



Article

# Customer Experience in Fintech

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**Abstract:** The purpose of this paper is to analyse customer experience (CX) in the fintech sector. Fintech is a dynamic and innovative field that fully benefits from advances in information and communication technology. The concept of customer experience is multidimensional, analysed from various perspectives, and with distinct valences in different industries. Based on the stimulus-organism-response (S-O-R) approach, we proposed a model in which customer experience in fintech is the result of customer’s evaluation of the stimuli proposed by fintech companies. Using partial least squares equation modelling (PLS-SEM), we tested a series of hypotheses and validated the proposed model. The results showed that perceived value, customer support, assurance, speed and perceived firm innovativeness are positively related to customer experience in fintech. In turn, customer experience is positively associated with loyalty intentions of the customer. Our paper contributes in identifying the dimensions, the determinants and the outcomes of customer experience in fintech, while from a managerial perspective, we demonstrate how fintech companies must integrate customer experience in their business models.

**Keywords:** fintech; customer experience; customer journey; financial technology; customer loyalty



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## 1. Introduction

Fintech represents a set of innovative services, supported by advances in information and communication technology. The fintech sector includes innovative companies that offer financial services based on technology, fintech being the results of merging two concepts: “finance” and “technology” to “financial technology” [1]. Fintech services are to be found in a variety of industries such as: mobile payments, e-commerce, portfolio management, risk management, customized consulting, virtual currencies, systems integration, and others [2]. The financial crisis of 2008 concurred to the growth of fintech industry, as consumers experienced difficulties in accessing traditional financial services [3–5]. Fintech contributes to democratise access to financial services, which is beneficial for financial inclusion in developing markets [6]. Non-bankable categories of people and small companies can access microloans thus improving their experience with financial services [7,8].

Fintech relies on advanced technologies, such as the Internet of Things (IoT), artificial intelligence (AI), blockchain, near field communication (NFC), mobile wallets, and others [9]. It is estimated that these technologies will contribute to the development of fintech services, by facilitating data and information collection, democratised access, prompt delivery of services [10,11]. Based on information and communication technologies, more and more financial transactions will be implemented electronically, without human mediation [12].

The growing impact of the fintech sector depends on technological innovation [13], as well as on combining the innovative processes with the creation and delivery of customized, 24/7 financial services that enhance customer experience [14]. Fintech means not only service innovation, but also innovation of financial business models [15–17]. Fintech companies are more technology-oriented than traditional counterparts; with the help of information technologies, financial services can be offered to customers in a faster and more convenient way and at lower costs [2,18]. Fintech innovations can change customers' attitudes and behaviours towards financial services, with a possible significant impact on the traditional sector [19].

Financial technology is used both by innovative IT companies, that offer new financial services mediated by technology, and by the traditional financial sector, such as banks, insurance companies, broking companies, that are using technology to enhance their services [20]. Financial technology is beneficial to the traditional financial sector, but at the same time, it has a big disruption potential as the new fintech companies are more flexible and agile [21,22]. For the purpose of our paper, we conceptualise fintech as companies that offer financial solutions outside the framework of the traditional financial sector.

Studies on customer behaviour and fintech are still in their infancy. The reasons why customers adopt fintech services are not yet fully clarified [23] nor properly understood and described in the literature. Although the fintech sector is expanding and has a growing customer base, to the best of the authors' knowledge there are no studies that analyse the customer experience in fintech. Therefore, this represents a major research gap, which justifies *to explore the antecedents and outcomes of customer experience in the fintech industry*. The research scope of our paper is threefold: (1) to clarify the concept of customer experience in fintech, (2) to examine how customer experience is influenced by the perception of stimuli originating from fintech companies, and (3) to measure the extent to which customer experience contributes to loyalty intentions. To support our research, we underpin our discourse on the Stimulus-Organism-Response (S-O-R) framework.

By analysing the customer experience in fintech, this paper makes significant contributions to both theory and practice: from a theoretical perspective, we extend the application of the S-O-R approach with new insights from customer experience in the fintech sector and highlight several factors influencing the customer experience, while from a managerial perspective, we formulate a series of actionable recommendations for a more relevant customer experience in fintech.

The paper is structured as follows: in Section 2 we present the review on customer experience and on the S-O-R approach, and explain how the customer experience is formed in the fintech industry. Section 3 deals with the conceptual framework and hypothesis development, while Section 4 describes the research methodology. In Section 5 we present the results of our research, followed by their discussions. The paper ends with conclusions and the theoretical and managerial contributions, as well as the limitations and future research perspectives.

## 2. Theoretical Framework

### 2.1. Customer Experience

The concept of customer experience is facing new valences in the context of the new technologies, including the technologies that sustain fintech development [24]. New mobile technologies and apps will become increasingly present in consumers' lives, influencing the ways consumers search, buy, consume, and share information about products and brands [25]. Fintech companies (fintechs) create new value to consumers by focusing on technology-driven customer experience [26]. Academia is turning its attention to the factors that shape the customer experience along the digital customer journey [24,27–30].

