THE EFFECT OF CUSTOMERS' ATTITUDES TOWARDS CHATBOTS ON THEIR EXPERIENCE AND BEHAVIORAL INTENTION IN TURKEY

Niyazi Gümüş* and Özgür Çark

Bolu Abant Izzet Baysal University, Bolu Vocational School Department of Management and Organization
Bolu, Turkey

ABSTRACT

Chatbots are a recent technology that brands and companies adopt to provide 24/7 customer service. However, some customers have several concerns regarding technology, and therefore, prefer talking to humans rather than chatbots. Brands must improve their chatbots based on customer experience because customers satisfied with chatbots are more likely to use them to contact brands/companies. Therefore, this article investigated the effect of perceived ease of use, usefulness, enjoyment, and risk factors on customer experience and behavioral intention regarding chatbots. The study also looked into the impact of customer experience on behavioral intention. The sample consisted of 211 chatbot users of Turkish recruited using non-probability convenience sampling. Data were analyzed using the Statistical Package for Social Sciences (SPSS) and SmartPLS3. The results showed that perceived ease of use and usefulness affected behavioral intention, but perceived risk had no impact on customer experience and behavioral intention regarding chatbots. Perceived enjoyment affected only customer experience. Lastly, customer experience affected behavioral intention.

KEYWORDS

CLASSIFICATION

*Corresponding author, niyazigumus@ibu.edu.tr; +903742701452/2144;
Bolu Abant Izzet Baysal University, Bolu Vocational School Department of Management and Organization, 14300 Bolu, Turkey

INTRODUCTION

Advances in technology have resulted in revolutionary applications (apps) that change the way business is conducted. For example, Artificial Intelligence (AI), as it is today and will be in the future, has become a critical component of digital transformation for businesses. Today, customers spend more time on digital platforms, pushing brands/companies towards incorporating digital services into their operations.

Marketing is one of the areas most affected by advances in technology. We can see the repercussions of technological developments in customer behavior, brand management, and customer service. For example, brands/companies, especially in developed countries, widely use chatbots for 24/7 customer service in online shopping, finance, banking, health services, gaming, and catering. Chatbots are AI digital assistants that mimic human speech [1]. Most customers are accustomed to using chatbots due to their advantages. Chatbot technology can be traced back to the question "Can machines think?" first posed by Turing in 1950 [2]. Chatbots have made significant progress in the following decades and turned into a popular technology as we know it today. Customers can use them to check their bank accounts, make online transactions, report power shortages, describe locations, find information about touristic destinations and fares and public transport timetables, buy tickets and book hotels, communicate with smart home devices, and order out [3]. It may seem complicated or futuristic to brands/companies to use chatbots to sell products/services or provide customer service. Still, it should be kept in mind that chatbots are a promising technology for improving sales, marketing, customer service, and customer experience.

It is thought that this research, which was conducted to determine the effect of chatbots usage levels by consumers and their attitudes towards chatbots on customer experience and behavioral intention, will contribute to the literature as well as brands and companies that want to use or develop chatbots.

THE CONCEPT OF CHATBOT AND ITS TRANSFORMATION

Chatbots, or chatterbots, are software programs designed to simulate a smart conversation with one or more users through text chats and voice commands. Chatbots can make short conversations and answer users' questions according to the context and the incoming message. Chatbots are one of many examples of AI [4]. They are defined as computer programs that simulate human speech through text-based dialogue systems [5]. In other words, they are virtual speech service robots that facilitate human-computer interaction [6]. Chatbots, also known as conversational bots or artificial conversational entities (ACE), are AI software apps that speak in natural languages through voices or texts. Brands/companies prefer to use chatbot technology more and more because it helps them provide 7/24 customer service as a labor-cost, and time-effective alternative to the conventional way of doing business [7].

Digitalization and the rising popularity of the Internet and mobile technology have drastically changed the way people interact with each other and with companies. With the Internet, digital platforms and mobile devices have become technologically intertwined, sparking a boom in the e-commerce market [8]. Brands/companies use chatbots because they provide 24/7 service to customers by answering their questions, informing them about products/services, and helping them make purchases. It would not be wrong to think of this guide robot software apps as "artificial assistants." Chatbots have a wide range of uses; they can provide users with detailed information about products/services, manage their schedule, advise on the best route and purchase tickets, book hotels, order groceries, and help them save time and money when shopping online [9, 10]. Since Turing [2], there has been a growing body of research on human-

computer interaction. Siri, Eliza, Alice, Ella, Evi, S-Voice, Jeannie, and CallMom are the first virtual assistants that come to mind. Eliza is the earliest chatbot, which was developed by Joseph Weizenbaum in 1966. Weizenbaum was a therapist interested in inventing a therapist robot that could answer questions [11].

Chatbots are useful programs that help people with daily tasks, such as sending automatic reminders and notifying them about tasks in progress, drawing up texts or emails, answering simple financial questions, and booking everything from flight tickets to hotel rooms [12]. Chatbots mimic written or spoken speech to simulate a conversation with customers. They are promising digital solutions designed to enhance the e-commerce industry. There are various types of chatbots according to different authors. For example, according to Araujo and Casais there are two types of chatbots: keyword-based and machine learning-based. Keyword-based chatbots are somewhat limited as they only respond to predetermined commands. Machine learning-based chatbots, despite errors, can detect the user's language. Purchasing assistants play an essential role in conventional business life because they offer store support, provide information about products/services, and simplify decision-making processes. Chatbots play the same role in the digital world. They serve as shopping assistants in physical and online stores [13].

As stated earlier, chatbots are just one type of speech agent. However, there are different types of chatbots, which react differently to users. In addition, different classifications are made according to different authors. There are four types of chatbots [14].

Flow-based chatbots use conversational flows defined by developers. The user goes through a certain number of questions and options and chooses one of the options offered by the developer. They contain many buttons and keywords, out of which the user can select to take action. They are also called "rule-based chatbots" because they are designed to perform several tasks based on rules laid down by their developers.

Artificial intelligence chatbots: AI efforts to modeling human language have been futile in the last half-century. Scientists have had to tackle the complexity of human language in terms of comprehension and generation. The true challenge for computers is not understanding words but understanding the contexts in which those words are used. However, decades later, the situation has changed with different natural language interactions through speech agents. Today, Instant messaging (IM) is one of the most popular forms of the content management system (CMS). Therefore, chatbots are an essential part of the CMS. AI chatbots mimic human personality, behavior, and dialogue to deliver a unique user experience. In other words, they respond to users within the context of the conversation. AI chatbots allow the user to interact freely and have a real discussion. The user can enter a sentence, and the bot can analyze a number of parameters to understand his/her intention and reaction.

