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What are the Drivers of Using Chatbots in Online Shopping? A Cross-Country Analysis

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ABSTRACT

Purpose – Technological evolutions have made the products & services almost identical, and experience becomes the key differentiation tool for competition. Especially the service companies design customer journey to create memorable, amusing, and recommendable experiences. AI chatbots help enrich the customer experience and save cost and time with its automated structure. With this study, it's aimed to discover the determinants of young consumers' intention to use chatbots in e-shopping comparatively in Turkey and Azerbaijan.

Design/methodology/approach – The research model was based on Technology Acceptance Model and U&G Theory. The data gathered via an online questionnaire; 300 responses were analyzed using SEM.

Findings: The findings showed that the perceived ease of use didn't positively affect the perceived usefulness of chatbots in Turkish sample; however, the communication competence positively affects perceived usefulness, and the entertainment positively affects the attitude towards chatbots. For Azerbaijani sample, the research model was wholly confirmed with the causal relationships among all variables.

Discussion – This article clarifies underlying motives for usage intention during online shopping of university students living in different countries and provides practical implications about the consumers' expectancies regarding chatbots during e-shopping. As a gratification factor, entertainment is an important determinant to experience and create a positive attitude towards chatbot. Designing an easy-to-use chatbot is not adequate to encourage the consumers to use chatbot but the chatbot should have the ability to solve not only standard problems but also particular problems faced by the consumers. In online shopping via chatbots consumers' fears and reservations about privacy concern can be eliminated by offering safer payment options like cash/credit card at the door.

1. INTRODUCTION

Conversational commerce has been becoming the new reality of contemporary business world. The more our lives get integrated with technology, it becomes an indispensable part of life. And this fact is comprehended by the businesses proactively and companies have diversified their communication channels with the help of technology and added chatbots into their communication mix as a complementary layer of holistic customer experience to reach and satisfy their target customers (Robinson, et.al., 2017). Artificial intelligence (AI) messenger chatbot is one of the innovative touch points to interact with the customers and make the shopping journey an easy, entertaining and problem-solving experience for them. Since the modern marketing has evolved into "marketing of self-actualization" as Philip Kotler stated and the emphasis on customer engagement and creating both functional and emotional satisfaction have become significant (Kurachi, et.al. 2018). For that reason, marketers focus on user experiences to increase the satisfaction level of customers by adopting real-time customer communication to meet their needs 24/7, serving with augmented response capacity and providing personalized customer support (Chung et.al., 2020).

With a chatbot, users can conduct a humanlike conversation with a bot by using textual or auditory methods (Fleischner and Grad, 2019) and the software programs enable chatbots to produce appropriate responses depending on the communications with customers with the help of machine learning and deep learning. Natural language processing, predictive analytics and sentiment analysis are the outcomes of that process that the software learns from the past dialogues with the customers (through customer calls or Whatsapp dialogues) and produce appropriate responses over time (Robinson, et al., 2017, Nguyen, 2020, İşeri, Aydın

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and Tutuk, 2021). There are three kinds of Chatbots – informational (informs the customers about FAQ, push notifications), transactional (with a user account, customers can make a transaction like booking a hotel), advisory (self-learning chatbots that comprehend the information got from the customer interactions and predict the next moves of customers) (Robinson, et al., 2017). In many areas – such as retailing, hospitality, banking, health care, insurance, journalism, e-commerce companies keep up with this new technology in order to gain competitive advantage, reductions in costs, deliver superior service and create a positive impact on profitability (Cameron, et al., 2017, Robinson, et al., 2017, Scheepers et al. 2018, Ünal, 2018, Woodford, 2020, Gunawan et al., 2020, Cardona et al. 2021). For example, banking sector in Turkey has rapidly adapted chatbot technology into their operations, in that way answering the questions of customers related to interest rate on deposits, currency exchange rates or calculating loan, evaluating customers financial position become easier and faster with user-friendly bots. Today forty-two percent of the banks operating in Turkey already launched or presently integrating chatbots into their operations. With machine and deep learning and natural language processing chatbot technology becomes a practical and effective way of offering a distinguished experience for the users (CBOT, 2021). It is reported that customers can reach the chatbot of a bank via its website in 67% of the banks or mobile apps in 50% of the banks and 40% of the customers who visits the website prefer to use chatbot (CBOT, 2021).

On global scale, share of chatbot usage by industry in 2019 was found to be %77 for banking, %19 for healthcare, %4 for retail industry. The volume of estimated savings enabled by chatbots in 2019 was calculated as $164.6 million and 77% of the total market savings due to chatbot implementations belongs to banking sector (Woodford, 2020). Conversational AI provides cost saving in customer services by automating customer support for companies as well as helps offer high quality, solution-oriented, fast, and satisfying service with a human tone in the interactions (Fleischner and Grad, 2019).

Even though the proportion of chatbot usage in retail seems relatively small, in the near future it is expected to grow rapidly. Via chatbots sales and after-sale support can be automated and several tasks can be fulfilled such as answering questions about customer orders, products, warranties, facilitating payment process by receiving payments in the chat interface and accompanying customer in each step of the customer journey in the sales process (Woodford, 2020). Chatbots are considered to create value-added in the retailers' operational processes mostly in services of customer relations (~%95) and sales and marketing (~%60), order fulfilling (%48), social media (~ %35), payment (~%30) as well (Mindbowser, 2020). Beside those benefits for the businesses, it is much more important whether the consumers' attitudes and intention to use chatbots. The studies show that consumers except Generation Z and Millennials, may show reluctance to communicate with a chatbot, instead they may prefer to wait for a human agent in a service queue (Chatbots Magazine, 2019; Userlike, 2020). On the other side, a study analyzing Y and Z generations' attitudes toward chatbot revealed that the consumers' experiences with chatbots might be problematic and unsatisfying to solve their problems (Seyitoğlu, 2019).

The companies, which intend to invest in chatbots, should immediately comprehend the customer perceptions toward chatbots and what are their needs and expectancies and what motivates them to use chatbots for future visits in online store. With this study we therefore decided to shed light on the university students' motivations of using chatbots based on a conceptual model integrating Technology Acceptance Model and Uses and Gratification Theory (U&G). This study aims to find the answers to the research questions stated as:

1. What are the determinants of Turkish and Azerbaijani university students' behavioral intention to use chatbots in a retail environment?

2. Are there any differences in young consumers' chatbot usage motivations at the same age but living in different countries?

The objective of the study is to identify and compare the university students' intention to use mobile messenger chatbots during online shopping. The widely applied Technology Acceptance Model (TAM) and Uses and Gratifications Theory (U&G) were integrated to examine the antecedents of behavioral intention towards chatbots by young consumers. By means of literature review a conceptual model was developed containing variables from U&G theory – perceived communication competence (PCC), Entertainment (EN), Privacy Concern (PC) and the variables of TAM - Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Attitude (AT) towards using chatbot and behavioral intent (BI). This study also analyzes the developed

conceptual model comparatively for Turkish university students and Azerbaijani college students who live in different countries but have common cultural background.