From a historical perspective, customer experience has a great relevance to industry and academia, as it relates to the shortcomings of purchasing behaviour, being based on consumers' cognition processes [31]. In the consumption process, the customer is not only motivated to maximize utility and obtain information as relevant as possible, but also to

enhance her/his experiences and buy those products that are best suited to her/his desires, feelings and needs [32].

Customer experience is a psychological construct, which incorporates a subjective response, following the customer's interaction with a company, its brands, services and/or products [33]. Customer experience designates a cognitive and affective state that results from the generation of meanings, in a cultural context [34]. From a managerial perspective, customer experience can be enhanced by enriching and very attractively presenting a product or a brand [35]. The producers try to improve the customers' buying process and to increase the value perceived by customers. Although companies cannot control customer experience, they can influence it to a certain extent, with the help of stimuli [36,37]. Companies have understood that by injecting meanings into their products and services, demand will be constantly stimulated, as the customer experience is enhanced [38].

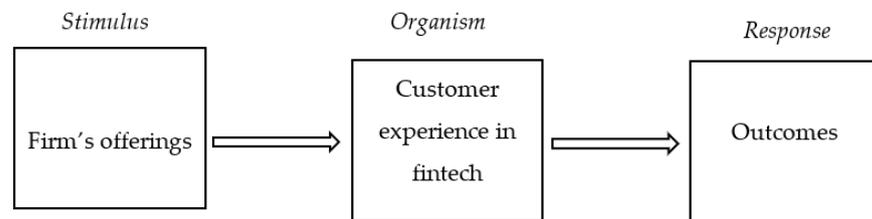
From an individual perspective, customer experience represents a psychological, subjective, and multidimensional response that ranges from an ordinary experience to an extraordinary one [39]. Customer experience is a multidimensional construct based on a cognitive, emotional, behavioural, sensory and social responses of the customer to a company's offers along the customer's journey [40]. Customer experience is a set of cognitive, emotional, social, physical, and sensory responses of the customer following the interaction with an organization, its products, and brands [40–43]. Cognitive experience illustrates how customers think, emotional experience reflects how they feel, social experience includes interaction with other people, physical experience captures interaction with tangible products or touchpoints, sensory experience includes customer responses perceived through the senses [44]. More recent studies have identified three key elements of the customer experience: touchpoints, context, and qualities, each in turn having a set of components [45]. It is important for any company to thoroughly evaluate the points of contact with the customer so that all aspects of the offerings can be carefully considered.

Customer experience is a dynamic concept that varies not only according to companies' offerings, but also depends on the evolution of the environment, the changes in the consumption practices and the dynamics of touchpoints between business and consumer [42,46,47]. Developments, such as digitalisation, e-commerce, mobile applications marketing, and social media marketing influence the dynamics of the customer experience [48]. In the fintech and online environment, the digital and social realms combine to offer a personalized customer experience [49]. Companies navigate to uniform the customer experience across various realms, by improving connectivity and integration.

## 2.2. The S-O-R Approach

The S-O-R model [50] is used to measure the customer experience in different contexts [34,51,52]. According to the S-O-R framework, an external stimulus causes an internal reaction of the individual, which determines a certain response [53]. Customer experience in fintech is influenced by the offers of fintech companies, which leads to certain outcomes (Figure 1). The "stimulus" component refers to the influence that arouses the individual. Fintech companies offer financial services based on technology: they design and configure their services and implement marketing related stimuli to surprise and gain the attention of customers. Fintech companies communicate the features of their products through various channels such as mass advertising and personalized advertising [54]. The "organism" refers to the customers' affective and cognitive conditions, consisting of the internal processes triggered by the stimuli [55]. These processes generate the customer experience within the "organism". It is formed based on the customer's evaluation of the stimuli of different companies, brands and/or products [33]. Customer experience is a subjective act, being the result of a specific context for each individual, and being influenced by socio-cultural elements, customer training, expectations and skills in using fintech applications. The "response" is the result of customer experience with fintech companies. The relevant customer experience's outcomes can be positive such as: repurchase intention, customer loyalty, positive word-of-mouth, customer trust [33,56], but there can also be undesirable

consequences, due to a less relevant experience, such as giving up fintech services, loss of confidence, negative word-of-mouth. In this paper, we investigate loyalty intentions as an outcome of customer experience. Previous studies showed that customer experience is positively associated with customer loyalty [40,57].



**Figure 1.** Determinants and consequences of customer experience in fintech. Source: Adapted from Becker and Jaakkola, 2020, p.638.

We can link the S-O-R theory with the customer journey concept. Customer journey defines the customer interactions with the company in the prepurchase, purchase and post purchases stages [40,58]. In the prepurchase stage, customers find out about the company, get in contact with proposed firm “stimuli”. The interaction between the customer and the stimuli makes the “organism” to produce the customer experience along the customer journey. Starting with the purchase stage, “responses” build up as a result of customer experience: acquisition, word-of-mouth, and loyalty intentions.

