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## An Evaluation and Analysis of Perceived Online Service Quality Dimensions Impacts on Online Purchasing Behavior of Luxury Cosmetic Products by Women

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### ABSTRACT

Customers' perception of service quality can affect their behavioral intentions. However, despite its great importance, there is little agreement and consensus about how to evaluate the quality of online services. The present study has sought to investigate and analyze the impact of dimensions of online service quality on women's online buying behavior concerning luxury cosmetics. It has been designed and conducted based on nature in two methods: qualitative-exploratory and quantitative-survey. The statistical population in the qualitative stage was composed of twenty-three active and experienced customers of Telegram groups of luxury cosmetics. The content analysis method was employed to analyze the qualitative data. In the quantitative stage, the conceptual model of the research was examined. The statistical population of this stage has been the customers of Telegram online groups of luxury cosmetics. The sample size was 385. The qualitative stage data were analyzed and then classified and encoded in the form of dimensions of the perceived online service quality involving group quality, transaction-related service quality, and interaction quality. Quantitative stage findings showed that the dimensions of perceived online service quality have a significant effect on customers' online purchase intention and impulsive buying.

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## 1. Introduction

The spread of information technology and its rapid entry into the daily lives of people around the world has posed countless opportunities and challenges to a variety of businesses. This has led to the formation of a competitive landscape and the growing prosperity of e-business instead of traditional methods (Bandara, Fernando, and Akter, 2020). Due to the advancements in the global information network, the number of e-businesses in Iran, as in other countries, is expanding rapidly, to the extent that e-businesses account for about five percent of Iran's GDP. Over thirty thousand virtual and semi-virtual enterprises are active in the country and many people are now working in the e-business industry (Chavoshi et al., 2019).

A customer's repeated purchases from online or offline environments are undoubtedly unaffected by the customer's previous experience. One of the key success factors for survival in an online competitive environment is choosing the right strategy with an emphasis on service quality. Businesses need to provide a quality service experience for customers so that the customer does their shopping repeatedly and loyally to the company (Sharma and Lijuan, 2015). Another global consumption pattern that is worth considering is the rapid growth of consumption of luxury products, such as luxury cosmetics products, as this pattern is also becoming a common behavior among young people in Iran (kheiri and fathali, 2016; Quchani, 2013).

Therefore, considering the importance of this issue and the limited number of studies that have been conducted in this field in Iran, it can be understood that the severity of this issue and the need for research studies in Iran have not been properly considered. Besides, the tendency towards luxury goods in Iran is increasing (Kheiri and Fathali, 2016), and in many cases, this is done through social networks and cyberspace. Because international sanctions have limited the possibility of official activities of many brands in the Iranian market, cyberspace possibilities such as Telegram and Instagram have become a channel for offering and selling various luxury products.

Telegram has 40 million active users in Iran, which is equivalent to 50% of the country's population. Marketers are also very interested in the Telegram environment. Also, many brands, companies, etc., along with other social networks, introduce themselves on a Telegram channel (Hashmi and Chahooki, 2019).