Hybrid chatbots combine the best features of earlier bots (flow-based and AI bots) for a better user experience. Most chatbots are hybrids because Natural Language Processing (NPL) technology is still not advanced enough to understand every sentence. This means that the user cannot always get the answer he/she seeks. Hybrid chatbot users go through a series of questions as in flow-based bots, but they can also ask questions through texting.

As the name implies, **human-powered chatbots** are chatbots backed by a team of humans to allow users to interact using free texting. In other words, human-powered chatbots are monitored by human operators who take over the conversation when the bot fails to meet customer demands. The advantage of these chatbots is that operators can manage them. Therefore, trained and guided bots are likely to interact better and give better responses in the future.

Companies make use of AI apps, such as chatbots, in many areas, especially in sales. According to an article published by the Harvard Business Review, AI technology increases possible

sales figures by 50 % and reduces customer service costs by 40 % to 60 % and customer call time by 60 % to 70 %. Chatbots are also experts in automating customer service. It is estimated that 35 % of chatbot usage will be reserved for customer service by 2024. Research also shows that chatbots with "personality" and "humanity" will be more popular [15].

CHATBOTS AND CUSTOMER SERVICE

Online customer service is defined as any service to meet customer needs and demands, provide goods/services that appeal to them and track them online. Conventional customer service employees interact face to face with customers. On the other hand, online customer service employees respond to emergencies outside the facility. Customers using both online and offline services have recognized that the former is more efficient, accessible, and time and cost-effective than the latter. Therefore, widespread digital service and marketing offer a world of possibilities to brands/companies to meet customer needs and demands [16]. Chatbots are new interfaces that transform the way brands/companies interact with customers [3]. They are the latest AI technological innovation for customer interaction and commercial success [17].

Chatbots are useful for both brands/companies and customers because customers interested in products/services can easily communicate with chatbots to learn more about them [9] Customers appreciate chatbots that inform them about products/services and offer them a unique shopping experience [18, 19].

One of the advantages of chatbots is that brands/companies can use them 24/7 [20]. Using chatbots as customer service in apps like Facebook is quite profitable [7] because it helps the company save costs and provide high-quality offline customer service. Chatbots allow customers to click to contact customer service, receive personalized recommendations, and purchase on messaging apps [7]. Most companies interact one-on-one with their customers on smart devices via chatbots, reducing costs and increasing customer satisfaction [21]. Chatbots improve online customer experience by creating a sense of real human being speaking and serving at the right time [22]. Messenger apps and chatbots are digital services that allow customers to access products/services online anywhere and anytime and help them find what they are looking for and make informed purchase decisions [8]. The other advantages of chatbots for brands/companies are as follows [15]:

- AI systems are more accurate in every sense. They provide more objective information and have more control over customer interactions,
- chatbots promote brand image because they offer 24/7 customer support, giving customers the feeling that they are always being listened to and cared for. Unlike real customer representatives, chatbots can assist a large number of customers and answer multiple questions at the same time. In this way, customers are never put on hold and can get an immediate and accurate response,
- in every chatbot-customer interaction, the user provides information about their preferences, interests, and communication channels. Brands/companies use that information to learn more about new markets and opportunities and increase their sales,
- chatbots are a straightforward way of communication, allowing customers to get answers to their questions or find solutions to their problems quickly and easily. Chatbots also store previous records and requests, which facilitates subsequent interaction,
- customers interacting with chatbots are likely to trust brands/companies using that technology more because they take less risk of errors when seeking solutions to their problems,
- customers using AI-powered apps are less concerned about giving away personal information because they know that such apps are designed to protect their privacy,

- chatbots learn from every interaction with customers and combine new information with prior knowledge to make the interactions more personalized, forging the bond between customers and companies/brands,
- customer service chatbots allow customers to have a more transparent, integrated, and personalized experience, which is critical for brand/company-customer interaction.

Many companies have recognized the advantages of chatbots and started to use them for customer service. For example, the Facebook Messenger app had more than 34 000 chatbots in 2017 [23]. At this rate, the chatbot market size is estimated to reach $ 1,25 billion in 2025 [24].

Chatbots are widely used by brands/companies operating in numerous sectors (online shopping, finance, banking, healthcare, tourism, catering, etc.). Those brands/companies offer high-quality service because chatbots can answer customers' questions and solve their problems quickly, leaving them satisfied [9]. Such brands/companies see chatbots as a great opportunity to take advantage of social networks and stand out among rivals through relational marketing in the digital environment [13]. Many brands/companies use chatbots. For example, IKEA, Lloyds Banking Group, and Royal Bank of Scotland use chatbot assistants as their first point of contact with customers [4]. DBS Bank, based in Singapore, has its own chatbot called DigiBank, a text and voice-based virtual assistant. Customers can manage their currencies, check their transaction history and interest rates, and make payments. The Bank of America, Ally Bank, Capital One, and Barclays Africa also have their own chatbots [25]. Fashion brands/companies (Prada, Burberry, Lois Vuitton, Gucci, Tommy Hilfiger, etc.) also use customer service chatbots [26]. Burger King allows its customers to place orders on the Facebook Messenger chatbot. Expedia has a chatbot that enables customers to choose hotels and book resort rooms quickly. WeChat uses its chatbots to allow subscribers. Alibaba's AliMe customer service chatbot helps customers place orders and automatically provides them with information on products/services on e-commerce platforms [9]. Prominent German brands/companies, such as Lufthansa and Klarmobil, also use customer service chatbots [7].

Most online shopping sites (e-commerce websites) have chatbots because they have a wide range of products with a large and complex database in each of their categories. Those products are spread over many websites and categorized according to their types. Navigating those websites to find relevant and personalized results can be unintuitive, time-consuming, and exhausting. Users visit e-commerce websites to search for specific products or just to do window shopping. Search tools use keyword matching to display multiple results, some of which may be relevant, while others may not. Irrelevant results lead to unpleasant user experiences. A customer who uses vague keywords to describe a product/service is likely to get irrelevant results. Moreover, conventional systems cannot help a user who knows little about the product he/she is looking for. Chatbots try to overcome these problems by offering a more intuitive interaction between e-commerce sites and users. They interact with customers and suggest the right products. The customer enters keywords directly in the message window. The chatbot matches that input with programmed responses and finds the right or relevant products for the customer [4]. All brands/companies should benefit from chatbots because they are user-friendly and convenient.