### 2.3. Customer Experience in Fintech

Press reports of financial and public institutions include customer experience among the success factors that explain the recent fintech sector development [13,59]. However, the academic literature is scarce on this topic. Customer experience in fintech is mentioned only tangentially in a few studies that we will discuss next. According to a study of digital banking in the UK, customer experience has a positive relationship with customer satisfaction, while customer experience has a positive impact on customer loyalty [60]. The fintech sector comes with newer technologies to enhance customer experience that make the traditional model of the financial-banking sector obsolete, based on the proximity to customers [61].

Robo-advisors are digital advisory solutions that provide automated investments strategies for customers [62,63]. Robo-advisors are used to enhance customer experience for those customers who have little investments knowledge and relatively small savings [64]. Fintech services enable customer experience by offering highly personalized services for which traditional banks are yet to design a convincing offer [65]. For example, insurance companies known as Insurtech might offer a car insurance depending on mileage and not on a predefined period. Fintech innovations contribute to financial markets efficiency and deliver an improved customer experience [23]. Mobile payments solutions such as M-Pesa understand and incorporate the customer experience in their services, as a way to adapt their offer to local context [66]. Fintech companies enhance customer experience with new products, new services, and new functionality such as: blockchain-based markets, cryptocurrencies, global remittances, crowdfunding, online-brokerage, cross-border payments, and open banking [14]. Fintechs also supplement customer experience with improvements in existing functionality such as: faster payment settlement, smart contracts in trade services and lending, cross-border custody services, higher functionality payment cards [14]. Fintechs offering digital wallets contribute to a seamless customer experience by simplifying the procedures and facilitating the online commerce [12].

Fintechs usually implement their solutions around customer needs and leverage on emerging technologies, to produce a comprehensive and enhanced customer experience, by gathering different services into one platform [67]. Fintechs are customer-oriented and they are able to offer simple, easy to use, convenient financial services [68]. Fintech companies

enrich customer experience by offering access to automated and streamlined processes [69]. Biometrics, which refers to the use of physical characteristics for digital identification, has the potential to augment customer experience. Instead of having to remember different passwords or authentication codes, individuals might access a financial service using a facial scan [70]. At present, customer-centricity is part of the effort of all players, including traditional financial sector companies, the fintech sector and the regulation bodies [71].

We conceptualise customer experience in fintech based on the three dimensions that are applicable to this sector: cognitive, affective and social experience. Cognitive or informative experience captures the fintechs ability to convey new, useful information to the customer, to offer a new perspective [72]. The affective experience is the emotional response of the customer following the interaction with a fintech company. The feelings involved can range from well-being to optimism, enthusiasm, pleasure, surprise, calm, boredom and more [33]. Social experience is formed in the context of interactions with other people and consists in sharing information and feelings, perceiving a sense of belonging to a community [73].

### 3. Conceptual Model and Hypotheses Development

We define customer experience in fintech as *a set of relevant cognitive, affective and social responses, resulting from the customer–company interaction*. In our view, customer experience is not low or high, nor ordinary or extraordinary, nor negative or positive, nor weak or intense or, but it is *a relevant experience*, both for the customer and the company. The following question arise: what is the significance of a customer mark on a Likert scale when asked to evaluate the dimensions of customer experience? Can we judge the highest mark as a positive experience? Or, perhaps the lowest mark as an unpleasant experience? In the terms of this paper, we propose the concept of relevant customer experience. The higher the respondent mark, the more relevant the experience was for her or him. The concept of relevant customer experience is circumscribed to the concepts of high, intense, extraordinary, powerful, consistent, adequate experience, and others. Relevant customer experience is the one remembered by a customer and the one that had a positive outcome. The customer internalizes and gives a meaning to that experience. The relevant experience has four characteristics: it has an impact, it is memorable, it has a meaning and it triggers a response. For companies, relevant customer experience is actionable, because of the responses from the customer side. Taking into account the above considerations, a higher score from a customer evaluation signals that the relevant experiences are valuable compared to other experiences, and so companies should look for these experiences and should try to replicate them.

For a relevant customer experience in fintech, alongside the service performance, the aspects related to the system and those related to the delivery process also matter [71]. A fintech offer is evaluated by customers through the perceived benefits. These benefits influence the customer experience. We aim to analyse the following determinants of the customer experience in fintech: ease of use, perceived value, customer support, assurance, speed, and perceived firm innovativeness.

Ease of use rates how simple and smooth fintech apps are to operate. Ease of use contributes to the perceived control which, in turn, positively influences the affective dimension of the customer experience [33]. When accessing a fintech service, customers do not want to waste time learning to use the service or waiting for the completion of the service. Ease of use and perceived control are important elements in the financial environment of customers [74], being of greater importance for people who are low in technological readiness [75]. Less tech-savvy customers will have a low motivation to engage with fintech unless the perceived ease of use will not lead to manageable levels of mastering the fintech app. For them, learning or adopting a new technology is a matter of stress, therefore the experience with the new technology might not be so positive, at least for the initial interactions. Even if, for tech-savvy and tech-dependent customers, such as Millennials or Generation Z, ease of use is not a matter of concern [76,77], still it

facilitates the formation of relevant customer experience. Ease of use also contributes to the loyalty intentions of the customer [78,79]. Ease of use helps reduce the anticipated stress of adopting a fintech service [80,81]. Fintech companies favour ease of use through a multi-stage mechanism of conscientization, capacitation, incentivization, enrichment and cultivation [82]. Hence, we postulate that:

**Hypothesis 1 (H1).** *Ease of use is positively associated with customer experience.*

Perceived value can be understood by linking together the quality and price of a service [83]. For fintech customers, costs can relate to time and money. The perceived value quantifies the benefit of the customer expressed in monetary terms [84]. The higher the perceived value, the more relevant the customer experience [60]. Financial savings are among the most quoted benefits of companies in the fintech sector [14]. Fintech companies are able to offer services at low prices due to an optimal cost structure, based on innovation and technological progress [85]. The perceived value is an important determinant of behavioural intentions to use banking services, including digital financial ones [86]. M-banking ubiquity and novelty seeking contribute to the perceived value, which is a prerequisite of the intention to continue to rely on mobile banking [87]. Ubiquity is important for fintech because it enables customers to perform financial operations anywhere and anytime. Fintechs offer non-stop financial e-services, which saves customers' valuable time. Tech-skilled customers will embrace new technologies, provided a higher perceived value [88]. Therefore, we hypothesize that:

**Hypothesis 2 (H2).** *Perceived value is positively associated with customer experience.*

Through customer support, organisations help the customer when she or he has problems [89], being also responsible for relevant customer experience. The customer needs to feel reassured by the support of the fintechs in the event of a potential problem, such as a possible financial loss. This requires prompt intervention to reassure the safety of the customers' investments. Other aspects of concern regard privacy issues and monetary considerations. Fintechs must find suitable ways to overcome negative consequences and to gain customers' trust and loyalty by developing a relevant experience. Fintechs are challenged to perform with agility in designing the most innovative technology-intensive services, while maintaining strong focus on the customer journey via the continuous dialog with their customers [90,91]. The success of fintechs is also due to superior and personalized customer service as opposed to the traditional financial sector [92]. Therefore, we hypothesize:

**Hypothesis 3 (H3).** *Customer support is positively associated with customer experience.*

Assurance refers to protection of the customer personal and financial data when dealing with fintechs [93]. Customers need to know that operations through fintechs are safe for them, and that personal data are protected, especially for e-financial transactions. Safety and trust contribute to the perception of a relevant customer experience [94]. Fintechs rely on technologies to mitigate customer's perceived risks, theft of information, data violation and/or their fraudulent use [95,96]. In order to prevent such security leaks, fintechs implement multiple security checks: electronic keys, encryption and biometric identification, service, platform, network, and device security [9]. The availability of privacy and security policies, along with a good reputation should not be neglected [97,98]. Where possible, fintechs might offer credential from a third party, regulatory or certification body. These considerations point towards:

**Hypothesis 4 (H4).** *Assurance is positively associated with customer experience.*

Speed designates the performance of the fintech service in a timely manner [86]. Prompt delivery of the service is a key element of customer satisfaction. New Internet-based technologies are increasing the speed of service delivery [2,14]. Fintechs offer prompt and safe services [12,99]. Time is an important asset, especially because fintech services are used both by individuals and companies to gain efficiency and productivity. Customers engage with fintech companies to avoid travel to brick-and-mortar locations, to perform e-services and to benefit from the speed and ease of use associated with new technologies [81,85]. Perceived transaction speed influences the perceived effort to engage with fintechs, while the perceived transaction speed positively influences the behavioural intention to continue the relations with fintechs [100]. Based on the foregoing arguments, we assume that:

**Hypothesis 5 (H5).** *Speed is positively associated with customer experience.*

Perceived firm innovativeness encapsulates the attitude of customers regarding the company's ability to deliver new products and experiences [101]. Innovation is often considered a key element of fintech [19,102]. A firm perceived by customers as innovative enjoys better ratings of its products, benefits from greater consumer engagement, and can lead to consumer loyalty [103]. The development of innovative products stimulates customer experience. Innovation leads to cognitive and affective responses from consumers [104]. An innovative company is perceived as having technological leadership and, at the same time, can generate enthusiasm and optimism among customers. Market impact, expressed by products and services that incorporate better solutions to consumer problems, is a potential source of perceived innovation [101,105]. Fintech companies are recognized for their innovation capabilities, through which technology is used to develop personalized services, contributing to customer experience [70]. In practice, fintech innovation can be noticed at four levels, with an impact on enhancing customer experience: product innovations, process innovations, organizational innovations, and business model innovations [2]. Therefore, we argue that:

**Hypothesis 6 (H6).** *Perceived firm innovativeness is positively associated with customer experience.*

One of the most sought-after outcomes of any company–customer interaction is the customer loyalty. In search of customer loyalty, companies try to figure out the best ingredients that will bring customers back. As customer experience has a positive impact on loyalty, its outcomes present several benefits for the company such as: trust, customer loyalty, increased commitment, a positive word-of-mouth [39,40,72]. The perception of a relevant customer experience could lead to a greater commitment to the company, which is reflected in customer loyalty [43,106]. Studies on customers experience with online retail applications have indicated a positive influence of cognitive and affective experience on customer loyalty [57,107]. Hence, we postulate that:

**Hypothesis 7 (H7).** *Customer experience is positively associated with loyalty intentions.*

The proposed conceptual model is depicted in Figure 2.