At present, our country is one of the largest consumers of cosmetics in the region, so Iran is the second record holder in the consumption of cosmetics in the Middle East and the seventh record holder in this field in the world (Kazemi, Moeini, and Zakrinia, 2021). Studies over the past two decades have shown that service quality influences customer decisions, and these findings have recently been applied to e-commerce (Wolfenbarger and Gilly, 2003; Yang and Jun 2002). E-commerce researchers are very interested in customers' perceptions and evaluations of service quality. This interest is mainly due to the need to strengthen the business relationship with customers (Mpinganjira, 2015). In the past, many studies have been done on the perceived quality of online services using SERVQUAL dimensions or the components and features of the site/website have been considered as quality dimensions. These include the studies by Hafiz and Alam (2016), Chuang, Chen, Lin and Yu (2016), Kim and Lennon (2013), and Lee and Lin (2005). Some have also considered seven dimensions for E-SERVQUAL (Sasono et al., 2021; Kalia 2021). It has also been suggested in some studies that the characteristics of service quality in online environments have a significant relationship with the overall quality of service, customer satisfaction, and behavior (Rita, Oliveira, and Farisa, 2019). Doostar, Akbari, and Abbasi (2013) considered "usefulness", "enjoyment", "external characteristics", "reliability" and "responsiveness" as factors that have a positive impact on perceived service quality in electronic markets in Iran. Since service quality has been recognized as a viable tool for creating competitive advantage and improving organizational performance, the quality of online sales services is essential for the success of strategic online stores. After reviewing previous works in the field of perceived online service quality, several important theoretical gaps were identified. Most of the previous studies have investigated the effect of perceived online service quality on consumer satisfaction, loyalty, or behavioral tendencies. It also seems that previous studies have not considered the dimensions of service quality and its components in an online Telegram environment from the customers' point of view and its impact on buying behavior in general, especially in the Iranian market

and for the Iranian consumer, considering Iran's young population and high tendency to consume luxury cosmetics.

Therefore, more generalizable results can be obtained by considering cultures different from the Western consumer culture. Conducting comprehensive research in the Iranian market by considering the different values of consumers for choosing products, as well as the clear difference between luxury cosmetic brands and available Iranian brands in the dimension of customers' perceived online service quality and its impact on purchasing behavior can fill the existing gaps – as the current research also seeks to achieve such goals. Therefore, the present study aims to achieve a comprehensive view of the perceived service quality and its dimensions and components in the field of online sales from a customer's standpoint.

The present study has considered the Telegram online groups that represent luxury cosmetics brands as a basis for the study of online service quality.

Hopefully, the findings of this study provide a better understanding of the quality of online services.

Therefore, the present study answers the following two questions:

1. What are the dimensions of the quality of perceived online services in the Telegram sales groups of luxury cosmetics?
2. What is the impact of the dimensions of the quality of perceived online services on customers' purchase intention and impulsive buying of cosmetic products?

## **2. Literature Review**

This study has been done to enhance and expand the existing knowledge and also to help provide practical solutions to the existing challenges in the field of active businesses in Telegram groups. Therefore, first in the theoretical background section, the definitions and concepts of research variables are introduced, and then a brief review of previous studies in two sections of internal and external studies is presented.

### **2.1 Theoretical background**

#### **2.1.1 Consumer behavior in the luxury cosmetics industry**

Historically viewed, the term "luxury" connotes a sense of rarity and nobility of services and products, which were exclusively designed for the highest social classes. As such, different sumptuary laws and scarcity ideas were imposed to restrict the distribution of luxury products. In the course of history, a wider audience was gradually recognized for luxuries. Nowadays, luxury is regarded as an indispensable service, and accordingly, a new concept is formed as follows: "things you have that I think you shouldn't have" (Stanforth & Lee, 2012). Consumer behavior analysis is the key to success in online businesses. Online shopping is currently experiencing a phenomenon that can be described as a boom in economic growth, as it is also one of the benefits of e-commerce. The rapid development of this early business idea has attracted consumers and sellers around the world. The Internet offers a variety of services, such as knowledge and products, collecting market research data, promoting services and goods, facilitating online ordering of goods, and providing a new competitive and flexible channel for retailers and consumers. The cosmetics industry has a major and rapidly developing market in the Middle East. This is evidenced by the fact that Muslim customers spend \$ 26 billion on cosmetics (Naseri, 2021).

Cosmetic products can be viewed from two perspectives: first, as a basic need of human beings, especially women, and second, as a subject that has greatly attracted people's interest by the formation of consumerism and diversification of desires and tastes. It seems that the second perspective is largely responsible for the rapid growth of the cosmetics industry worldwide (Shaikh & Deshmukh, 2014). Besides, consumers are attracted to advertisements and messages that are reflected in their behavior and purchase intention (Rodrigues, 2021).