Customers are pleased to talk to chatbots with human photos and speech. Organizations and designers are recommended to design anthropomorphic chatbots for customers to have better user experiences [7]. Perceived helpfulness and usefulness play a key role in shaping customers' attitudes towards chatbots [27]. Apart from online privacy concerns, perceived usefulness, ease of use, and compatibility positively affect users' attitudes towards chatbots [13].

Bold360 [28] conducted extensive research, including eight countries, 850 companies, and 4 500 participants. According to its results, customers rely primarily on phones (46 %) and email (40 %)

to interact with brands/companies because they are more familiar with that technology and more comfortable using them. Another reason is that most brands/companies still use smartphone and email technology to communicate with their customers. However, chatbots are becoming increasingly popular. The results also show that two out of ten (20 %) customers have used phone and email technology the last time they interacted with brands/companies. More than seven out of ten customers think that brands/companies should adopt the latest technologies to answer their questions or solve their problems quickly. More than five out of ten customers (54 %) and more than seven out of ten company representatives (76 %) believe that AI technology has changed the customer experience for the better [28].

Chatbots help brands/companies keep in touch with their customers and improve user experience and brand trust. The advantages of chatbots and the recent advances in AI and machine learning have made chatbots a viable option for customer services. Brands/companies pay much more attention to chatbot technology, mainly due to the drastic increase in the number of people using the Internet and other online platforms [9]. For example, Gartner [29] estimated that unattended virtual assistants or chatbots would manage 25 % of customer interaction by 2020 and by 2022, two-thirds of all customer experience projects will make use of IT.

Telegram, WhatsApp, and Facebook Messenger are some of the messaging apps that people use, among other things, to talk to friends, interact with brands/companies, make calls, consume content, purchase products/services, and even book restaurants. Marketers use chatbots in those apps to provide customer service and content, place advertisements, and sell products/services [30]. Watson Assistant, Bold360, Rulai, LivePerson, Inbenta, and Ada are considered the best chatbots. Watson Assistant was developed by IBM, one of the leaders in AI technology. It is one of the most advanced chatbots on the market. Having been trained with sectoral content, Watson Assistant can understand the chat or call logs, look for an answer in the database, ask customers to be more specific, direct them to human representatives, and even make training suggestions for more information. Watson Assistant is compatible with websites, messaging channels, customer service tools, and mobile apps [31].

CONCERNS ABOUT CHATBOTS

Despite a number of advantages, chatbots cause some concerns. First, they may deviate from the pre-programmed script and misinterpret customers' questions and give wrong answers. This can cause frustration on the part of customers. Second, security, privacy, and spam management may be an issue for companies participating in mobile marketing via chatbots [8]. Usefulness, ease of use, and risks play an active role in how customers perceive chatbots. Productivity is the primary reason why customers use chatbots [14]. Therefore, users who think it is wiser to use chatbots despite possible risks are likely to continue to use them.

Another concern about chatbots is that customers expect more from assistants who introduce themselves as human beings. Moreover, a customer feels distrust if a chatbot acts like a human but falls short of meeting his/her expectations, which a human would otherwise meet. Therefore, brands/companies should let customers know that they are really talking to a chatbot, not a human being. If a chatbot creates automatically a shopping list based on previous users orders and preferences, does that list belong to the chatbot or the user? Do brands/companies have the right to sell the user information they collect through chatbots to third parties? If so, do customers have the right to know about it [32]?

In other words, chatbots are still in their infancy, and therefore, are not expected to take over jobs in the foreseeable future. Instead, hybrid human-machine chatbot technology is key to customer experience and satisfaction. However, we should be aware and prepared for the fact that chatbots will become an even more integral part of our lives with the advances in AI technology in the coming years.

CUSTOMER EXPERIENCE

Customer experience is defined as the "aggregate and cumulative customer perception created during learning about, acquiring, using, maintaining and disposing of a product or service" [33]. It is also defined as "the aggregate of feelings, perceptions, and attitudes formed during the entire process of decision making and consumption chain involving an integrated series of interaction with people, objects, processes, and environment, leading to cognitive, emotional, sensorial, and behavioral responses" [34]. In light of these definitions, it would not be wrong to define customer experience as (a) a new way of looking at customer-brand relationships, (b) the cumulative interaction of customers with all value chain members and objects provided by an organization, and (c) a means of making a long-lasting impression on customers [35]. Today, the market is very integrated, and therefore, brands/companies should redefine customer experience, loyalty, and relationship that are more complex than ever. A company interested in turning into a brand of choice should go beyond simply selling products and place itself in its customers' everyday lives and offer them an adaptable and useful experience. Advances in technology allow virtual service representatives – or e-service representatives – to improve customers' experiences and meet their expectations through real-time interaction. Chatbots are one of those technological developments. They play a crucial role in customer-brand/company relationships and enhanced customer experience [9]. We need to determine how customers perceive chatbots' ease of use, usefulness, entertainment, and risks in order to maximize their benefits. The central assumption of this study was that "perceived ease of use, usefulness, entertainment, and risks regarding chatbots affect customers' experiences and their intention to use chatbots again."

PERCEIVED USEFULNESS

It would not be wrong to define the concept of "perceived usefulness" as the benefit derived from the use of chatbots. Herrero and Martín [36] define it as "the degree to which an individual considers that using a particular system will improve the performance in a task." An individual who thinks that a system, a device, or an app can help him/her complete a task is more likely to use it again [37]. Perceived usefulness has the most significant impact on customers' attitudes towards chatbots. Therefore, a customer's attitudes towards a chatbot depend on its usefulness perceived by that customer. This shows that the more useful a person perceives a technology, the more likely it is that he/she will accept it [38]. The attitude born out of perceived usefulness also affects the intention to use [39]. Zamri and Idris [40] also state that perceived usefulness is a critical factor that positively affects purchase intention. Therefore, brands/companies that would like their customers to use chatbots should use a convincing tone to win their trust by informing them of the benefits of using chatbots, such as easier and faster processes, service priority, etc. In this context, the following are hypotheses concerning the effect of perceived usefulness on customer experience and behavioral intention:

H_{1a}: Perceived usefulness of chatbots positively affects customer experience.

H_{1b}: Perceived usefulness of chatbots positively affects behavioral intention.