The paper is organized as follows: firstly, the presentation of the background of Chatbots in literature and the review of Technology Acceptance Model and Uses and Gratifications Theories are made as the basis of our conceptual model. On this basis, after presenting theoretical background of the subject, we detailed the research design and methodology, then the overview of the key findings is provided and discussed with previous research. Finally, we briefly explained the key implications for researchers and industry and make suggestions for future research.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Chatbot

Interacting with human through natural language has been studied in computer science since 1950's (Castro et.al., 2018) and this technology has been known in business for years. In order to find out the adoption of chatbot concept as a research field in academia, a search was made on Scopus including the period of 1980-2022 and the results indicates that chatbot is being subjected mostly in the fields of computer science (3063 publications) and engineering (1148 publications). The proportion of business, management and accounting is just % 3,8 with 298 publications. Therefore, we can categorize the research fields into two segments that the first segment focuses on technological advances in chatbot and the other one focusing user motivations and experiences (Hendriks et.al, 2020). The chatbot has been studied in business field since 2007, but the number of the research intensifies in 2019-2022 period with 276 publications. While the chatbot subject has drawn the attention of academicians since 2019, the interest in chatbots in business had arisen since 2016 with the significant progress in AI and the consumers' increasing adoption of mobile messaging applications like Whatsapp, Facebook Messenger, QQ Mobile, Snapchat, Telegram, WeChat as a communication channel (Brandtzaeg and Følstad, 2018; Baier et al., 2018). For instance, Facebook Messenger is reported that on a worldwide scale in the 2nd quarter of 2020 it has a huge amount monthly active users reaching 2.7 billion, in ten-year period number of active users increased 2,132 billion (Statista, 2021). 34% of chatbots are consolidated into social media and messaging platforms and virtual assistants such as Facebook Messenger, WhatsApp, Google Assistant (CBOT, 2021).

With the growing interest in creating memorable personalized consumption experience for the customers, the companies combined this technology and new habits of the consumers into a new communication media, AI chatbot. Chatbot, in other words *a chatting robot, is a communication stimulating program that enables conversation between human and the computer* and act as a virtual assistant to enrich the customers experience, co-create value *and save efforts and costs through service automation* in the service industry (Dahiya, 2017; Corea, et al., 2020). The history of the chatbots dates back 1966 with *Eliza* – the first chatbot imitating human conversation by following user's responses, then *Parry* (1972), *Jabberwacky* (1988), *Dr. Sbaitso* (1992) and *ALICE* in 1995 came. A.L.I.C.E - is defined as *"a natural language processing bot"*. In 2001 *Smarterchild* was introduced to serve in SMS networks and it was considered *"a pioneer to Apple's Siri and Samsung's S Voice"*. The number of the chatbots increased remarkably after 2000s, each of the giant technology companies introduced their own chatbots by adding new features and offering unique experience to the customer, *Watson* - IBM (2006), *Siri* - Apple (2010), *Google Now* – Google (2012), *Alexa* - Amazon (2015), *Cortana* - Microsoft (2015), *Bots for Messenger* - Facebook (2016) (Futurism, n.d.). Compared to chatbots of 2000s serving as virtual customer service agents to response frequently asked questions, new generation chatbots launched by technology giants after 2010 have served the users with a more natural language and performed more complex actions and became more humanlike (Følstad and Skjuve, 2019).

It is believed that if the chatbots can gain the attraction of the consumers enough by providing high quality customer service, that will support companies' efforts resulting in building loyal customer segments (McLean and Osei-Frimpong, 2019), the companies will direct their investments to chatbots which allows users interact with a conversational style using daily language rather than mobile apps (Nguyen, 2020). Via chatbots, companies can respond the customers' needs and wants immediately, consistently, proactively, or reactively through diverse communication channels like social media, live chat or sms, furthermore they can learn from the data they obtained through customer interactions (Feng, n.d.). Chatbots not only intend to offer a superior customer experience but also it is accepted as a useful managerial tool helping reductions in costs, revenue

advancements, and accumulation of personalized customer data faster and serving this data to decision markers to increase their decisions' efficiency for the players of retail industry (Wolf, 2019).

As an attractive market, receiving growing attention from several industries, the chatbot market size is estimated to extend a volume of $9.4 billion by 2024 from $2.6 billion in 2019 (Nguyen, 2020). When we analyze the global usage rates of chatbots with the latest data, Juniper Research (2019) revealed that the total number of the accessed chatbots reached 4,2 billion, total retail spending via chatbots 2,8 billion $, total cost savings enabled by chatbots is 164 million $ and finally 33 million $ was spent for advertising over chatbots (Woodford, 2020). Another remarkable information in the report was about the global share of chatbots depending on the type of chatbots as messenger (%48), web (%43), app (%9). Progress in learning capability of artificial intelligence will advance the performance of chatbots and that will enable the companies to reach their customers with a more personalized responses stimulating to purchase goods or services; and that may cause to increase in revenues and profit in addition to reducing the expenditures in terms of overhead costs (Woodford, 2020). As a matter of fact, beside the advantages gained by the companies, on the consumer side Brandtzaeg and Følstad (2018) found out the motivations behind the customers' chatbot usage that were mainly about productivity, while emotional and social factors were significant driving factors behind chatbot usage as well.

In this process in order to create an extraordinary experience with the chatbot for the users, some issues related to chatbots attributes should be carefully thought and designed such as gender of chatbot, how humanlike it would be, response speed, how friendly it would be (Nguyen, 2020). In this context, users' perceptions, experiences, and their motivations need to be explored clearly. For instance, in Følstad and Skjuve's (2019) study, participants' perceptions of chatbot capabilities are in line with chatbot's actual capabilities, and they think human customer service personnel can be replaced by the chatbots for only simple and straightforward queries, but chatbots are not capable enough of solving more complicated problems entailing professional knowledge. They find it more practical to find a solution to their problem via a chatbot rather than searching on the web site for self-service solutions.

2.2. Technology Acceptance of Chatbots

In consumer behavior literature, the subject of consumers' adoption of an innovative technology has been examined by the researchers mostly relied on Technology Acceptance Model (TAM) or revised or expanded versions of this model -TAM2, TAM3 and UTAUT (Unified Theory of Acceptance and Use of Technology) (Gefen and Straub, 1997; Venkatesh and Davis, 2000; Venkatesh, et al., 2003; Wibisono and Ang, 2019; Richard, et al., 2019; Rese, et al., 2020; Kasilingam, 2020; Camilleri and Falzon, 2020; Eren, 2021). With TAM, Theory of Reasoned Action was adapted for technology acceptance, by replacing TRA's attitudinal determinants, derived separately each behavior with perceived usefulness and ease of use (Bagozzi, et al., 1992). Primary assumption of this model is that an individual's decision of experiencing a new technology depends on rational reasons (Davis, 1989). From this perspective, consumer's perception about the new technological product/service's usefulness and ease of use were proposed as the determinants of the attitude and behavior in Technology Acceptance Model.

TAM model is deployed by many researchers extending with new constructs such as compatability (Vijayasarathy, 2004), trust (Kaasinen, 2005; Ha and Stoel, 2009), innovativeness (Zarmpou et al., 2012; Richard et al., 2019) to clarify the elements affecting the consumers' adoption of diverse technologies like e-commerce, m-commerce, mobile services, messenger chatbots, etc. (Eeuwen, 2017).

2.2.1. Perceived Ease of Use and Perceived Usefulness

If a new technology makes life easier, preserves the nature or helps the animals, in other words the benefits sought from a new technology are satisfactory, the probability of its acceptance by the users will be higher. In 1989 Fred Davis investigated the people's motivations behind the acceptance or rejection of information technology, then he introduced "perceived usefulness" (PU) and "perceived ease of use" (PEOU) concepts. His study was mainly about the computers, and their effect on white collar performance. He revealed that the acceptance of computers in the workplace was depended on *perceived usefulness* – as "an individual's belief about using a new technology would advance the job performance", and *perceived ease of use* – as "an individual's belief about using a new technology would require limited effort". High level perception about a new technology usefulness is a consequence of the user's belief in positive use/performance relationship

(Davis, 1989). In other words, perceived usefulness is related to competency of a technology to improve one's life quality and performance, and perceived ease of use is directly about one's perception about the difficulties to be overcome while adapting the new technology (Venkatesh and Bala, 2008).