#### **2.1.2 Perceived quality of electronic services**

The concept of service refers to actions, efforts, processes, or performance. While customer service has traditionally been associated with face-to-face interaction between service personnel and the customer, technological advances have shaped electronic services. Some researchers have defined e-

services as “actions, endeavors, or performance provided by information technology, including the Web, information kiosks, and mobile devices” (Mpinganjira, 2015). The quality of e-services is defined from different perspectives. From the consumer perspective, Santos (2003) defined the quality of electronic services as the overall assessment and judgment of the customer about the excellence and quality of electronic services in the virtual market. From an organizational perspective, the quality of e-services is defined as the efficient delivery of a service by a purchasing website (Parasuraman et al. 2005). The quality of e-services plays a very important role in any society, as it becomes the basis for customers’ interpretation of how they interact and function about online services (Sasono et al., 2021).

The quality of e-services affects the purchases of different consumers, which ultimately leads to increased overall financial performance and profitability of the company (Kim and Kim 2020). Ha, and Stoel (2012) specifically define the quality of online retail services as “consumer perceptions of e-shop performance and effectiveness in terms of products and/or services offered.”

In terms of luxury brands, some researchers have emphasized the high standard of e-service quality as a key success factor for luxury brands. Research over the past two decades has shown that service quality influences purchasing decisions. For example, service quality metrics are used to assess the quality of virtual websites, e-commerce channel satisfaction, and the determinants of website success (Kim & Kim, 2020). Brands are often observed to provide specialized web services in different popular media. Brand sales pages introduce and advertise brand products while providing a connecting interface between the producer and the target customers (Ng, 2014). Online shopping is a complex process that can be divided into different sub-processes such as shopping process, information retrieval, online transactions, and customer interactions. Customers are unlikely to evaluate sub-processes in detail when visiting an online store, but rather they perceive service as an overall process and outcome (Van Riel et al. 2001). In addition, for online customers, high-quality e-service is a tool through which the potential benefits of online shopping can be realized. Since it is much easier to compare the technical specifications and prices of products online than traditional shopping methods, the quality of e-services has become a major factor for customers. Therefore, online customers expect more from the quality of e-services than traditional methods (Kim & Kim, 2020).

### **2.1.3 Dimensions of electronic services quality**

While it is widely accepted that measuring the quality of services in the field of information technology may not be the same as traditional services, there is no consensus in the literature on how to conceptualize and measure the quality of electronic services. Parasuraman et al. (2005), the same team that presented the SERVQUAL model, while pointing out the significant differences between the quality of regular services and electronic services, introduced a scale for measuring the quality of electronic services called ES-QUAL. They considered the quality of e-services to include four dimensions: efficiency, system availability, satisfaction, and privacy. Lee & Lin (2005) presented a tool that demonstrates five dimensions of e-service quality: website design, reliability, responsiveness, trust, and personalization. Kim, Jin, and Swinney (2009) identified reliability, responsiveness, web design, and privacy as the four main dimensions of service quality in electronic markets. Zuliarni et al. (2013) also identified six dimensions of usefulness, ease of use, reliability, responsiveness, security, and continuous improvement. Chen et al. (2013) noted the focus of online retailers on three main components: service environment, service delivery, and service results. Mpinganjira (2015) examined the quality of online retail services by focusing on customers’ perceptions of the three dimensions of platform quality, the interactions that take place on the platform, and the interaction results. Rita et al. (2019) considered the three dimensions of website design, security/privacy, and feasibility as dimensions of e-service quality. Küster, Vila & Canales (2016) considered two dimensions of the quality of online services: transaction-related services and pre-purchase services. Hung et al. (2014) identified customer service personalization as an important feature of e-service quality for the success of online stores.