PERCEIVED EASE OF USE

Perceived ease of use refers to the degree to which a person believes that using a particular system would be free from effort [41]. The more effortless using a system is, the more it can improve work performance. Research shows that perceived ease of use affects perceived usefulness and is therefore related to intention directly and indirectly [42]. Perceived ease of use gives rise to users' attitudes towards technological devices, which affect their intention to use those devices [39]. Chatbot developers interested in reaching a large number of customers should find ways to make sure that users consider chatbots easy to use. On the contrary,

perceiving chatbots as hard-to-use may negatively affect customers' experience of using them [35]. Developers should overcome the challenges of low education level and advanced age, which prevent some customers from using chatbots. Those who find chatbots hard to use are likely to share their experience with people they know, which will deprive brands/companies of new customers. Conveying the message that customers of all ages and education levels can easily use chatbots can significantly increase the number of users. Perceived ease of use affects both customer experience and intention to reuse. In this context, the following are hypotheses concerning the effect of perceived ease of use on customer experience and behavioral intention:

H_{2a}: Perceived ease of use of chatbots positively affects customer experience.

H_{2b}: Perceived ease of use of chatbots positively affects behavioral intention.

PERCEIVED ENJOYMENT

Customers may enjoy using a particular system and think that using new technology is fun. Of course, the opposite is also possible. Perceived enjoyment is defined as the extent to which using a system or device is perceived as enjoyable in its own right, apart from any performance consequences [43]. High perceived enjoyment positively affects behavioral intention. In other words, customers who enjoy using a system are more likely to use it again [44]. Therefore, brands/companies should definitely take the factor of "enjoyment" into account when designing chatbots. A person who finds a system unpleasant, cold, and boring is likely to have negative customer experiences and low reuse intention. In this context, the following are hypotheses concerning the effect of enjoyment on customer experience and behavioral intention

H_{3a}: Perceived enjoyment of chatbots positively affects customer experience.

H_{3b}: Perceived enjoyment of chatbots positively affects behavioral intention.

PERCEIVED RISK

The concept of perceived risk is defined as "consumers' perceptions of the uncertainty and adverse consequences of buying a product or service" [45]. Customers face five types of risks: financial, time, psychological, social, and performance [46]. Every purchase involves one or more of those risks. Customers should be aware of those risks and draw up plans and strategies accordingly [47]. Customers may encounter privacy violations when purchasing products or services on chatbots. For example, their personal information (such as phone number, name, or address) may be misused or shared with unauthorized third parties [8]. There is always an inconsistency between users' judgments and the actual performance of technology. Users are often unaware of the consequences of that inconsistency, which can pose various risks. If the chatbot causes unexpected problems, the customer will perceive high risk and stop using the chatbot and instead will prefer to wait for a long time to just talk to a human being. What is more, he/she is less likely to use the chatbot again. The higher the risk a customer perceives for a good or service he/she has purchased, the more negative experience he/she is likely to have. Therefore, studies on technology should examine the role of risk. In this context, the following are hypotheses concerning the effect of perceived risk on customer experience and behavioral intention:

H_{4a}: Perceived risk of chatbots negatively affects customer experience.

H_{4b}: Perceived risk of chatbots negatively affects behavioral intention.

BEHAVIORAL INTENTION

Behavioral intention refers to the likelihood of a person using mobile messaging chatbots. Attitudes towards chatbots and behavioral intention are interrelated. In other words, when we

predict a customer's attitude towards chatbots, we can predict his/her intention to use them [8]. Customers who believe that sufficient resources and infrastructure are available are likely to have a more positive behavioral intention associated with using chatbots. In other words, customers who believe in the effectiveness of technical means (Internet infrastructure and the compatibility between the information, systems, and technology required for online access) are more likely to use chatbots [48]. This study had two assumptions: (1) customers' intention to use customer service chatbots is positively affected by their perceived ease of use, usefulness, and enjoyment of chatbots and is negatively affected by their perceived risk of chatbots and (2) customer experience positively affects their intention to use chatbots again in the future. The following is the related hypothesis:

H_5: There is a positive correlation between customer experience and behavioral intention to use chatbots again in the future.

RESEARCH METHOD

This quantitative study adopted a correlational survey model. Data were collected using the survey method and analyzed using the Statistical Package for Social Sciences (SPSS) and SmartPLS3. SmartPLS is a partial least squares structural equation modeling (PLS-SEM) software package. It is a variance-based structural equation modeling that does not require normal distribution and allows working with a small sample [49, 50].

The study had two main questions: Is there a correlation between customers' perceptions of chatbots and their (1) customer experience and (2) behavioral intention? A research model and hypotheses were developed to answer these questions (Figure 1).
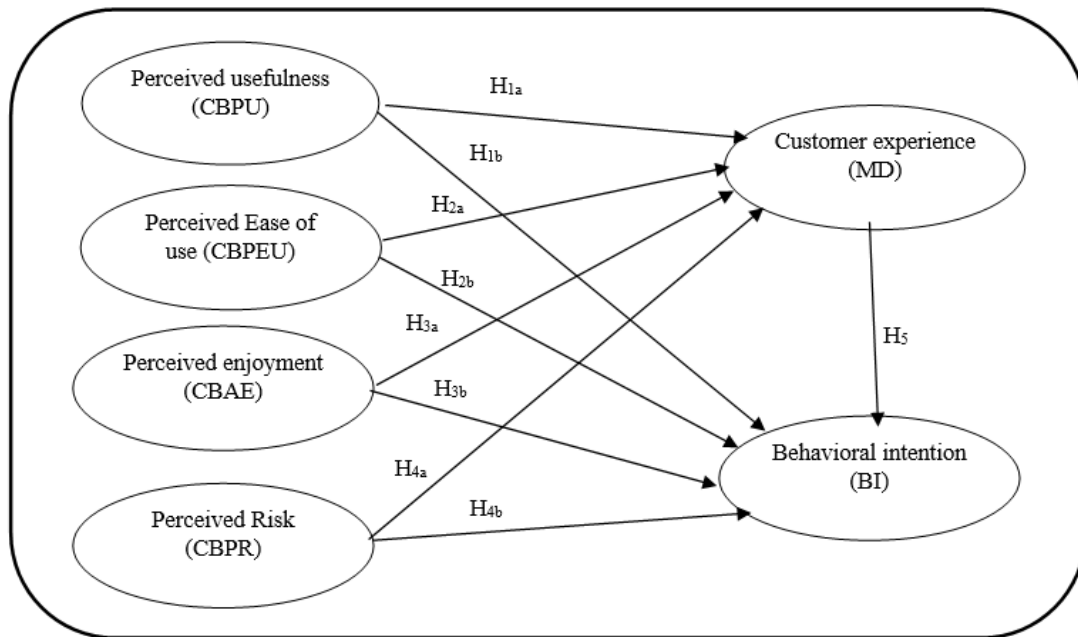

Figure 1. Research Model.