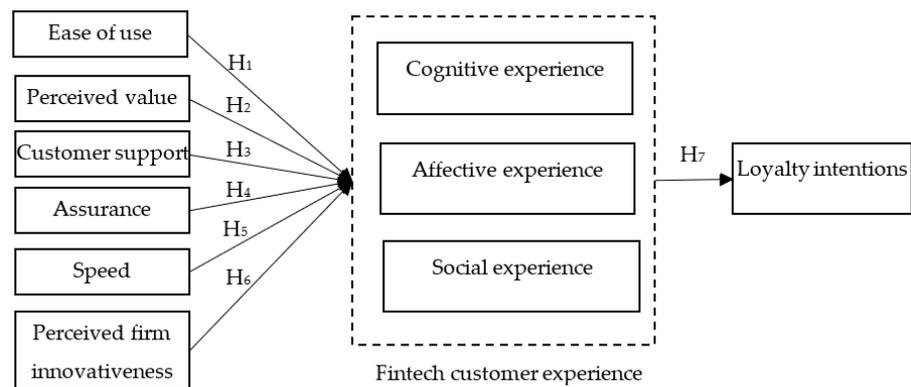


Figure 2. The research model.

#### 4. Research Methodology

##### 4.1. Sampling and Data Collection

All generations of consumers enjoy the benefits associated with developments in the information technology and communication, but these advances are integrated differently in consumer’s lifestyles. The likelihood of adopting fintech companies is influenced by the values and attitudes of each generation, with regard to financial well-being and technology adoption. Two generations account for the most active population of the planet: Generation Z and Generation Y/Millennials [108].

Generation Z are flexible, connected and tech-dependent, sustainability-oriented and tolerant, engaging to brands that connect with them and enhance their experiences and feelings [76,109]. Their engagement with technology means they are open to fintech and they trust online apps. Both Generation Z and Millennials consider that fintech are cheaper than banks [110]. Young generations are expected to open their first account and do transactions with financial apps instead of traditional banks [111].

Millennials, as one of the largest generations, they too are used to technology [112,113]. Millennials put a great emphasis on customer experience and are digital savvy. They trust the traditional financial sector players, but they are likely to adopt fintech companies, once stability issues were solved [67,114]. Millennials are skilled in technology and they can be attracted by lower fees and commissions, which lead to fintech adoption [115].

To analyse the customer experience in the fintech sector, we conducted a study in the autumn of 2020 among young Romanian people, from Generation Z and Millennials, who use Revolut services. Revolut is one of the most dynamic companies in the fintech sector, being valued at over 5.5 billion euros [116]. Revolut services are diversified and include: bank account services, investment services, payment services. Revolut is very popular in Romania with over one million users [117].

An invitation email was sent to more than 3000 students and alumni of a representative Southern Romanian university inquiring to participate in a study concerning fintech, under the prerequisite of having accessed at least one Revolut service in the last twelve months. 281 respondents accepted the invitation, 263 answers were received, but only 247 questionnaires could be used, as they had no missing data. Respondents were categorized according to their birth year into one of the two generations, according to literature recommendations [118,119]: Generation Z (1995–onwards) and Millennials (1980–1994). The sample structure is presented in Table 1.

**Table 1.** Sample structure.

Variable	Specification	N	%
Gender	Female	138	55.87%
	Male	109	44.13%
Generation	Generation Z	135	54.66%
	Generation Y/Millennials	112	45.34%
Highest degree of education	High school	77	31.17%
	Bachelor degree	81	32.80%
	Master degree	89	36.03%

4.2. Measures

To measure the constructs, we relied on the literature and we adapted the scales to our research scope, as shown in Table 2. Respondents had to assess their agreement/disagreement on a five-point Likert scale. The questionnaire was initially created in English, then translated into Romanian, and then retranslated into English following the retroversion approach [120], which ensures the identity of the two versions. To assess convergent validity, we performed an exploratory factor analysis. The loadings for the items measuring the same construct were above 0.7 [121] (Table 2).

**Table 2.** Constructs, items, coding and factor loadings.

Construct/ Coding	Items and Source	Factor Loadings
<b>Ease of use</b> <i>Adapted from Rose et al. (2012); Gefen (2003)</i>		
EU1	The use of [Firm] is user-friendly.	0.854
EU2	[Firm] is simple to use.	0.815
EU3	The use of [Firm] is intuitive.	0.844
<b>Perceived value</b> <i>Adapted from Fornell et al. (1996); Agarwal and Teas (2001)</i>		
PV1	I save money using [Firm].	0.791
PV2	For the given price, I rate the [Firm] offer as good.	0.825
PV3	I consider [Firm] to be a good buy.	0.860
<b>Customer support</b> <i>Adapted from Parasuraman et al. (2005)</i>		
CS1	The company promptly responds to requests.	0.858
CS2	The company solves the problems right the first time.	0.840
CS3	The company has a proactive approach.	0.811
<b>Assurance</b> <i>Adapted from Swaid and Wigand (2009)</i>		
A1	[Firm] is a reliable company.	0.843
A2	Financial operations with [Firm] are safe.	0.860
A3	Data sharing with [Firm] is safe.	0.893
<b>Speed</b> <i>Adapted from Garg et al. (2014)</i>		
S1	[Firm] services are fast.	0.827
S2	[Firm] services can be accessed at any time.	0.705
S3	I save time using [Firm].	0.849