### **2.1.4 Purchase intention**

Purchase intention is the desire to buy a particular product or service over some time. Consumers’ intention to buy often depends on the marketing strategy of the firm, the attitude, and the importance of the customer to the transactions made. Therefore, online companies need to meet customers’

demands to improve their purchase intention, because organizations must follow the requirements and standards of consumers (Naseri, 2021). Consumers' positive emotions and attitudes toward a product/service, or a store in particular, influence their purchase intention. The intention to buy from a retail store is influenced by some external factors such as the brands sold in the store, location, and timing, and some inherent factors such as meeting a need, satisfying a priority, and putting the consumer in a better position. Purchase intention is also used as an indicator of estimating consumer behavior (Wu et al. 2011) and is often used to identify the likelihood of purchasing goods over some time (Dehghani & Tumer, 2015).

### **2.1.5 Impulsive buying behavior**

Consumers are the source of income and profit for companies. Impulsive buying is an attractive aspect of a consumer's behavior for companies, due to which consumers end up buying more than they originally planned. Excess sales cause retailers and companies to encourage impulsive buying with the help of a relaxing and enjoyable store atmosphere and promotional incentives. Impulsive buying is often described as a spontaneous/instantaneous purchase or having ownership of a product without any deep prior thinking. People who are heavily involved in impulsive buying are those who usually interact very easily with the product and are convinced to buy the product immediately and without prior planning (Zhou & Gu, 2015). There has been a long history of impulsive buying behavior. Rook offered a new definition of impulsive buying "impulsive buying occurs when a consumer experiences a sudden, often powerful and persistent urge to buy something immediately" (Farid & Ali, 2018). Recently, impulsive buying behavior has been explored from many different psychological perspectives, each of which focuses on different structures or mechanisms that may underlie this behavior, such as personality, emotions, cognitive processes, self-control, or psychopathology (Sheth, 2020).

## **2.2 Experimental background**

Studies in the field of perceived service quality, purchase intention, and impulsive buying have variously contributed to the formation of literature and theoretical knowledge on this subject. The present research has been done to complete and develop the existing knowledge and also to help provide practical solutions to solve the existing challenges in the field of active businesses in Telegram groups. In this section, the research background is briefly presented and divided into two sections internal and external studies. Sorooshian et al. (2012) conducted a study entitled "Customer experience about service quality in the online environment in Iran". This study through reviewing literature extracted four dimensions of customer experience, namely Pragmatic Experience, Sociability Experience, Usability Experience, and Hedonic Experience. results showed that Hedonic Experience and Pragmatic Experience have the most and lowest impact respectively. Bakır and Atalık (2021) studied "evaluate e-service quality in the airline industry from the point of view of the consumers" and determined "reliability, understandability, and security" as the top three criteria of electronic services. Rajaobelina, Brun, Kilani, & Ricard (2021) investigated the banking customer's emotions during live-chat service and its effect on positive word-of-mouth intentions. They also determined whether these emotions are influenced by dimensions of e-service quality (accessibility, customer service and support, perceived security/privacy, and design) or not. They concluded that customer service and support followed by the live-chat service design generally affect consumer emotions. These recommendations can practically enhance consumer experience and motivate customers to use live chat services. Sasono et al. (2021) showed that e-service quality exerts a significant positive effect on e-satisfaction and e-loyalty. According to them, e-satisfaction mediates the effect of e-service quality on e-loyalty. Kim and Kim (2020) conducted a study entitled "Conceptualizing and evaluating the quality of e-services of luxury brands." The results of this study, while confirming a preliminary step in the development of e-commerce for luxury fashion websites, showed a large gap between online and offline customer experiences. Rita et al. (2019) conducted a study entitled "Study of the Impact of electronic service quality and customer satisfaction on customer behavior in online shopping." The analytical results showed that the three dimensions of e-service quality, namely website design, security/privacy and satisfaction, affect the overall quality of e-services. Küster, Vila, and Canales (2016) performed a study entitled "How does the level of online service affect consumers' pre-transaction shopping goals?" They showed that transactions-related services and pre-sales services

determine the purchase experience trend. Mpinganjira (2015) conducted a study entitled “Assessing the quality of perceived services in online purchase” and showed that the online store service quality, which reflects the three dimensions of platform quality, interaction quality, and output quality, has a significant impact on customers’ attitudes toward online stores and their behavioral response in terms of positive communicative interactions.