It is seen that there are four exogenous and two endogenous variables in the research model in Figure 1. The exogenous variables are perceived usefulness, perceived ease of use, perceived fun, and perceived risk. The endogenous variables are customer experience and behavioral intention dimensions. Within the scope of the research, it was aimed to learn the effect of exogenous variables on endogenous variables. Accordingly, the research hypotheses in Figure 1 were formed.

POPULATION AND SAMPLE

The study population consisted of all customers with experiences in using chatbots in Turkey. Reaching the entire population is time-consuming and costly. Therefore, the sample consisted of 212 people recruited using nonprobability convenience sampling. One survey was excluded because it was incomplete. Thus, the final sample consisted of 211 participants. Table 1 shows the participants' demographic characteristics.

Table 1. Sample and Demographic Characteristics.

		Frequency	%
1. Gender (Total = 211)	Woman	127	60,2
	Man	84	39,8
2. Age (years) (Total = 211)	17-25	167	79,1
	26-34	29	13,7
	35-43	15	7,1
3. Education (degree) (Total = 211)	Associate's	114	54
	Bachelor's	72	34,1
	Master's	25	11,8
4. Monthly income (TL) (Total = 211)	≤750 TL	122	57,8
	751 L-1000 TL	14	6,6
	1001 TL-1250 TL	9	4,3
	1251 TL-1500 TL	9	4,3
	≥1501 TL	57	27
5. Purpose of chatbot use (Total = 211)	Banking	29	13,7
	Banking, online shopping	11	5,2
	banking, online shopping, ordering out	19	9
	all	14	6,6
	banking, ordering out	2	0,9
	Banking, others	2	0,9
	Online shopping	58	27,5
	Online shopping, ordering out	13	6,2
	Online shopping, ordering out, others	1	0,5
	Online shopping, others	6	2,8
	Ordering out	9	4,3
	Others	47	22,3
6. Customers think that chatbots are … (Total = 211)	Useful	162	76,8
	Useless	8	3,8
	Neither useful nor useless (undecided)	41	19,4

Of participants, 60 % (127) were women, 80 % (167) were 17-25 years of age, 7,1 % (15) were 35-43 years of age, 90 % (186) had an associate's or bachelor's degree, 11,8 % (25) had a master's degree, 57,8 % (122) had an income of less than 751 TL, and 27 % (57) had an income of more than 1500 TL. Participants can use chatbots for different purposes. In order to reveal these, the answers given to the question asked were examined. Participants used chatbots for banking 63,3 %, online shopping (27,5 %), ordering out (27,5 %), or other reasons (22,3 %). Only eight participants (3,8 %) found chatbots useless, while 41 participants (19,4 %) were undecided about it.

SCALES: RELIABILITY AND VALIDITY

The research model had four exogenous and two endogenous variables. The exogenous variables were "perceived usefulness (four items)," "perceived ease of use (five items)," "perceived

enjoyment (three items)," and perceived risk (three items)." The endogenous variables were "customer experience (three items)" and "behavioral intention (five items)." "Perceived usefulness," "perceived ease of use," and "perceived enjoyment" were measured using the valid and reliable scales developed by Davis et al. [42] and Dabholkar and Bagozzi [51]. "Perceived risk" and "customer experience" were measured using the valid and reliable scale developed by Trivedi [35]. "Behavioral intention" was measured using the five-item scale developed by Uğur and Turan [52]. We also established the validity and reliability of the scales. We calculated item-factor loadings, Cronbach's alpha, and composite reliability (CR) coefficients for reliability and average variance extracted (AVE) coefficients for construct validity. Table 2 shows the reliability and validity results.

Table 2. Item-Factor Loadings and Validity and Reliability Indicators.

Variable	Number of Items	Item loadings	Cα	CR	AVE
Chatbot Perceived Usefulness (CBPU)	CBPU1	0,952	0,960	0,971	0,894
	CBPU2	0,929			
	CBPU3	0,946			
	CBPU4	0,955			
Chatbot Perceived Ease of Use (CBPEU)	CBPEU1	0,956	0,9 7	0,982	0,917
	CBPEU2	0,953			
	CBPEU3	0,958			
	CBPEU4	0,965			
	C PEU5	0,956			
Chatbot Perceived Enjoyment (CBPE)	CBPE1	0,977	0,979	0,986	0,960
	CBPE2	0,979			
	CBPE3	0,983			
Chatbot Perceived Risk (CBPR)	CBPR1	0,886	0,920	0,949	0,862
	CBPR2	0,948			
	CBPR3	0,949			
Behavioral Intention (BI)	BI1	0,949	0,980	0,984	0,926
	BI2	0,968			
	BI3	0,976			
	BI4	0,971			
	BI5	0,949			
Customer Experience (CE)	CE1	0,974	0,954	0,970	0,916
	CE2	0,931			
	CE3	0,966			

The items had factor loadings greater than the reference value (0,7) and highly represented the variables they purported to represent. The items had Cronbach's alpha (Cα) and composite reliability (CR) coefficients greater than the reference value (0,7), indicating reliability. The items had AVE coefficients greater than the reference value (0,5), indicating construct validity (Table 2).

STRUCTURAL MODEL AND TESTING HYPOTHESES

The SmartPLS 3 software is used first to analyze the measurement theory and then the structural theory in order to determine the relationship between latent variables [53]. Coefficient of determination (R^2), Stone-Geisser's Q^2 cross-validation, explanatory (predictive) power of endogenous variables, and coefficients of the effect size (f^2) of independent variables on dependent variables are checked to analyze the structural model.

Table 3. Coefficient of Determination ($R2$), Stone-Geisser's Q^2 Coefficient.

	R2	Q2
Customer Experience	0,900	0,814
Behavioral Intention	0,925	0,848

Determination ($R2$) coefficients analysis is performed to understand the predictive accuracy of a research model and explain the variances of dependent variables. In market surveys, the R^2 values of 0,75, 0,50, and 0,25 are considered substantial, moderate, and weak predictive accuracy, respectively [49]. According to analysis, exogenous variables significantly predict endogenous variables.

SmartPLS involves bootstrapping for testing hypotheses. According to Hair et al. [48, p.145], the two-tailed or two-sided critical t values for 1,65, 1,96, and 2,58 are 10 %, 5 %, and 1 % (significance level), respectively. Bootstrapping is used to calculate mean, standard deviation (STDEV), t, and p values. Table 4 shows the hypothesis test results.

Table 4. Hypothesis Results.

