. S2, pp. 182-187.
- RAZA S.A., JAWAID S.T., HASSAN A. (2015), "Internet banking and customer satisfaction in Pakistan", *Qualitative Research in Financial Markets*, vol. 7, n. 1, pp. 24-36.
- REJIKUMAR G., ASWATHY ASOKAN A., "Information seeking behavior causing satisfaction modification intentions. An empirical study to address emerging challenges in a service context", *Journal of Indian Business Research*, vol. 9, n. 4, pp. 304-328.
- ROBERTSON N., MCDONALD H., LECKIE C., MCQUILKEN L., (2016), "Examining customer evaluations across different self-service technologies", *Journal of Services Marketing*, vol. 30, n. 1, pp. 88-102.

- ROSTAMI A., KHANI A.H., SOLTANI G. (2016), "The Impact of E-service Quality on the improvement of the Level of Communication with Customers of Bank Mellì Branches in South Tehran Affairs Office", *Procedia Economics and Finance*, vol. 36, n. 1, pp. 448-455.
- SAMPAIO C.H., LADEIRA W.J., SANTINI F.D.O. (2017), "Apps for mobile banking and customer satisfaction: a cross-cultural study", *International Journal of Bank Marketing*, vol. 35, n. 7, pp. 1133-1153.
- SHAIKH A.A., KARJALUOTO H. (2015), "Mobile banking adoption: a literature review", *Telematics and Informatics*, vol. 32, n. 1, pp. 129-142.
- SHARMA G., MALVIYA S. (2014), "Internet banking service quality and its impact on customer satisfaction in Indore district of Madhya Pradesh", *International Journal of Business and Management Invention*, vol. 3, n. 3, pp. 1-6.
- SHARMA S.K., GOVINDALURI S.M. (2014), "Internet banking adoption in India: structural equation modeling approach", *Journal of Indian Business Research*, vol. 6, n. 2, pp. 155-169.
- SHARMA S.K., GOVINDALURI S.M., AL BALUSHI S.M. (2015), "Predicting determinants of Internet banking adoption: a two-staged regression-neural network approach", *Management Research Review*, vol. 38, n. 7, pp. 750-766.
- SIDDIQI K.O. (2011), "Interrelations between service quality attributes, customer satisfaction and customer loyalty in the retail banking sector in Bangladesh", *International Journal of Business and Management*, vol. 6, n. 3, pp. 12.
- SILVER L., VEGHOLM F. (2009), "The dyadic bank - SME relationship - Customer adaptation in interaction, role and organization", *Journal of Small Business and Enterprise Development*, vol. 16, n. 4, pp. 615-627.
- SOLOMON M. (2009), *Consumer behaviour, buying, having & being*, Pearson Education Inc., USA.
- SONNE A.M. (1999), "Determinants of customer satisfaction with professional services: A study of consultant services", *Journal of Marketing*, vol. 41, n. 2, pp. 159-171.
- TALEGHANI M., MONA S., FALLAH (2014), "Electronic banking services to increase the level of satisfaction and loyalty of customers", in *proceedings of the National Conference of Modern Management Science*, Gorgan Wise Jorjani Non-profit Institution of Higher Education.
- TOOR A., HUNAIN M., HUSSAIN T., ALI S., SHAHID A. (2016), "The Impact of E-Banking on Customer Satisfaction: Evidence from Banking Sector of Pakistan", *Journal of Business Administration Research*, vol. 5, n. 2, pp. 27-40.
- VAN TONDER E., DE BEER L.T. (2018), "New perspectives on the role of customer satisfaction and commitment in promoting customer citizenship behaviours", *South African Journal of Economic and Management Sciences*, vol. 21, n. 1, p. a1894.
- VARGO S.L., LUSCH R.F. (2004), "Evolving to a new dominant logic for marketing", *Journal of Marketing*, vol. 68, n. 1, pp. 1-17.
- VARGO S.L., LUSCH R.F. (2006), "Service dominant logic: what it is, what it is not, and what it might be", in Lusch, R.F. and Vargo, S.L. (eds), *The Service-Dominant Logic of Marketing: Dialog, Debate and Directions*, Armonk: M. E. Sharpe, pp. 43-56.
- VARGO S.L., LUSCH R.F. (2008), "Service-Dominant Logic: Continuing the Evolution", *Journal of the Academy of Marketing Science*, vol. 36, n. 1, pp. 1-10.

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 Andrea Moretta Tartaglione
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 Investigating the links
 between the use of the
 internet, value co-creation,
 and customer satisfaction in
 the banking sector

- VASISTA T. (2013), "The Effect of Internet Banking Service Quality on Customer Satisfaction in Riyadh, Saudi Arabia", *Journal of Business Administration*, vol. 2, n. 3, pp. 112-136.
- WORKU G., TILAHUN A., TAFA M.A. (2016), "The Impact of Electronic Banking on Customers' Satisfaction in Ethiopian Banking Industry (The Case of Customers of Dashen and Wogagen Banks in Gondar City)", *Journal of Business and Financial Affairs*, vol. 5, n. 2, pp. 1-18.
- WU S.J., LAW R., LIU J. (2018), "Co-creating value with customers: A study of mobile hotel bookings in China", *International Journal of Contemporary Hospitality Management*, vol. 30, n. 4, pp. 2056-2074.
- YI Y., GONG T. (2013), "Customer value co-creation behavior: scale development and validation", *Journal of Business Research*, vol. 66, n. 9, pp. 1279-1284.
- YI Y., NATARAAJANB R., GONG T. (2011), "Customer participation and citizenship behavioural influences on employee performance, satisfaction, commitment, and turnover intention", *Journal of Business Research*, vol. 64, n. 1, pp. 87-95.

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