Given the limited number of related studies in the country that have considered local contexts, this study has thus examined the behavioral responses of customers including purchase intention and impulsive buying, while also embracing the dimensions of perceived service quality, which are among the important factors in online purchase of luxury cosmetics. Therefore, the purpose of this study is to investigate the effect of online service quality dimensions on women’s online purchase behavior concerning luxury cosmetics.

### **3. Methodology**

The present study is an applied-developmental research in terms of purpose and an exploratory survey in terms of nature and method of data collection. The present study has used qualitative and quantitative approaches (i.e., a mixed method) to obtain the data needed to answer the research questions. In the first stage of the research, to achieve the perceived online service quality dimensions for the purchase of luxury cosmetics, a qualitative method has been used.

In the qualitative section, the interview guide was used to extract customer views. Each interview was initiated with a general question such as “What features of the online groups selling cosmetics encourage or discourage you from buying?” Then, the interviewees were asked: “Regarding the previous question, which service features provided in cosmetic products groups, made you particularly willing or unwilling to buy?” and “What specific characteristics of the Telegram group environment (comments, members, advertisements, etc.) have made you inclined or disinclined to buy the products?”

The average interview time was 45 minutes. The interviews were conducted based on a purposive non-probability sampling method via theoretical sampling from active customers with a long history of purchasing from the Telegram groups of luxury cosmetics.

Shopping in virtual networks, including Telegram groups, is being done, and sanctions and filtering have not affected the routine of these groups. In Telegram groups (unlike the Telegram channel), it is possible to see the IDs of people. In the qualitative stage, active customers who have been in these groups for years and whose IDs were repeated regularly in the selected groups were selected. To reach these customers, available Telegram groups with high members were selected, and active customers with high purchases were selected and invited for interviews. Sampling was continued until the data were duplicated and saturated. To observe maximum variability, the sample members included 23 customers with different demographic characteristics (age, education).

The data-based inductive content analysis method was used to analyze the interview data, which is used to identify, analyze, and report patterns or themes in qualitative data. In this way, the researcher can report both the obvious meanings of the data and the hidden meanings, assumptions, and ideas of words, phrases, and sentences (Brown and Clark, 2006).

Data collection and analysis were performed simultaneously. Basic and descriptive data coding and then organizing coding were done. Finally, the integration of codes was done in the form of comprehensive themes (Table 2). By defining and reviewing the organizing and comprehensive themes and the relationships between them, a network of themes for the dimensions of perceived online service quality of the Telegram groups’ customers was formed (Figure 1). In this study, to measure reliability, first, the coding was done manually by studying the interviews line by line by one coder; then the coding was done by another coder. The coding results were then compared, and the holistic approach was used to obtain the reliability coefficient (=95%), indicating the appropriate reliability of the data.

To confirm the research validity, the continuous review method was used: first, the opinions of three marketing professors were asked to evaluate the words and questions of the semi-structured interview. Then, three experimental interviews were conducted to evaluate the interview questions, and finally, the semi-structured interview plan was reconsidered using the opinions of professors and the feedback obtained from the interviews. Then, through the analysis of the findings of this stage, the quantitative stage was designed. In this stage, testing to examine the relationship between the

dimensions of perceived online service quality, the purchase intention and impulsive buying, as well as test the final research model, a researcher-made questionnaire was designed and distributed to collect luxury cosmetics groups customers' opinions and analyze the obtained data. The basis for compiling the questionnaire was previous research and previous interviews (in the qualitative stage) with customers. In this section, the statistical population of the research is assumed to be all the customers of luxury cosmetics products in the Telegram groups, who are present in such groups and have high experiences of buying products from online groups. The number of these customers is unknown and cannot be obtained. Due to the large size of the population, the statistical population is assumed to be infinite. Therefore, the final sample size based on Cochran's formula for an unlimited population was 380. In this phase, the available non-random sampling method was used for the Telegram group members. To achieve the appropriate number of samples, the questionnaire link was placed in selected groups and finally, 385 valid and correct questionnaires were collected.