Hypotheses	Mean	Sd.	t (|O/STDEV|)	P
H$_{1a}$: Chatbot perceived usefulness $\rightarrow$ Customer experience	0,203	0,093	2,149	**0,032**
H$_{1b}$: Chatbot perceived usefulness $\rightarrow$ Behavioral intention	0,166	0,083	2,070	**0,039**
H$_{2a}$: Chatbot perceived ease of use $\rightarrow$ Customer experience	0,247	0,084	2,980	**0,003**
H$_{2b}$: Chatbot perceived ease of use $\rightarrow$ Behavioral intention	0,247	0,082	2,948	**0,003**
H$_{3a}$: Chatbot perceived enjoyment $\rightarrow$ Customer experience	0,520	0,075	6,964	**0,000**
H$_{3b}$: Chatbot perceived enjoyment $\rightarrow$ Behavioral intention	0,156	0,081	1,912	0,056
H$_{4a}$: Chatbot perceived risk $\rightarrow$ Customer experience	0,014	0,025	0,530	0,596
H$_{4b}$: Chatbot perceived risk $\rightarrow$ Behavioral intention	0,002	0,019	0,121	0,904
H$_5$: Customer experience $\rightarrow$ Behavioral intention	0,420	0,085	4,954	**0,000**

Of the nine hypotheses, six were confirmed, and three were rejected. H$_{3b}$ was rejected because there was no significant relationship between perceived enjoyment and behavioral intention ($t < 1,96$; $p > 0,05$). H$_{4a}$ ve H$_{4b}$ were rejected because there was no significant relationship between perceived risk and customer experience ($t < 1,96$; $p > 0,05$) and behavioral intention ($t < 1,96$; $p > 0,05$).

There was a positive relationship between perceived usefulness and customer experience ($t > 1,96$; $p < 0,05$) and behavioral intention ($t > 1,96$; $p < 0,05$). There was a positive relationship between perceived ease of use and customer experience ($t > 2,58$; $p < 0,01$). There was a positive relationship between perceived enjoyment and customer experience ($t > 2,58$; $p < 0,01$). There was a positive relationship between customer experience and behavioral intention ($t > 2,58$; $p < 0,01$).

DISCUSSION, CONCLUSION, AND SUGGESTIONS

Brands/companies incorporate technological developments into their customer services. Chatbots are one of those developments that are becoming more and more popular due to

positive customer experience and feedback. Customers can use chatbots to check their bank accounts, make online transactions, report power shortages, describe locations, find information about touristic destinations, fares, and public transport timetables, buy tickets and book hotels, communicate with smart home devices, and order out. We think that brands/companies will use technology (Internet of Things, AI, 3D printers, augmented reality, virtual assistants, chatbots, and robots) more widely to perfect customer experience in the coming years. Therefore, research on chatbots is of paramount importance. This article focused on the 211 chatbot users in Turkey and obtained significant results.

The results showed that perceived ease of use positively affected customer experience and behavioral intention. In other words, participants who considered chatbots easy to use were more likely to have a positive customer experience and use them again. This result is consistent with the literature [8, 13, 14, 54, 55].

The results showed that perceived usefulness positively affected customer experience and behavioral intention. In other words, participants who perceived chatbots as useful tools were more likely to have a positive customer experience and use them again. This result is consistent with the literature [8, 13, 14, 54-58].

The results showed that perceived enjoyment positively affected customer experience but had no effect on behavioral intention. In other words, participants who enjoyed using chatbots were more likely to have a positive customer experience but were not more likely to use them again. Cheng and Jiang [59] reported similar results. However, Uyar [57] found a relationship between perceived enjoyment and behavioral intention.

The results showed no relationship between perceived risk and customer experience and behavioral intention. In other words, participants who considered chatbots potentially risky did not have a negative customer experience and did not intend to avoid using them again in the future. Rashid et al. [56] reported that perceived risk affected behavioral intention. Candela [14] found that users' perceived risk of chatbots negatively affected their intention to use them again. Trivedi [35] also found that perceived risk affected customer experience. Therefore, our results on perceived risk differ from the literature. Based on the results, brands/companies interested in using customer service chatbots should:

- develop communication strategies to learn more about their customers' demographic characteristics,
- place customers at the center of their communication strategies,
- let their target audience know that they are there to provide 7/24 customer service,
- inform customers of chatbot services,
- emphasize how easy and fast it is to use their chatbots,
- let their target audience know that their chatbots have friendly/appealing/neutral, and customizable personas,

LIMITATIONS

The study had three limitations. First, the data were cross-sectional. Longitudinal data can provide more information on customers' experiences with chatbots. Besides, the more popular and advanced chatbots become in Turkey, it is likely that we will get different results. Second, we addressed customers' experiences in using chatbots in various sectors. Therefore, future studies should focus on one sector (banking, e-commerce, etc.) to gain more insight into customers' experiences with chatbots. Third, the sample size was moderate. Future studies should recruit larger samples to better understand the factors affecting customers' experiences of chatbots.

REFERENCES

[1] Wong, J.: *What is a chat bot, and should I be using one?*
The Guardian, 6. April 2016,
https://www.theguardian.com/technology/2016/apr/06/what-is-chat-bot-kik-bot-shop-messaging-platform, accessed 21th March 2021,

[2] Turing, A.M.: *Computing machinery and intelligence.*
Mind **49**, 433-460, 1950,

[3] Oracle: *Chatbots 101.*
https://www.oracle.com/us/industries/public-sector/ps-chatbots-101-info-3745967.pdf, accessed 21th March 2021,

[4] Gupta, S.; Borkar, D.; Mello, C.D. and Patil, S.: *An E-Commerce Website based Chatbot.*
International Journal of Computer Science and Information Technologies **6**(2), 1483-1485, 2015,

[5] Zumstein, D. and Hundertmark, S.: *Chatbots – An Interactive Technology for Personalized Communication, Transactions and Services.*
IADIS International Journal on WWW Internet **15**, 96-109, 2017,

[6] Lee, D.; Oh, K. and Choi, H.: *The chatbot feels you – a counseling service using emotional response generation.*
2017 IEEE Int. Conf. Big Data Smart Comput. BigComp, 2017,
http://dx.doi.org/10.1109/BIGCOMP.2017.7881752,

[7] Assink, L.M.: *Exploring Users' Perception of Chatbots in a Mobile Commerce Environment.* Bachelor Thesis.
University of Twente, Netherlands, 2019,