Perceived usefulness is one of the significant cognitive determinants of a new technology adoption, it has a positive influence on attitudes (Eeuwen, 2017; Indarsin and Ali, 2017; Candela, 2018; Zarouali, et al., 2018; Völkle and Planing, 2019). A recent study about chatbot by Zarouali, et al. (2018) examined the attitudes towards the brands providing chatbot service and found that consumer's perceived usefulness of chatbot influence their attitude positively. Candela (2018) tested the relation between the consumers' perception about chatbot (ease of use, usefulness and risk) and attitudes, and approved the positive relation in Italian market.

On the other side, perceived ease of use as an indicator of technology acceptance (Davis 1989), is related to the infrastructure that the users have. User-friendly apps/web sites, messenger apps, or anything that give opportunity to the users to shop via their mobile devices will simplify their contribution (Kasilingam, 2020). For instance, for mobile banking acceptance or mobile chatbot in banking industry, studies revealed that perceived ease of use has a significant positive impact on both perceived usefulness and attitude (Raza, et al., 2017). Several studies conducted about users' chatbot adoption also supported the effect of perceived ease of use on attitudes (Eeuwen, 2017; Zarouali, et al., 2018; Candela, 2018; Völkle and Planing, 2019). However, in some of the empirical studies showed that perceived ease of use may not have a significant effect on the usage of m-commerce or mobile apps because the users have already been familiar with similar technology (Indarsin and Ali, 2017).

Finally perceived ease of use has a significant effect on perceived usefulness as the easiness of adaptation to a new technology will contribute its perceived usefulness (Venkatesh, 2000). In the study of Richard et al. (2019) examining millennials' chatbot adoption in Indonesia revealed that perceived ease of use has a significant positive effect on perceived usefulness. Therefore, we posit the hypothesis below:

H_2: Perceived usefulness influences the consumers' attitude toward chatbots.

H_3: Perceived ease of use influences the chatbots' perceived usefulness.

H_4: Perceived ease of use influences the consumers' attitude toward chatbots.

2.2.2. Attitude and Behavioral Intent

Attitude's been defined as a determinant of behavioral intention. Technology Acceptance Model proposes that actual use is predicted by behavioral intention that it is determined by the attitude. Besides, with TAM we can see the impact of perceived usefulness and perceived ease of use together with other factors in shaping TAM attitude and behavioral intention (Güner and Acartürk, 2020). Many of the studies revealed that attitude is a significant determinant of the behavioral intention (e.g., Vijayasarathy, 2004; Yang and Yoo, 2004; Kim, Chun and Song, 2009; Park, 2009; Güner and Acartürk, 2020). The studies conducted about chatbot also supported the relationship with attitude towards chatbot and behavioral intention (Eeuwen, 2017). Therefore, the attitude as one of the main components of Technology Acceptance Model was examined in this research and the following hypothesis was offered:
H_7: Attitude towards using chatbot influences behavioral intention to use chatbots.

2.3. U&G Theory

The Uses and Gratifications Theory (UGT) was first theorized by Elihu Katz (a sociologist and communication scientist) in 1959, and then in 1973 Katz and his colleagues, Jay G. Blumler and Michael Gurevitch conducted studies about the theory (Lin and Chen, 2017). The UGT utilized by many researchers to explore the reasons and motives underlying adoption of any medium (Leung and Wei, 2000; Gan, 2017). The main idea underlying this theory is "*different people can use the media for different objectives*", thus the selection and use of media depend on the intentions rooted from personal and social motivations (Jiménez, et al., 2012). The UGT adopts a user-centered approach and assumes the individuals as not passive but active agents in selecting the media that they will use and focuses on why people use certain media and what gratifications they get from.

In the theory, Katz et al. (1973) categorized the needs of media user's needs into five categories and the gratifications referring perceived benefits that are named diversely by several researchers such as *content-*

related and process related gratifications (information, passing time) (Cutler and Danowski, 1980), *utilitarian or hedonic factors (utilitarian factors-information seeking, self-presentation, information sharing, hedonic factors – entertainment, passing time)* (Papacharissi and Rubin, 2000; Venkatesh and Brown, 2001; Kim, et al., 2011; Gan and Li, 2018) and lastly *technology and social gratifications* (Gan and Li, 2018; Omar and Subramanian, 2018 from Rese et al., 2020). They explored thirty five needs and grouped them into five categories and offered a typology including: *cognitive needs* (refer to obtaining information and knowledge to improve the comprehension of environment through documentaries, tv news, how-to-do videos), *affective needs* (refers to the emotions and experiences such as pleasure, enjoyment, esthetics, entertainment, pleasurable and emotional experiences, by consuming movies or soap operas), *personal integrative needs* (refer to the individual's own image/reputation empowering their credibility, confidence and stability via videos or social media), *social integrative needs* (interacting with family, friends and the world via internet – social media, instant messaging, e-mail, etc.), *escapist needs/tension release* (for escape, diversion and stress relief via tv, movies, video, internet or radio) (Bracken and Lombard, 2001; Aytuna and Çapraz, 2018). With this theory the researchers focus on the reasons of consumers' media choice and which needs are fulfilled by that media.

Many researchers utilized theory to find out why people adopted diverse communication media both traditional and digital media – such as newspapers and magazines, radio, television, telephone, mobile phone, internet, mobile instant messaging, blogs, social media, chatbots and what kind of needs are fulfilled via each media tried to be explored in several studies (Elliot and Rosenberg, 1987; Payne, et al., 1988; Dimmick, et al., 1994; Stafford and Stafford, 1996; Fullwood, et al., 2009; Hoştut, 2010; Quan-Haase and Young, 2010; Jiménez, et al., 2012; Koçer, 2013; Brandtzaeg and Følstad, 2017; Aslan, 2019; Kaur, et al., 2020; Chavez, et al., 2020; Ozel ve Durmaz, 2021).

In the research model, the variables wanted to be examined were determined by a synthesis of two theories, Technology Acceptance Model and Uses and Gratifications Theory.

2.3.1. Entertainment

In today's experience economy, customers' needs are driven by rational and/or hedonic motivations. In the study of Brandtzaeg and Følstad's (2017) based on U&G Theory, entertainment was ranked as the second motivation as a hedonic motivation, after productivity with (68%) – rational/utilitarian motivation to use chatbots. The participants perceived chatbots as fun and entertaining. Besides they accepted the chatbots as a tool of escaping loneliness and socialization. In Candela's (2018) study, consumers' main motivations to use chatbots are productivity, curiosity, entertainment and social purposes. In another study of Brandtzaeg and Følstad's (2020) users described the interaction with chatbot with enjoyment and engagement, under the category of entertainment as a hedonic motivation. Using chatbot offers the customer a unique experience by providing help, assistance, and latest information, and also enjoyment and inspirational value with the interaction (Brandtzaeg and Følstad, 2020). Thus, we wanted to test the relationship between entertainment and attitude towards chatbots in the research model with a hypothesis as:

H_5: Entertainment influences the consumers' attitudes towards chatbots.