Finally, the main model of the research was tested through the structural equations model. The software programs used to perform the analysis in this section were SPSS (16) and Smart-PLS (2).

## 4. Findings

### 4.1 Research findings in the qualitative stage

As mentioned before, the qualitative method and semi-structured interview tools were used to identify the dimensions of perceived service quality. The method of analyzing the interviews was thematic analysis. Thematic analysis was used to identify the dimensions of perceived online service quality and 324 codes were extracted. In the next step, these codes were categorized into groups with similar and coherent meanings and were refined in the form of 23 codes based on the number of repetitions, as shown in Table 1. As can be seen, the highest frequency belongs to the theme of transaction-related service quality with 112 codes, which indicates that this dimension is one of the important dimensions of the quality of perceived online services.

**Table 1.** Dimensions and components of perceived online service quality

Global theme	Organizing theme	Basic codes
Quality of perceived online service (324)	Telegram group quality (104)	Information and guarantee about price, prices, dollar rate, and shipping rate (35) Providing accurate and comprehensive product information (28) The visual charm of the Telegram cosmetics groups (23) Admin knowledge in recognizing brands and offer times, admin skill in managing groups (18)
	Quality of transaction-related services (112)	Customer's trust in the group (11) Providing scheduled services on time (28) Safe delivery of product to the customer and matching of the purchased product with the delivered product (19) Good faith and financial security (5) Group reputation (4) Possibility of quick and in-person access to group admin for product delivery (3) Proper packing of postal packages (5) Group disciplinary rules and admin discipline (33) Using proper tools to reassure customers (4)
	Interaction quality (110)	Possibility of choosing product delivery method (3) Ability to interact with group admin and group members (38) Ability to choose payment method (2) Level of attention to customers (1) Providing customized information for each customer (4) Assistance in solving problems in the transaction process (2) After sales services (7) Honesty and accountability of admin (5) Admin politeness and respectfulness (27) Timely response to customers' questions and requests (19)

In this stage, based on the output of the previous stage, the network of themes of the perceived online service quality dimensions has been drawn. The network of themes, based on a specific process, systematizes the codes and key points of the text, the themes obtained from the combination and summarization of the basic themes, and the high themes containing the principles governing the text as a whole in the form of basic, organizing and comprehensive themes, and then maps them onto the website and shows the prominent themes of each of the three levels as well as the relationships between them (Abedi Jafari et al., 2011). The network of themes drawn from the theme analysis in the present study can be seen in Figure 1.