**Table 2.** *Cont.*

Construct/ Coding	Items and Source	Factor Loadings
<b>Perceived firm innovativeness</b> <i>Adapted from Kunz et al. (2011)</i>		
PFI1	[Firm] is a dynamic company.	0.832
PFI2	[Firm] is an innovative company.	0.876
PFI3	[Firm] is a creative company.	0.856
<b>Cognitive experience</b> <i>Adapted from Bleier et al. (2019)</i>		
CCX1	The information obtained from [Firm] is useful.	0.804
CCX 2	I learned a lot from using [Firm].	0.808
CCX 3	The information obtained from [Firm] brings interesting ideas to mind.	0.856
<b>Affective experience</b> <i>Adapted from Rose et al. (2012)</i>		
ACX1	Using [Firm] makes me feel good.	0.869
ACX 2	Using [Firm] makes me feel optimistic.	0.878
ACX 3	Using [Firm] makes me feel enthusiastic.	0.835
<b>Social experience</b> <i>Adapted from Verleye (2015)</i>		
SCX1	I ask the opinions of other [Firm] customers.	0.675
SCX 2	I advise other people about [Firm].	0.883
SCX 3	I consider myself a member of the community of [Firm] users.	0.873
<b>Loyalty intentions</b> <i>Adapted from Parasuraman et al. (2005)</i>		
LI1	I will say positive things about [Firm] to other people.	0.908
LI2	I will recommend [Firm] to other people.	0.902
LI3	I will continue to use [Firm].	0.842

[Firm] denotes Revolut.

To validate the measurement model, we first established the construct reliability by calculating the Cronbach’s  $\alpha$  and the composite reliability, both having values above the threshold of 0.7 for each construct (Table 3) [122,123]. Using confirmatory factor analysis, we obtained for each construct an average variance extracted (AVE) higher than the recommended threshold of 0.5 (Table 3) [124].

**Table 3.** The measurement model results.

Construct	Cronbach’s Alpha	CR	AVE
Ease of use (EU)	0.787	0.876	0.702
Perceived value (PV)	0.767	0.865	0.682
Customer support (CS)	0.786	0.875	0.700
Assurance (A)	0.832	0.899	0.749
Speed (S)	0.711	0.838	0.634
Perceived firm innovativeness (PFI)	0.816	0.890	0.731
Cognitive experience (CCX)	0.762	0.863	0.677
Affective experience (ACX)	0.825	0.895	0.741
Social experience (SCX)	0.743	0.855	0.665
Loyalty intentions (LI)	0.860	0.915	0.782

Discriminant validity (Table 4), was confirmed using the classical Fornell–Larcker criterion [125], and also the newest, more fastidious HTMT criterion [126]. Finally, since customer experience was designed as a second order formative construct, we calculated the weights of the three components that make up this construct. The affective experience has a weight of 0.409, the cognitive experience has a weight of 0.360 and the social experience has a weight of 0.346. These weights, at about the same in level and statistically significant, validate the measurement and multidimensional conceptualization of customer experience. In addition, to validate the formative construct of customer experience in fintech, we confirmed that its three components are not affected by multicollinearity ( $VIF < 3$ ) [127].

**Table 4.** Discriminant validity.

	EU	PV	CS	A	S	PFI	CCX	ACX	SCX	LI
EU	0.838									
PV	0.657	0.826								
CS	0.579	0.632	0.836							
A	0.609	0.557	0.642	0.865						
S	0.589	0.515	0.656	0.659	0.796					
PFI	0.613	0.606	0.559	0.568	0.652	0.855				
CCX	0.457	0.560	0.565	0.590	0.583	0.574	0.823			
ACX	0.544	0.557	0.574	0.591	0.587	0.530	0.727	0.861		
SCX	0.455	0.532	0.562	0.517	0.523	0.518	0.622	0.728	0.816	
LI	0.576	0.600	0.552	0.657	0.572	0.575	0.608	0.702	0.710	0.884

Note: The values on the diagonal represent the square root of the AVE. The other values represent correlations between constructs; EU = Ease of use; PV = Perceived value; CS = Customer support; A = Assurance; S = Speed; PFI = Perceived firm innovativeness; CCX = Cognitive experience; ACX = Affective experience; SE = Social experience; LI = Loyalty intentions.

### 5. Findings

Table 5 displays the standardized regression coefficients and significance indicators obtained when testing the model by the bootstrap method on 1000 subsamples. The model explains 57.7% of the variance of the variable customer experience in fintech, and the latter explains 57.4% of the variance of loyalty intentions.