[8] Eeuwen, M.V.: *Mobile conversational commerce: messenger chatbots as the next interface between businesses and consumers.*
https://essay.utwente.nl/71706/1/van%20Eeuwen_MA_BMS.pdf, accessed 21th March 2021,

[9] Ambawat, M. and Wadera, D.: *A Review of Chatbots Adoption from the Consumer's Perspectives.*
Journal of the Gujarat Research Society **21**(11), 11, 2019,

[10] Albayrak, N.; Ozdemir, A. and Zeydan, E.: *An overview of artificial intelligence based chatbots and an example chatbot application.*
In: 26th Signal Processing and Communications Applications Conference (SIU), Izmir, 2018,
http://dx.doi.org/10.1109/SIU.2018.8404430,

[11] Bradeško, L. and Mladenić, D.: *A Survey of Chabot Systems through a Loebner Prize Competition.*
In: *Proceedings of Slovenian language technologies society eighth conference of language technologies*, Ljubljana, 2012,

[12] Berge, S.H.: *Rise of the Chatbots: Trust in Artificial Intelligence During Extreme Weather Events.* Master Thesis.
University of Oslo, Oslo, 2018,

[13] Araújo, T. and Casais, B.: *Customer Acceptance of Shopping-Assistant Chatbots.*
In: *Marketing and Smart Technologies,* Singapore, pp.278-287, 2020,
http://dx.doi.org/10.1007/978-981-15-1564-4_26,

[14] Candela, E.: *Consumers' perception and attitude towards chatbots' adoption. A focus on the Italian market.* Master Thesis.
University of Aalborg, Aalborg, 2018,

[15] Aivo: *E-commerce chatbot: how to increase sales and retention on your website.*
https://www.aivo.co/blog/e-commerce-chatbot-how-increase-sales-and-retention, accessed 21th March 2021,

[16] Escobar, A.: *The Impact of the Digital Revolution in the Development of Market and Communication Strategies for the Luxury Sector (Fashion Luxury).*
Central European Business Review **5**(2), 17-36, 2016,
http://dx.doi.org/10.18267/J.CEBR.149,

[17] Van den Broeck, E.; Zarouali, B. and Poels, K.: *Chatbot advertising effectiveness: When does the message get through?*
Computers in Human Behavior **98**, 150-157, 2019,
http://dx.doi.org/10.1016/J.CHB.2019.04.009,

[18] Brandtzaeg, P.B. and Følstad, A.: *Why people use chatbots.*
In: International conference on internet science, pp.377-392, 2017,

[19] Kim, J.; Kang, S. and Taylor, C.R.: *Technology driven experiences from mobile direct to virtual reality.*
Journal of Global Scholars of Marketing Science **28**(1), 96-102, 2018,
http://dx.doi.org/10.1080/21639159.2017.1420423,

[20] Hald, G.: *7 Benefits of Using Chatbots to Drive Your Business Goals, Medium, Feb. 15, 2018.*
https://medium.com/botsupply/7-benefits-of-using-chatbots-to-drive-your-business-goals-5a3a5e809951, accessed 21th March 2021,

[21] Radziwill, N. and Benton, M.C.: *Evaluating Quality of Chatbots and Intelligent Conversational Agents.*
ArXiv, 2017,

[22] Wang, L.C.; Baker, J.; Wagner, J.A. and Wakefield, K.: *Can A Retail Web Site be Social?*
Journal of Marketing **71**(3), 143-157, 2007,
http://dx.doi.org/10.1509/jmkg.71.3.143,

[23] Rabe, L.: *Facebook Messenger – Anzahl der verfügbaren Chatbots 2018.*
Statista, 2019,
https://de.statista.com/statistik/daten/studie/662144/umfrage/anzahl-der-verfuegbaren-chatbots-fuer-den-facebook-messenger/, accessed 21th March 2021,

[24] Liu, S.: *Size of the chatbot market worldwide, in 2016 and 2025.*
Statista, 2019,
https://www.statista.com/statistics/656596/worldwide-chatbot-market, accessed 21th March 2021,

[25] Asadi, A. and Hemadi, R.: *Design and implementation of a chatbot for e-commerce.*
In: International Conference, 1-10, 2018,

[26] Chung, M.; Ko, E.; Joung, H. and Kim, S.J.: *Chatbot e-service and customer satisfaction regarding luxury brands.*
Journal Business Research **117**, 587-595, 2020,
http://dx.doi.org/10.1016/j.jbusres.2018.10.004,

[27] Zarouali, B.; Van den Broeck, E.; Walrave, M. and Poels, K.: *Predicting Consumer Responses to a Chatbot on Facebook.*
Cyberpsychology, Behavior, and Social Networking **21**(8), 491-497, 2018,
http://dx.doi.org/10.1089/cyber.2017.0518,

[28] Bold360: *LogMeIn 2018 AI Customer Experience Report: Impact of Chatbots and AI on the Customer Journey".*
https://lmistatic.blob.core.windows.net/document-library/boldchat/pdf/en/bold360-impact-of-chatbots-and-ai-on-the-customer-journey-whitepaper.pdf, accessed 21th March 2021,

[29] Gartner Inc: *Gartner Says 25 Percent of Customer Service Operations Will Use Virtual Customer Assistants by 2020, Gartner, 2018.*
https://www.gartner.com/en/newsroom/press-releases/2018-02-19-gartner-says-25-percent-of-customer-service-operations-will-use-virtual-customer-assistants-by-2020, accessed 21th March 2021,

[30] Chi, C.: *The 5 Best Messaging Apps for Marketing in 2017.*
Hubspot, 2017,
https://blog.hubspot.com/marketing/best-messaging-apps-for-marketing, accessed 21th March 2021,

[31] Chi, C.: *7 of the Best AI Chatbots for 2021.*
Hubspot, 2019,
https://blog.hubspot.com/marketing/best-ai-chatbot, accessed 21th March 2021,

[32] Haan, H. and Snijder, J.: *Chatbot Personality and Customer Satisfaction*. B.Sc. Thesis.
University of Utretch, Utretch, 2018,

[33] Carbone, L.P. and Haeckel, S.H.: *Engineering Customer Experiences.*
Marketing Management **3**(3), 1994,
http://www.senseandrespond.com/downloads/Carbone%20Haeckel_Marketing%20Managment_EngineeringCustomerExperiences_Winter%201994.pdf, accessed 21th March 2021,

[34] Jain, R.; Aagja, J. and Bagdare, S.: *Customer experience – a review and research agenda.*
Journal of Service Theory and Practice **27**(3), 642-662, 2017,
http://dx.doi.org/10.1108/JSTP-03-2015-0064,