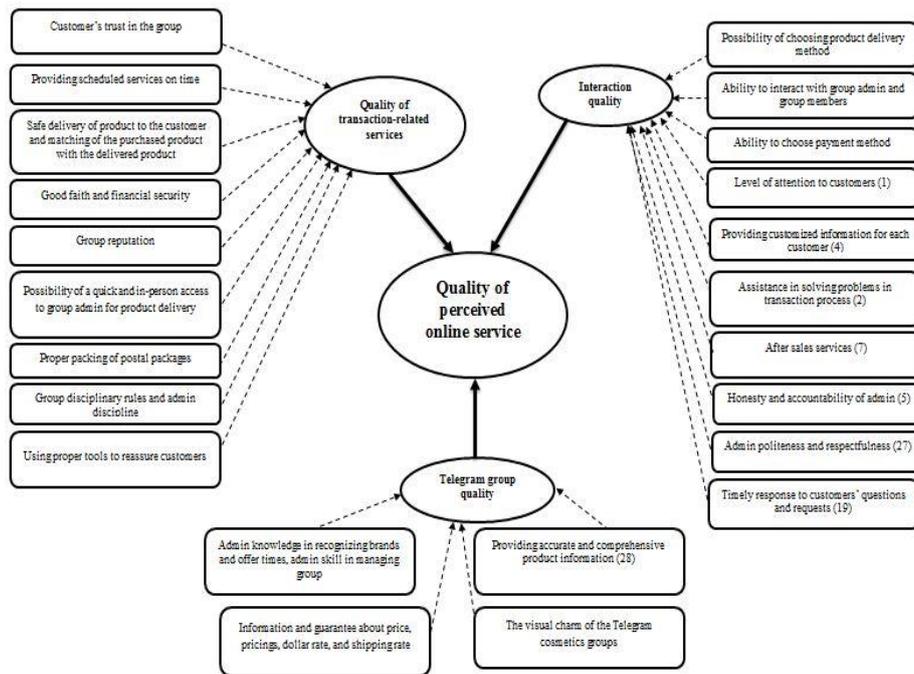


Figure 1. Thematic Network of the dimensions of perceived online service quality

With the main focus on the important factor of perceived online service quality from the perspective of customers, 3 dimensions were identified as dimensions of perceived online service quality. Dimensions of perceived online service quality were the quality of the Telegram group, the quality of transaction-related services, and the quality of interaction.

The insights gained from reviewing the literature on the quality of perceived online services mentioned are the starting point for designing a new model for Telegram sales groups of luxury cosmetics in Iran. In this study, the dimensions of the quality of perceived online services were identified through in-depth interviews. On the other hand, in studying the theoretical foundations of research variables, we concluded that impulsive buying and purchase intention are of great importance in the target population; therefore, these two variables were added to the research model to help better understand the results. As such, the conceptual model of the research is as follows:

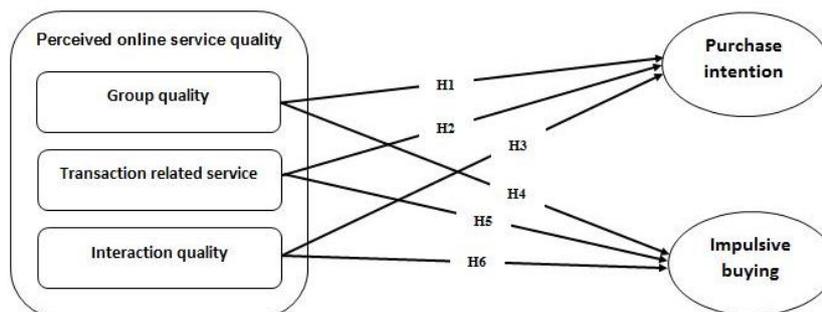


Figure 2. Conceptual research model obtained from analysis of qualitative section and theoretical foundations of research

To identify the impact of the dimensions of the quality of perceived online services on purchase intention and impulsive buying of luxury cosmetics in Telegram groups, our research hypotheses are formulated as follows:

- H<sub>1</sub>:** Group quality has a significant effect on customer's purchase intention in Telegram groups.
- H<sub>2</sub>:** The quality of transaction-related services has a significant effect on customer's purchase intention in Telegram groups.
- H<sub>3</sub>:** The quality of interaction has a significant effect on the customer's purchase intention in Telegram groups.
- H<sub>4</sub>:** Group quality has a significant effect on customer's impulsive buying in Telegram groups.
- H<sub>5</sub>:** The quality of transaction-related services has a significant effect on customer's impulsive buying in Telegram groups.
- H<sub>6</sub>:** The quality of interaction has a significant effect on customer's impulsive buying in Telegram groups.

## **4.2 Research findings in the quantitative section**

The second part of this study includes a quantitative study and is conducted through a researcher-made questionnaire with the aim of collecting information related to explaining the relationship between the variables of the conceptual model of the research, including the dimensions of perceived online service quality, purchase intention, and impulsive buying.

### **4.2.1 Modeling the structural equations**

To test the hypotheses and fit the model, the structural equation modeling using the partial least squares method and PLS software was performed in two stages. In the first stage, the measurement model was investigated through validity and reliability analyses and confirmatory factor analysis, and in the second stage, the structural model was evaluated by estimating the path between variables and determining the model fit characteristics.