**Table 5.** The structural model results.

Effects/Paths	Path Co-efficient ( $\beta$ )	t-Value (Bootstrap)	p-Value	Hypotheses
Ease of use → Customer experience	−0.028	0.341	0.73	H1: Not supported
Perceived value → Customer experience	0.221	2.938	0.003	H2: Supported
Customer support → Customer experience	0.165	2.608	0.009	H3: Supported
Assurance → Customer experience	0.215	2.714	0.007	H4: Supported
Speed → Customer experience	0.189	2.851	0.005	H5: Supported
Perceived firm innovativeness → Customer experience	0.153	2.135	0.033	H6: Supported
Customer experience → Loyalty intentions	0.758	20.109	<0.001	H7: Supported

As Table 5 shows, H1 is not supported ( $\beta = -0.028$ ;  $t = 0.341$ ;  $p = 0.73$ ). In the age of digitally skilled customers, ease of use is unrelated to customer experience. The perceived value positively relates to customer experience ( $\beta = 0.221$ ;  $t = 2.938$ ;  $p = 0.003$ ), therefore H2 is validated. Customers believe that by using fintech services they can make financial savings, as the level of commissions and related fees are significantly lower than in the case of traditional financial services. Without high fixed costs, fintech companies can come with competitive prices. Customer support has a positive influence on customer experience,

so H3 is accepted ( $\beta = 0.165$ ;  $t = 2.608$ ;  $p = 0.009$ ). Technology-based services like fintech can pose problems for less digitally skilled customers. A new service delivery process takes time for customers to get used to. Customer support and the fact that the company is always available, contributes to the formation of a relevant customer experience.

A safe interaction with the fintech company is positively linked with the customer experience, therefore H4 is validated ( $\beta = 0.215$ ;  $t = 2.714$ ;  $p = 0.007$ ). The customer wants her or his personal and financial data to be safe. The link between speed and customer experience is also positive, so H5 is also accepted ( $\beta = 0.189$ ;  $t = 2.851$ ;  $p = 0.005$ ). In the age of digitalisation and online communication, in which customer's time is limited, the promptness of fintech services is a key element in enhancing the customer experience. A perceived firm innovativeness positively contributes to customer experience, so H6 can be accepted ( $\beta = 0.153$ ;  $t = 2.135$ ;  $p = 0.033$ ). For a fintech company, this once again emphasizes the fact that innovation is essential to ensure the customer experience. Customer experience is positively associated with loyalty intentions, so H7 is validated ( $\beta = 0.758$ ;  $t = 20.109$ ;  $p < 0.001$ ). The more relevant the customer experience, the more inclined the customer is to continue the relationship with the company.

## 6. Discussions and Implications

The perceived value influences the persistence of customer experience on the long-term [60] because savings made are visible in the customer's pocket, which contributes significantly to loyalty [87]. The perceived value of fintech services impacts on the relevant customer experience and satisfaction [128]. The perceived value can be increased by offering substantial value for the same price or by maintaining the value offered to customers and dropping prices [88].

The customer appreciates the company when it has a proactive approach, when it solves problems from the first time, and when it responds promptly to the customer's requests. Fintech companies have the resources to use technology for prompt and adequate customer support, enabling relevant customer experience [129]. Customer support is provided across multiple touchpoints and devices, including remote expert and digital assistants, to offer customers personalisation and interactivity [91,129]. Through customer support, the fintech company can initiate communication with the customer, which can strengthen the fintech relationship with the customer, leading to relevant customer experience.

Assurance contributes to the customer experience by consolidating a climate of reassurance and security, with multi-step checking procedures. Technological innovations must also come with improved safety standards. Fintech companies usually implement multi-step control systems, which translates into secure transactions and data protection [96]. The way in which assurance contributes to the customer experience can be explained as follows: given the reports of online fraud, the security of fintech transactions is reflected in a relevant experience [130]. The customer experience is relevant when the customer associates the fintech company with a high level of security and protection, control mechanisms and procedures, multiple stages of validation and confirmation [9].

Fintechs offer fast services, which can be accessed online, thus saving time for the customer [131,132]. Fintech services benefit from fast protocols to validate financial operations, by using sophisticated algorithms [85]. Customers enjoy the possibility to benefit from financial services in a short time, without additional costs [2,14]. Speed materializes in freeing up customer time, which is an especially appreciated benefit in the today's economy. Time savings, as well as financial savings, contribute to a memorable and meaningful customer experience.

Customer perception of a company as innovative is the result of benefiting from the services provided by it. Innovation is an inherent feature of companies in the fintech sector, as they provide financial services in a more convenient way for the customer. The perception of a company as innovative contributes to a relevant customer experience. Our findings complement the results of other studies. Fintech innovations contribute to

supplement and enhance customer experience [14]. To ensure customer experience to all generations, it is important to blend old technology with new technology and innovation [24]. Fintech innovation might contribute in a higher degree to the customer experience of new customers, for whom innovation is making financial services more affordable [133].