2.3.2. Perceived Communication Competence

Chatbots enable the users to access the targeted content on an online platform with an easier and faster way. Rather than clicking buttons to navigate on a web page or typing on the keyboard to search for a product, the individuals can save time and energy by interacting with a chatbot through a social and natural conversational style (Skjuve and Brandzaeg, 2018). Even dissatisfactions may arise from the chatbots' inability to manage the conversation properly by answering follow-up questions related to a subject, gratifications obtained from chatbot's communication competence in terms of empathy, giving expert advice and appropriate responses, active listening capability, and being objective and professional were found in research (Luger and Sellen, 2016; Kim, et al., 2018; Marrinan, 2018). The main point for the businesses is to offer superior service quality and experience to the customers and make them adopt this new technology - artificial intelligence chatbots in order to feel themselves comfortable and satisfied with the service offered and to reduce the costs due to service automation.

Communication competence as one of the components of communication quality beside accuracy and credibility didn't have a significant effect on satisfaction for luxury brands in the study of Chung et. al. (2020).

In this study the perceived communication competence of the chatbot's relationship with perceived usefulness as a variable of Technology Acceptance Model will be examined in the context of online interaction. Therefore:

H_1: Communication competence influences chatbots' perceived usefulness.

2.3.3. Privacy Concern

Acceptance of chatbots can't be explained just by exploring the needs and gratifications of the users, but it is required to mention about the fears and reservations that the users experience while using chatbots. There are several studies focusing not only the benefits expecting from the chatbots, but also perceived costs, in other words unfavorable perceptions towards chatbots (Bitkom, 2017; Kayak, 2017; YouGov, 2017; Helpshift, 2018 from Rese et al., 2020). In Kayak's (2017) research, the pros and cons of chatbots were analyzed and the findings showed that 24/7 accessibility (%37) and faster responses compared with own research (%26) are reasoned as the use of chatbots. On the other side concerns about data security (%36), preference for a real contact person (33%) are the main negative beliefs related to chatbots. Brandtzaeg and Følstad (2020) reported negative chatbot experiences in two categories: pragmatic and hedonic. Misinterpretation issues related to chatbots, incompetency of chatbot in solving a particular problem, repetitiveness reported in pragmatic category; and strange or rude responses, unwanted content or actions and boring belonged to hedonic category. In Rzepka et al. (2020)'s study, costs or negative beliefs about chatbot usage were determined as limited transparency, low technical maturity, limited control and lack of trust.

Privacy concern is accepted as one of the components of perceived risk in the adoption of new technologies, especially in online transactions that the customers annoyed about the misuse of financial information, identity theft, or interception of credit card information and phishing (Featherman and Pavlou, 2003; Pikkarainen, et al. 2004; Lee, 2009). In Rese et al. (2020)'s study based on U&G model, they analyzed the influence of privacy concern on behavioral intention towards chatbot and found out a significant negative relationship between the variables. In Kim and Kim's (2020) study, it's found that privacy concerns had a significant negative effect on user's intention to disclose personal information in social networking sites. Dinev and Hart's (2006) found a negative relationship between perceived internet privacy risk and the willingness to provide personal information for online transactions. Because of the aforementioned privacy concerns, users may hesitate to share their personal information with chatbots as well (Moorthy and Vu, 2015; Rzepka, et al., 2020). A remarkable study of Ischen et al. (2020) analyzed another dimension of individual's perception of chatbot from the point of chatbot's attributes – whether it is human-like or machine like, and its relationship with privacy concern and information disclosure. They revealed that there is not a significant difference in privacy concerns between human-like or machine-like chatbots, and web sites compared to machine-chatbots cause less information disclosure because of the higher privacy concerns about the websites (Ischen, et al., 2020).

So we posit a hypothesis related to privacy concern and attitudes towards chatbots as:

H_6: Privacy concern influences the attitudes towards chatbot negatively.

3. Research Design and Methodology

The aim of the study is to examine university students' perceptions, attitudes and intentions to use mobile messenger chatbots during online shopping and to analyze this comparatively in the samples of university students in Turkey and Azerbaijan. In this context, a conceptual model has been developed for Turkish university students and Azerbaijani university students. The research model given in Table 1 was examined through structural equation modeling for Turkey and Azerbaijan.

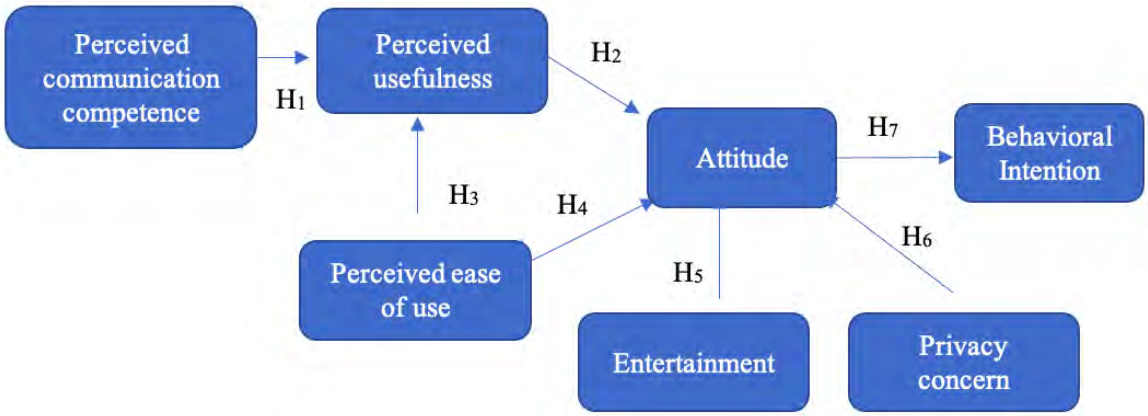

Figure 1 - Research Model

3.1. Study and Participants

In the research, it was aimed to determine the intentions of university students to use mobile messenger chatbots during online shopping, and in this context, Turkish and Azerbaijani university students' intentions to use chatbots were analyzed comparatively. Within the scope of the research, a questionnaire was applied to a total of 300 university students, 200 from Turkey and 100 from Azerbaijan in December 2019. Due to the pandemic, it was difficult to reach a sufficient number of students, which is an important limitation of the study. As a result of the applied questionnaires, it was concluded that 43.6% of the participants participating in the research were male students and 56.4% were female students. In addition, it was concluded that 66.6% of the participants in the research were citizens of the Republic of Turkey and 33.4% were citizens of Azerbaijan.

Table 1 - Demographic Data of Sample

Gender	n	%	Country	n	%
Male	131	43,6	Turkey	200	66,6
Female	169	56,4	Azerbaijan	100	33,4
Total	300	100	Total	300	100

3.2. Procedure of the survey and questionnaire design

Questionnaire method was used as data collection tool, and the questionnaires were conducted online. In the survey design, firstly a chatbot example was introduced to the students and they were required to watch the sample video on Youtube (https://youtu.be/08BDQvJEqpc) explaining how to order food using a chatbot, and then they were asked to answer the questions.

The scale used in the research consists of dimensions such as perceived usefulness, perceived ease of use, attitude, behavioral intention, entertainment, internet privacy problem and communication competence. The variables in the questionnaire were applied within the scope of a five-point likert scale. Propositions formed by perceived communication competence and entertainment dimensions were adapted from the work of Chung et al. (2020). In order to measure the quality of communication in their studies, Chung et al. (2020) adapted 14 items from the studies of McCroskey and Teven (1999), Mohr and Sohi (1995) and Spitzberg (2006) into their own studies.

The propositions formed by the dimensions of perceived usefulness, perceived ease of use, internet privacy problem, attitude and behavioral intention were adapted from the study of Eeuwen (2017). Eeuwen (2017), in his study, adapted 22 items from the studies of Fishbein and Ajzen (1975), Davis (1989) and Dinev and Hart (2006) to his own study to measure the degree to which a person believes that using messenger chatbot will improve his performance (Perceived Usability), the degree to which he believes that using mobile messaging chatbots will be effortless (Perceived Ease of Use), positive or negative feelings about using messenger chatbot (Attitude), the subjective probability (Behavioral Intention) that he will use mobile messaging chatbots for commercial purposes, and in particular the participant's concerns about opportunistic behavior regarding personal information they send via mobile messenger chatbots (Internet Privacy Issue).