[35] Trivedi, J.: *Examining the Customer Experience of Using Banking Chatbots and Its Impact on Brand Love: The Moderating Role of Perceived Risk.*
Journal of Internet Commerce **18**(1), 91-111, 2019,
http://dx.doi.org/10.1080/15332861.2019.1567188,

[36] Herrero, Á. and San Martín, H.: *Developing and testing a global model to explain the adoption of websites by users in rural tourism accommodations.*
International Journal of Hospitality Management **31**(4), 1178-1186, 2012,
http://dx.doi.org.10.1016/j.ijhm.2012.02.005,

[37] Muslichah, M.: *The effect of self efficacy and information quality on behavioral intention with perceived usefulness as intervening variable.*
Journal of Account Business and Management, JABM **25**(1), 21-34, 2018,
http://dx.doi.org/10.31966/jabminternational.v1i25.327,

[38] Davis, F.D.: *Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology*.
MIS Quarterly **13**(3), 319-340, 1989,
http://dx.doi.org/10.2307/249008,

[39] Aktaş, S.: *An Application on Technology Acceptance Model and Accountants' Use of Information Technology*. M.Sc. Thesis.
Gebze Institute of Technology, Gebze, 2007,

[40] Zamri, N.B. and Idris, I.: *The Effects of Attitude, Social Influences and Perceived Behavioural Control on Intention to Purchase Online Shopping Apparels in Malaysia: Case Study on Zalora.*
In: *Third International Conference on Management Conference Master Resources, Bandar Baru Bangi*, 2013,

[41] Venkatesh, V. and Davis, F.D.: *A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies.*
Management Science **46**(2), 186-204, 2000,
http://dx.doi.org/10.1287/mnsc.46.2.186.11926,

[42] Davis, F.D.; Bagozzi, R.P. and Warshaw, P.R.: *User Acceptance of Computer Technology: A Comparison of Two Theoretical Models.*
Management Science **35**(8), 982-1003, 1989,
http://dx.doi.org/10.1287/mnsc.35.8.982,

[43] Venkatesh, V.: *Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model.*
Information Systems Research **11**(4), 342-365, 2000,
http://dx.doi.org/10.1287/isre.11.4.342.11872,

[44] Heijden, H.: *User Acceptance of Hedonic Information Systems.*
MIS Quarterly **28**(4), 695-704, 2004,
http://dx.doi.org/10.2307/25148660,

[45] Dowling, G. and Staelin, R.: *A Model of Perceived Risk and Intended Risk-Handling Activity.*
Journal of Consumer Research **21**(1), 119-34, 1994,
http://dx.doi.org/10.1086/209386,

[46] Lai Ming Tam, J.: *The moderating role of perceived risk in loyalty intentions: an investigation in a service context.*
Marketing Intelligence & Planning **30**(1), 33-52, 2012,
http://dx.doi.org/10.1108/02634501211193903,

[47] Maciejewski, G.: *The Meaning of Perceived Risk in Purchasing Decisions of The Polish Customers.*
Analele Stiintifice Ale University Alexandru Ioan Cuza Din Iasi – Stiinte Econ 1954-2015 **58**, 281-304, 2011,

[48] Wong, C.-H.; Tan, G. W.-H.; Tan, B.-I. and Ooi, K.-B.: *Mobile advertising: The changing landscape of the advertising industry.*
Telematics Informatics **32**(4), 720-734, 2015,
http://dx.doi.org/10.1016/j.tele.2015.03.003,

[49] Hair, J.F.; Ringle, C.M. and Sarstedt, M.: *PLS-SEM: Indeed a Silver Bullet.*
Journal of Marketing Theory and Practice **19**(2), 139-152, 2011,
http://dx.doi.org/10.2753/MTP1069-6679190202,

[50] Wong, K.K.-K.: *Partial Least Squares Structural Equation Modeling (PLS-SEM) Techniques Using SmartPLS.*
Marketing Bulletin **24**, 1-32, 2013,

[51] Dabholkar, P.A. and Bagozzi, R.P.: *An attitudinal model of technology-based self-service: Moderating effects of consumer traits and situational factors.*
Journal of the Academy of Marketing Science **30**(3), 184-201, 2002,
http://dx.doi.org/10.1177/00970302030003001,

[52] Uğur, N.G. and Turan, A.H.: *Mobile Application Acceptance Model: A Scale Development Study.*
Hacettepe University Journal of Economics and Administrative Sciences **34**(4), 97-125, 2016,
http://dx.doi.org/10.17065/huniibf.310526,

[53] Sarstedt, M.; Ringle, C.M. and Hair, J.F.: *Partial Least Squares Structural Equation Modeling.*
In: Homburg, C.; Klarmann, M. and Vomberg, A., eds.: *Handbook of Market Research.*
Springer International Publishing **40**(1), 1-40, 2017,
http://dx.doi.org/10.1515/srsr-2017-0020,

[54] Scheerder, J.M.: *Chatbots versus Instant Messaging: Comparing two technologies used for customer contact service.* M.Sc. Thesis.
Amsterdam University, Amsterdam, 2018,

[55] Quintino, A.R.P.: *The impact of chatbot technology attributes on customer experience: an example in telecom Investigating the effects of humanlike design cues in chatbots and customer's satisfaction.* M.Sc. Thesis.
University of Católica Portuguesa, Portuguesa, 2019,

[56] Rashid, N.; Mokhlis, S. and Yaakop, A.: *The Antecedents of Consumer Behavioral Intention in Social Commerce.*
Advanced Science Letters **23**(4), 3111-3114, 2017,
http://dx.doi.org/10.1166/asl.2017.7667,

[57] Uyar, A.: *Evaluation of Consumers Perceptions About Mobile Applications According to The Technology Acceptance Model.*
Journal of Business Research – Turk **11**(1), 687-705, 2019,
http://dx.doi.org/10.20491/isarder.2019.629,

[58] Gupta, A. and Sharma, D.: *Customers' Attitude towards Chatbots in Banking Industry of India.*
International Journal of Innovative Technology and Exploring Engineering **8**(11), 1222-1225, 2019,
http://dx.doi.org/10.35940/ijitee.J9366.0981119,

[59] Cheng, Y. and Jiang, H.: *How Do AI-driven Chatbots Impact User Experience? Examining Gratifications, Perceived Privacy Risk, Satisfaction, Loyalty, and Continued Use.*
Journal of Broadcasting & Electronic Media **64**(4), 592-614, 2020,
http://dx.doi.org/10.1080/08838151.2020.1834296.