All the dimensions of the relevant customer experience contribute to loyalty intentions, namely the cognitive, affective and social experience. The benefits of fintech services must be accompanied by a relevant experience, so that the customer continues to access the company's services. The positive relationship between customer experience and loyalty intentions is well documented in previous studies [134–136]. Our findings consolidate these results and further emphasize the significant association of customer experience with loyalty intentions.

## 7. Conclusions

### 7.1. Theoretical Contributions

Our paper makes three theoretical contributions, augmenting the S-O-R model. First, we apply the S-O-R framework to a new sector, the fintech. We enhance our knowledge of customer experience in the fintech sector, by taking into account the firm's stimuli that positively associate with customer experience. Customer experience is approached in a holistic and complex manner, as opposed to *flow* or *presence* [137–139]. The customer experience in the fintech sector is a complex and multidimensional concept, which includes cognitive experience, affective experience and social experience.

Second, we bring insight into the understanding of the antecedents of customer experience in fintech. Our study shows that customer experience is positively influenced by a number of perceived stimuli originating from the offer of fintech companies. This shows that companies can propose incentives contributing to customer experience. Customer experience models should consider the perceived value, customer support, assurance, speed and perceived firm innovativeness.

A third contribution relates to the outcomes of customer experience. The results of our study show that customer experience drives customer loyalty, hence the need for carefully monitoring the customer experience. This shows the relevance of considering customer experience in the analysis of customer loyalty models. We found the S-O-R approach suitable to predict loyalty intentions in the fintech sector.

### 7.2. Managerial Implications

The development of the fintech sector can only be achieved by granting customer experience a privileged status in fintech companies' business model. A number of actionable measures can be implemented in this regard.

Managers in the fintech sector must continue to use technological advances to lower costs and therefore to offer products and services at low prices. Customers' expectations regarding low prices must be met. The increase of company revenues can be done through a system of price personalisation. Regarding customer support, fintech companies should provide the customer with communication channels to the company and should have a proactive approach in solving any potential problems. They will also seek to surprise the customer by promptly communicating improvements to their services, which can generate benefits to the customer. Companies in the fintech sector must continue to invest in the security of services, through which financial data and operations are protected, and to swiftly solve any security crisis to avoid a spike in consumers' risk perception. The speed of fintech services contributes to customer experience. Fintech companies are called to deliver qualitative financial services, which are to be executed with maximum efficiency. Increasing the speed of service delivery should not lead to a sacrifice of security requirements. By improving the speed of services, fintech companies can increase the customer's free time, which can be spent for other purposes. Fintech managers must subordinate innovation to the imperatives of functionality and utility required by the customer. If translated into prompt and secure financial services, innovation can contribute to customer experience.

Although based on essential and consistent technical support, innovation must consider people's needs and should be translated into benefits for them.

Fintech companies need to consider customer experience as a decisive factor that contributes to loyalty intentions. Fintech managers must include customer experience among the factors that determine customer loyalty. This is of an increasing importance as fintech companies come up with innovative services that compete with traditional financial services. In this regard, managers need to test different configurations of their service delivery and continuously measure the customer experience. Traditional measurement methods such as questionnaires must be complemented by dynamic measurements that capture the customer experience at the time of consumption [42].

### 7.3. Limitations and Future Research

As limitations of the research, it is worth mentioning that the research was conducted by appealing to recall, while perhaps customer experience evaluation in situ or immediately after the consumption process would have been more appropriate [40]. In addition, our study focused on customer experience in fintech at the general level of a company's offer, while sectorial studies would have provided more insight (e.g., customer experience related to mobile technology payments, electronic money transfer, electronic wallets, and others). Another limitation is that the present study is conducted in the case of a single company, Revolut, in a developing country, Romania. Fintech adoption and usage might differ in the case of a developing country, where customers are motivated by lower costs and inaccessible traditional financial services, and in the case of a developed country, where customers enjoy superior online experience, novelty and innovativeness [66].

Potential future research directions might expand the analysis of customer experience formation in the fintech sector, by incorporating other variables, possible determinants of the customer experience. Other studies might also focus on the outcomes of customer experience in fintech to investigate possible relationships with variables such as trust, commitment, and positive word-of-mouth. The present study can be replicated or extended with other fintech companies in different cultural settings or economic development levels, as the perspective of customers is contextual and hence customer experience can unfold distinctive valences. A larger sample size and a sample structure stretched across multiple customers groups might be beneficial to better understand the implications of customer experience in the fintech sector. Further studies might take into considerations other potential interesting topics such as the downsides of customer experience in fintech [24], including privacy issues, difficulty to use apps in case of less digital-skilled people, and addiction to these technologies.

With this paper we brought a modest contribution to the understanding of the concept of customer experience in the fintech sector. We showed that customer experience is an explanatory factor of loyalty intentions in the fintech sector. We captured some of the determinants of customer experience and integrated customer experience into a model that demonstrates its contribution to loyalty intentions. In this way, we focused our attention on relevant customer experiences, which can be activated as a result of stimuli proposed by companies. We showed that relevant customer experiences must be tracked, monitored and replicated by companies in order to retain customers.

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