4. Empirical Analysis and Results

4.1. Reliability and Validity

In order to determine the structural validity of the items used in the research, confirmatory factor analysis was performed using LISREL 10.3. Analyzes were made for both countries separately. To evaluate the compatibility of the models, x2/d.f., GFI, AGFI, SRMR, RMSEA, NNFI and CFI values were examined; for GFI and AGFI values, values above 0.90 and for SRMR and RMSEA values, values below 0.05 were taken as reference. Also, x2/d.f. ratio should be less than 5 and CFI and NNFI values, which are comparative fit indices, should be above 0.90. These values were accepted as indicators of a good fit (Anderson and Gerbing, 1984; Cole, 1987; Marsh et al., 1988; Jöreskog and Sörbom, 1993; Hair et al., 1998; Kelloway, 1998; Sümer, 2000; Schermelleh-Engel and Moosbrugger, 2003; Kline, 2015). The results of the CFA performed to evaluate model fit are given in Table 2. According to the results obtained for both countries, it is seen that the models show a moderate level of fit.

Table 2 - Confirmatory Factor Analysis Findings

Fit Index	Turkey	Azerbaijan	Limit Values
X^2/d.f.	2,25	3,29	≤5
GFI	0,83	0,73	≥0,90
AGFI	0,79	0,67	≥0,90
SRMR	0,085	0,085	≤0,08
RMSEA	0,079	0,107	≤0,08
NNFI	0,97	0,94	≥0,90
CFI	0,97	0,95	≥0,90

The questionnaires applied to the participants were subjected to reliability analysis through the SPSS 21 program and the Cronbach Alpha (α) values were examined. If the said value is higher than 0.60, it means that the relevant scale is reliable, and it also shows that the questions in the scale are distributed homogeneously (Kalaycı, 2014). The reliability coefficients of the questionnaire applied based on both countries were measured, and the results are shown in Table 3. All Cronbach Alpha (α) values above 0.70 indicate that the scales are reliable.

Table 3 - Reliability and Validity

Dimensions of the Scale	Turkey	Azerbaijan
	Cronbach Alpha (α)	**Cronbach Alpha (α)**
Communication Competence	0,702	0,860
Perceived Usefulness	0,916	0,932
Perceived Ease of Use	0,852	0,839
Attitude	0,848	0,877
Entertainment	0,818	0,880
Internet Privacy Issue	0,912	0,948
Behavioral Intent	0,902	0,911

Since it is important that the results are consistent with each other and that they are free from errors as a result of repeating some measurements in the scales, composite reliability (CR) and convergent validity (AVE) analyzes were performed in addition to the previously obtained Cronbach Alpha (α) values. The results obtained are given in Table 4. Composite reliability (CR) is used to show the reliability of numerically more than one and heterogeneous scales with close expressions (Raykov, 1998). On the other hand, convergent validity (AVE) is obtained by dividing the sum of the squares of the factor loads of the items obtained as a result of factor analysis by the number of related items (Fornell and Larcker, 1981). According to these analyzes in order to find the convergent validity value, the mean variance explanation value (AVE) of the items belonging to the scale should be determined from 0.50; the composite reliability value (CR) should be higher than 0.70. As a result of the obtained results, it was observed that the average variance extracted values (AVE)

of the items belonging to the scale were higher than 0.50 in all of the factors and the composite reliability values were at the border, excluding privacy and behavioral factors.

Table 4 - CR and AVE Values of the Scale

Factors	**CR**	**AVE**
Communication Competence	**0,64**	**0,58**
Perceived Usefulness	**0,69**	**0,61**
Perceived Ease of Use	**0,65**	**0,58**
Attitude	**0,66**	**0,60**
Entertainment	**0,65**	**0,58**
Internet Privacy Issue	**0,83**	**0,82**
Behavioral Intent	**0,78**	**0,75**

4.2. Partial Least Squares SEM Analysis

4.2.1. Turkey Sample

The significance of the path coefficients of the model was examined with the t test for the Turkish sample. As Soheyli et al. (2014) stated the t value should be greater than 1.96 in the 0.05 confidence interval (t>1.96; p≤0.05). As a result of the analyzes made, the relationship between the perceived ease of use of chatbots and the attitude towards chatbots and the relationship between internet privacy problem and attitude towards chatbots do not have an acceptable t value in Turkish sample. Therefore, the relationship between the perceived ease of use and attitude of chatbots and the problem of internet privacy and attitudes towards chatbots were excluded from the model as they did not have an acceptable t value and the analysis was repeated. As a result of the repeated analysis, since the implicit variable of "Internet Privacy Problem" did not reveal a significant relationship with other variables, it was completely removed from the model and the analysis was repeated. As a result of the obtained results, it was concluded that the model showed a moderate level of fit. As some of the questions were perceived as similar and very similar by the participants in Turkey, the system suggested modifications for two question items in the "communication competence" scale. The t values were realized as shown in Figure 2 with the modification made in items V25 and V24. According to the results obtained, the effect of the perceived ease of use of chatbots in Turkey on the perceived usefulness was not found as significant.

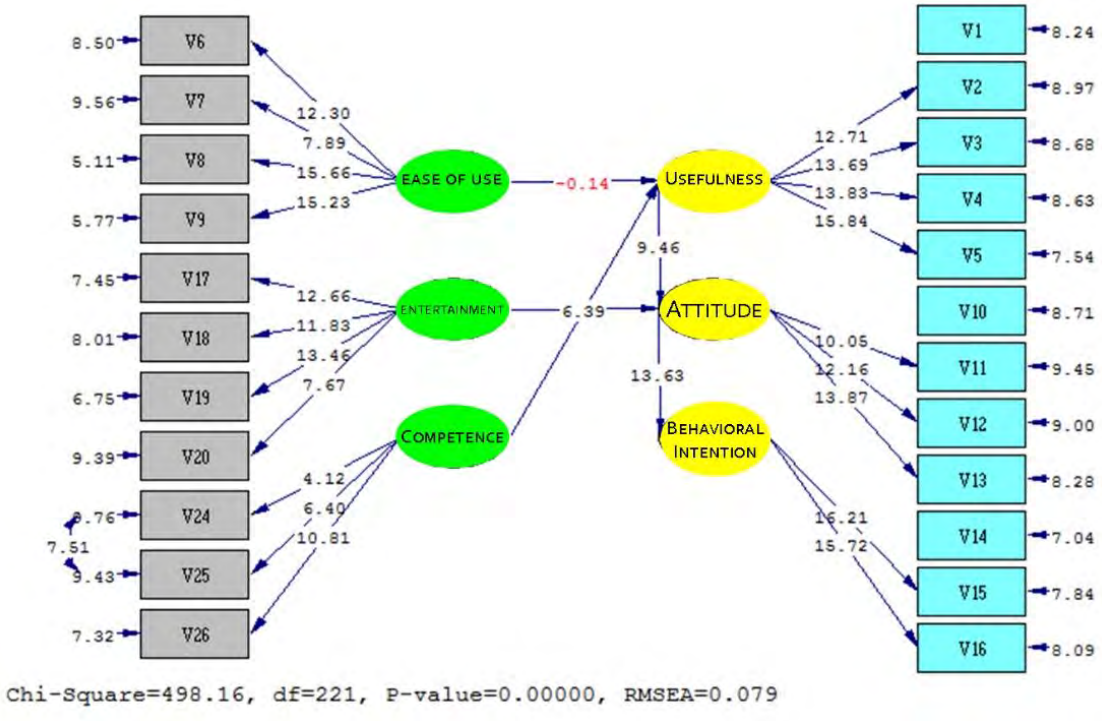

Figure 2. t Values of the Research Model for Turkey Sample

The path coefficients of the model are given in Figure 3 below. As Kline (2015) stated, the effect sizes of the path coefficients were determined as values less than 0.10 are small effect; values between 0.10 and 0.50 are moderate effect; values of 0.50 and above are high-level effect.

According to the relevant path coefficients, the relationships between all variables are positive. The perceived usefulness of chatbots is more affected by the communication competence provided by chatbots than the perceived ease of use variable. The perceived usefulness of chatbots had a greater effect on the attitude towards chatbots than the entertainment variable. It can be concluded that attitudes are important antecedents of usage intention.

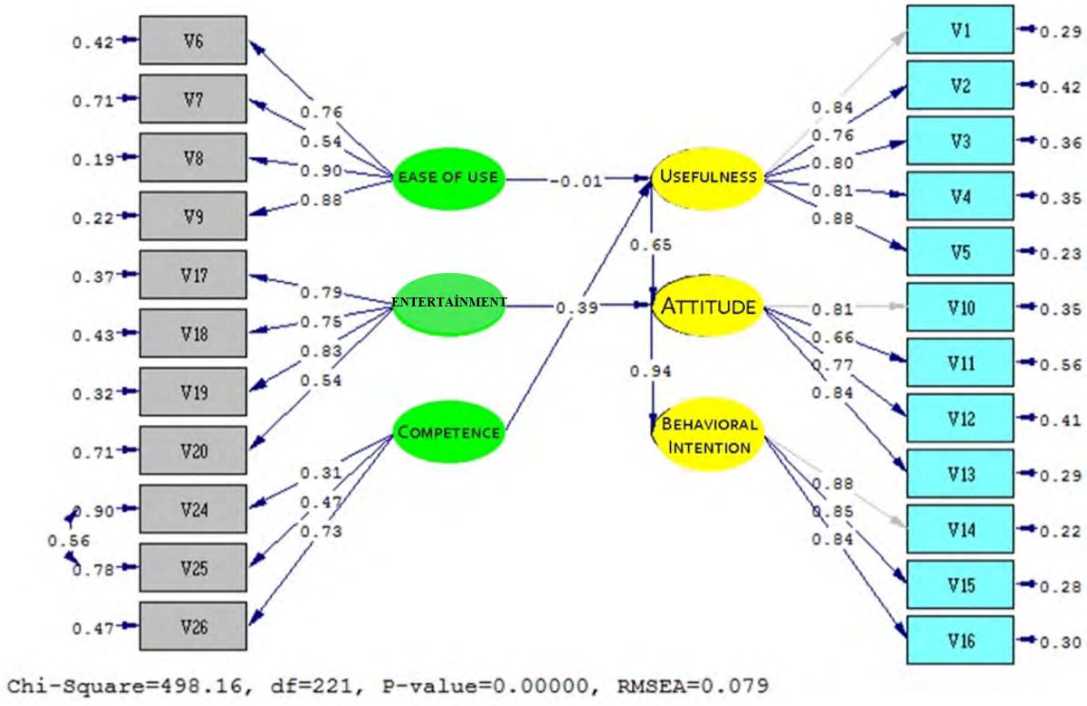

Figure 3. Standard Path Coefficients of the Research Model for Turkey Sample

The hypothesis results of the model for the Turkish sample are given in Table 6 in detail. According to the table, it was not concluded that the perceived ease of use of chatbots has a positive effect on the perceived usefulness of chatbots (C= -0,01, which is < 0,1; t= -0,14, which is < 1,96). Therefore, hypothesis H_3 was not supported. Meyer-Waarden et al. (2020) also supported those results, but Richard et al. (2019)'s findings were the opposite. The findings showed that communication competence had a positive relationship with perceived usefulness and the H_1 hypothesis was accepted (C= 0,42, which is < 0,1; t= 6,39, which is < 1,96) on the contrary of Chung et al. (2020)'s and Meyer-Waarden et al. (2020)'s studies. In line with the literature (Zarouali et al. 2018; Richard et al. 2019; Kasilingam, 2020), it was observed that the perceived usefulness of chatbots has a positive relationship with the attitude towards chatbots and the H_2 hypothesis was accepted. The existence of a positive relationship between entertainment and attitude towards chatbots enabled the H_5 hypothesis to be accepted as in Zarouali et al. (2018)'s and Kasilingam's (2020) research. Finally, it was concluded that the attitude towards using the chatbot has a positive relationship with the behavioral intention to use the chatbots as in the previous studies (Zarouali et al. 2018; Richard et al. 2019; Kasilingam, 2020) and the H_7 hypothesis was accepted. In addition, the explanatory power (R^2) of the equations according to the path coefficients is at an acceptable level. This value is also called the coefficient of determination. The value in question must be between 0 and 1 ($0 \leq R \leq 1$). Therefore, apart from the fact that the expected positive relationship between the perception of ease of use by young people and the usefulness of chatbots is not compatible with the literature, the relationships between all other variables have been positively determined. The fact that the ease of use of chatbots has not been found to have a positive effect on perceived usefulness, although the chatbot is easy to use, the cause of this situation can be explained that young people cannot quickly receive sufficient/relevant

support in purchasing services using this tool, or that chatbots are satisfying in helping to solve standard problems, but insufficient in more specific issues.

Table 5 - Hypothesis Results of the Model for Turkey Sample

Hypothesis	Coefficients	t Value	R^2	Result
H_3: Perceived Ease of Use > Perceived Usefulness	-0,01	-0,14	0,38	Not Supported
H_1: Communication Competence-> Perceived Usefulness	0,42	6,39		Supported
H_2: Perceived Usefulness -> Attitude	0,66	9,46	0,87	Supported
H_5: Entertainment -> Attitude	0,39	4,39		Supported
H_7: Attitude-> Behavioral Intention	0,94	13,63	0,88	Supported

4.2.2. Azerbaijan Sample

The significance of the path coefficients of the model was examined with the t test for the Azerbaijan sample. When the t values of the sample in Figure 4 were examined, it was seen that the whole value was significant.

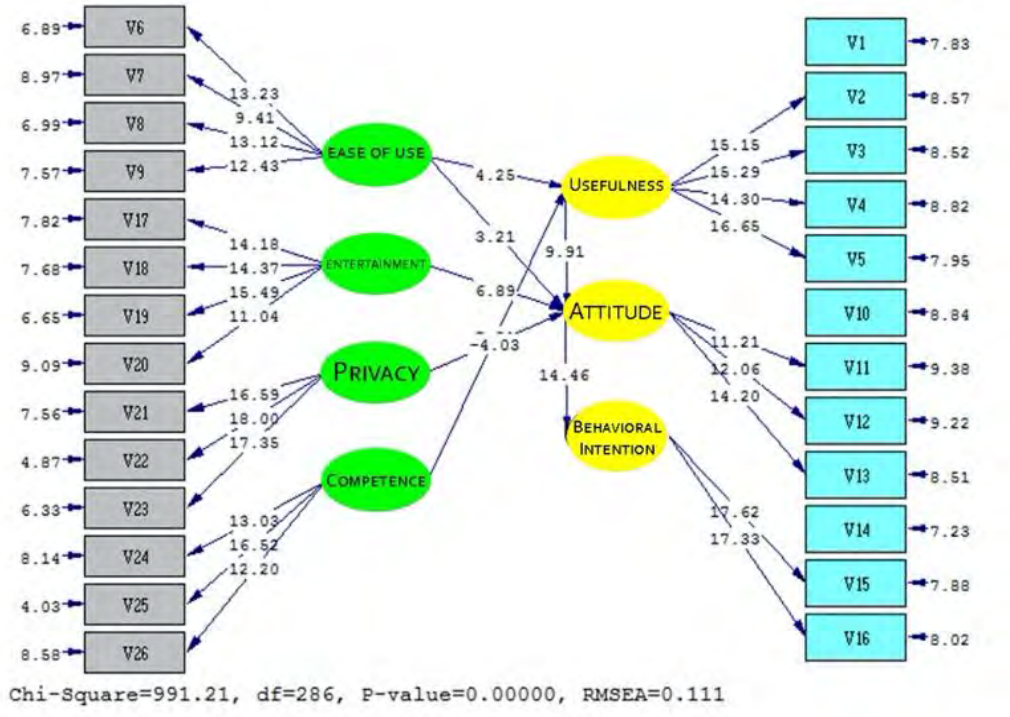

Figure 4 - t Values of the Research Model for the Azerbaijan Sample

The path coefficients of the model are given in Figure 5 below. According to the path coefficients in question, the correlation levels between all variables were positive. There was only a negative relationship between the internet privacy problem dimension and the attitude as Kasilingam (2020) supported the same results in their manuscript. However, Cosmo et al. (2021) didn't reach the same the results with our findings. According to the findings, in the Azerbaijan sample, communication proficiency has a relatively higher effect on the perceived usefulness of chatbots, and the perceived ease of use and communication proficiency of chatbots positively affect the perceived usefulness of chatbots. The relatively highest impact on attitude occurs through usefulness. While the perceived usefulness, perceived ease of use and entertainment of chatbots affect attitude positively, internet privacy affects the problem negatively. The relatively lowest impact on attitude was found for the ease of use of chatbots and internet privacy issue variables. Attitudes explain behavioral intention at a very high level. The findings show consistency with the literature (Eeuwen, 2017; Zarouali et. al, 2018; Richard et. al, 2019; Chung et. al, 2020; Kasilingam, 2020; Rese et. al, 2020; Gümüş and Çark, 2021; Huang and Kao, 2021).

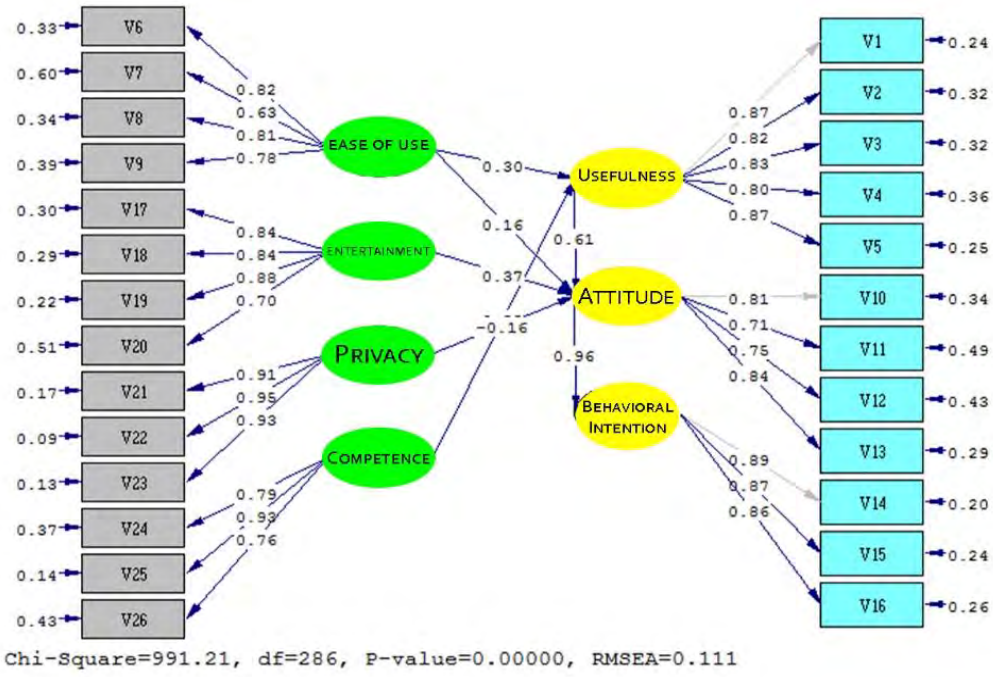

Figure 5 - Standard Path Coefficients of the Research Model for the Azerbaijan Sample

The hypothesis results of the model for the Azerbaijan sample are given in detail in Table 6. According to the table in question, it was concluded that as in Davis et al. (1989)'s and Richard et al. (2019)'s studies, the perceived ease of use of chatbots has a positive effect on the perceived usefulness of chatbots (C= 0,30 which is > 0,1; t= 4,25 which is > 1,96). Therefore, the H_3 hypothesis was accepted. Although the existence of opposite research results (Meyer-Waarden et al. 2020), in this study it was seen that communication competence had a positive relationship with perceived usefulness and the H_1 hypothesis was accepted (C= 0,55 which is > 0,1; t= 7,25 which is > 1,96. In addition to aforementioned research's findings (Zarouali et al. 2018; Richard et al. 2019; Kasilingam, 2020), it was concluded that the perceived usefulness of chatbots had a positive relationship with the attitude towards chatbots, and the H_2 hypothesis was accepted (C= 0,61 which is > 0,1; t= 9,91 which is > 1,96). Besides, it was proved that there was a positive relationship between entertainment and attitudes towards chatbots and the H_5 hypothesis was accepted (C= 0,37 which is > 0,1; t= 6,89 which is > 1,96). Moreover, it was concluded that the perceived ease of use of chatbots had a positive effect on attitudes and the H_4 hypothesis was accepted (C= 0,16 which is > 0,1; t= 3,21 which is > 1,96). On the other hand, it was concluded that the problem of internet privacy in the use of chatbots had a negative effect on attitudes, and the H6 hypothesis was accepted (C= -0,16 which is > 0,1; t= -4,03 which is > 1,96). Finally, it was concluded that the attitude towards using the chatbot had a positive relationship with the behavioral intention to use the chatbots and the H_7 hypothesis was accepted (C= 0,96 which is > 0,1; t= 14,46 which is > 1,96). In addition, the explanatory power (R^2) of the equations according to the path coefficients is at an acceptable level.

Table 6 - Hypothesis Results of the Model for Azerbaijan Sample

Hypothesis	Coefficients	t Value	R^2	Result
H_3: Perceived Ease of Use-> Perceived Usefulness	0,30	4,25	0,54	Supported
H_1: Communication Competence-> Perceived Usefulness	0,55	7,25		Supported
H_2: Perceived Usefulness -> Attitude	0,61	9,91	0,90	Supported
H_4: Perceived Ease of Use ->Attitude	0,16	3,21		Supported
H_5: Entertainment -> Attitude	0,37	6,89		Supported
H_6: Privacy Concern->Attitude	-0,16	-4,03		Supported
H_7: Attitude->Behavioral Intention	0,96	14,46	0,91	Supported

4.3. Comparison of the two models

In this study the perceptions and attitudes of university students in Turkey and Azerbaijan on whether they adopt chatbots during online shopping were comparatively examined, the relationship between perceived ease of use of chatbots and attitude, and the relationship between internet privacy problem and attitude towards chatbots were not found at a significant level in the Turkish sample as shown in Table 7. Therefore, these dimensions were excluded from the scope of the analyzes made in Turkish sample. In literature there are studies both proving the negative relation between internet privacy concern and attitude, and finding no meaningful relation (Kasilingam, 2020; Cosmo et al. 2021). In Turkey where online shopping is rising with an increasing momentum (UNCTAD, 2021), payment options are also quite diverse. Cash, which is one of the traditional methods, and credit card options at the door are also very popular. Among the options presented in the sample video in the research, there were alternatives such as cash, credit card at the door, coupons, and paypal. Since cash at the door or contactless credit card payment options are also common in food orders, it would be normal not to find a significant relationship between internet privacy and other variables. As a result of these findings, it was observed that university students' perceived ease of use factor and privacy concern factor did not influence the attitudes of individuals in the case of Turkey. Contrary to the literature (Eeuwen, 2017; Zarouali, et al., 2018; Völkle and Planing, 2019), in Turkish sample, a meaningful whole could not be determined between the ease of use of chatbots and the perceived usefulness factors and attitudes of individuals. Although chatbots are user-friendly and practical, consumers may not find it useful because of the inefficiency of receiving answers for specific problems. The chatbots generally are designed to offer standard solutions to standard problems. That might be the main reason that the consumers may not find it useful enough. However, in line with the literature (Brandtzaeg and Følstad, 2017, 2020), a significant relationship was found between perceived entertainment factor and attitudes in Turkey. In the experience economy, practices that make a difference are applied in establishing a long-term relationship with consumers, not only based on sales, but also based on the positive experience and satisfaction of the consumer. At this point, it can be interpreted that hedonic motivations play a role in the use of chatbots, and the entertainment factor is decisive. In other results obtained, although the adequacy of communication in chatbots affects the usefulness factor perceived by individuals in Turkey in accordance with the literature (Luger and Sellen, 2016; Kim, et al., 2018; Marrinan, 2018); the perceived usefulness in question affects the attitudes of individuals. Perceived ease of use mostly influenced the attitudes positively, as the same with literature (Eeuwen 2017; Richard et al. 2019; Kasilingam, 2020). It's seen that the attitudes of individuals in Turkey highly affect the behavioral intentions of individuals just as it was observed in previous studies (Zarouali et al. 2018; Richard et al. 2019; Kasilingam, 2020).

The results obtained in Azerbaijan were slightly different from the results obtained in Turkey and show parallelism with the findings in the literature on which the hypotheses are based (Luger and Sellen, 2016; Eeuwen, 2017; Zarouali, et al., 2018; Kim, et al., 2018; Marrinan, 2018; Völkle and Planing, 2019; Richard et al. 2019). According to the results of the research, it was concluded that university students' perception of ease of use of chatbots positively affects their perceived usefulness and attitude towards chatbots as it was seen in previous research. In addition, it has been determined that the use of chatbots is fun, positively affects the attitudes of using chatbots. It was concluded that the problem of internet privacy during online shopping negatively affected the attitude towards chatbots, and it was noted that as the concern for information security

on the internet increased, the attitude towards chatbots decreased. However, a positive and significant relationship was obtained between the communication proficiency in the use of chatbots and the perceived usefulness of chatbots. In addition to all these results, a positive significant relationship was detected between the perceived usefulness of chatbots and the attitude towards chatbots, and a positive significant relationship was found between the attitude towards chatbots and behavioral intention.

Table 7 – Comparative Coefficients and t Values

Hypotheses	**Turkey**			Azerbaijan		
	Coefficients	**t- values**	**Result**	**Coefficients**	**t- values**	**Result**
H_1: Communication Competence-> Perceived Usefulness	0,42	6,39	Supported	0,55	7,25	Supported
H_2: Perceived Usefulness -> Attitude	0,70	9,46	Supported	0,61	9,91	Supported
H_3: Perceived Ease of Use-> Perceived Usefulness	0,38	-0,14	Not supported	0,30	4,25	Supported
H_4: Perceived Ease of Use -> Attitude	-	-	Not supported	0,16	3,21	Supported
H_5: Entertainment -> Attitude	0,43	4,39	Supported	0,37	6,89	Supported
H_6: Privacy Concern-> Attitude	-	-	Not supported	-0,16	-4,03	Supported
H_7: Attitude-> Behavioral Intention	0,94	13,63	Supported	0,96	14,46	Supported

5. Conclusion And Discussion

In today's world, where technological developments and the use of the internet are extremely common, individuals can access information in a very short time and obtain everything they need through the internet. Especially, the increasing importance of online shopping, with the effect of Covid 19, has caused individuals to search the features of the product via the internet and meet their shopping needs through online channels. With technological developments being so effective on human life, businesses need to perceive this situation well and use it for their own progress.

One of the good examples of the adoption of new technology - AI in customer relations is chatbots. Chatbot is a complementary tool in communication with customers and serves as an experience enricher that businesses can use to reach their target customer and satisfy them with a positive experience. Such applications are beneficial for businesses to diversify their communication channels with their customers. Businesses that vary their communication channels with customers can get better feedback in terms of customer satisfaction. With chatbots and online shopping over the internet becoming widespread worldwide, the perception of individuals towards chatbots and online shopping has become a matter of curiosity and entertainment. So, this study aims to explore and compare the university students' perceptions toward chatbots and sheds light on their motivations to use chatbots in online shopping.

The results of the analysis indicated that as a new technology, chatbots are found to be competent enough by the young consumers who are so open to try innovative services. And that communication competence also leads to a positive perception concerning the usefulness of chatbots that the consumers can do online shopping by following simple steps offered by the chatbot. Chatbots play a facilitating role in giving an order or

purchasing an item by shortening time that a customer will spend. User-friendly and entertaining nature of chatbots are also effective to shape a positive attitude towards chatbots and that positive attitude helps adopting chatbot usage in online shopping. On the other hand, no matter how practical the chatbots are, consumers may not find it useful because of the inefficiency of solving particular problems. The obstacles about offering only standard solutions to standard problems should be overcome by AI learning, and the portfolio of services offered via chatbots should be enriched.

Privacy concern is another issue stated in the literature as a drawback perceived by the consumers in online shopping, and consumers may hesitate to share their personal data because of the risks related misuse of financial information, identity theft, or interception of credit card information. The results of the study revealed interesting findings in terms of the privacy concern relationship with the attitude towards chatbot in Turkish sample. While a strong negative relationship between the variables was expected, no significant relation was found. Unlike Turkey, in Azerbaijan sample, it was concluded that the problem of internet privacy during online shopping negatively affected the attitude towards chatbots, and as the concern for information security on the internet increased, the attitude towards chatbots decreased. That finding might be a consequence of the sample's characteristic that Turkish university students may use their parents' credit cards and that may lead to dismiss privacy concern issue in their minds while shopping online, or they may prefer to use safer payment options like cash or credit card at the door enabling them not to share their personal data to overcome privacy problems.

According to the results obtained from the Azerbaijan sample, it was concluded that the research model was wholly confirmed with the causal relationships among all variables. Thus, university students' perceptions and attitude towards chatbots were not totally same because of the differences regarding their experiences and expectancies with chatbots.

This study, while comparatively examines the perceptions, attitudes, and behavioral intentions of young people in two different countries belonging to the Z generation regarding the use of chatbots during online shopping, future research should also examine the chatbot approaches of consumers between generations in a comparative manner. Thus, it will be possible to observe how the practices carried out by businesses aiming to satisfy customers and provide a positive experience within the experience economy respond to different age groups.

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