**Measurement model fit:** In fitting the measurement model, three criteria of index reliability, convergent validity, and divergent validity have been used. The reliability of the index was measured by three criteria: factor load coefficients, Cronbach's alpha, and combined reliability. According to Table 2, except for IQ5, the factor load of other items is in an acceptable range, and consequently, the reliability of the measurement model is acceptable. Moreover, Cronbach's alpha and combined reliability have acceptable values for all the variables and in general, the reliability index for the measurement model has enough acceptability. Besides, the coefficients of average variance extracted (AVE) for all the research variables are higher than 0.5. Therefore, the convergent validity of the model is also confirmed.

Finally, the fit of the measurement model was measured using the divergent validity criterion and according to Table 3, the values in the main diameter are greater than their lower values for each variable. Therefore, the divergent validity of the model is also confirmed

**Structural model fit:** After examining the internal structure and condition of the structures of the research model using the method of confirmatory factor analysis, in the next step, the correctness of the hypotheses in the form of a structural model was investigated. According to the model of structural equation modeling, if the value of the t-statistic of a path is greater than 1.96, it can be said that the path related to it is significant at the 95% confidence level and the hypothesis related to that path is confirmed. The results of the model test (information in Table 4) showed that the value of the t-statistic of the paths related to all research hypotheses is greater than 1.96 and these paths are significant. Therefore, it can be said that the hypotheses related to all paths are confirmed ( $t > 1.96$ ).

**Table 2.** Results of confirmatory factor analysis of the research model

variable	Item	Load factor	Combined reliability (CR)	Average variance extracted (AVE)	Cronbach's alpha
			CR>0/7	AVE>0/5	Ra>0/7
Group Quality	GQ1	0/672	0/886	0/530	0/849
	GQ2	0/655			
	GQ3	0/814			
	GQ4	0/714			
	GQ5	0/773			
	GQ6	0/825			
	GQ7	0/613			
Transaction-related services quality	EQ1	0/722	0/908	0/622	0/877
	EQ2	0/843			
	EQ3	0/780			
	EQ4	0/856			
	EQ5	0/738			
	EQ6	0/784			
Interaction quality	IQ1	0/662	0/876	0/622	0/877
	IQ2	0/879			
	IQ3	0/703			
	IQ4	0/867			
	IQ5	0/348			
	IQ6	0/698			
Impulsive buying	IP1	0/795	0/910	0/592	0/885
	IP2	0/779			
	IP3	0/737			
	IP4	0/758			
	IP5	0/815			
	IP6	0/751			
	IP7	0/747			
Purchase intention	PI1	0/770	0/793	0/617	0/865
	PI2	0/803			
	PI3	0/759			
	PI4	0/809			

**Table 3.** Fornell and Larker matrices for measuring divergent validity

	Transaction-related services quality	Group Quality	Impulsive buying	Interaction quality	Purchase intention
Transaction-related services quality	0/789				
Group Quality	0/494	0/728			
Impulsive buying	0/641	0/493	0/769		
Interaction quality	0/506	0/321	0/544	0/767	
Purchase intention	0/611	0/474	0/323	0/499	0/785

**Table 4.** Values of path coefficient and t-statistic for the research model paths

Hypothesis	T	$\beta$	Result	Hypothesis	T	$\beta$	Result
Group quality on impulsive buying	5/102	0/208	Confirmed	Group quality on purchase intention	4/748	0/206	Confirmed
Transaction service quality on impulsive buying	7/385	0/399	Confirmed	Transaction service quality on purchase intention	7/162	0/390	Confirmed
Interaction quality on impulsive buying	5/189	0/276	Confirmed	Interaction quality on purchase intention	4/480	0/236	Confirmed

To evaluate the fit of the structural model of the research, the coefficient of determination ( $R^2$ ) and goodness of fit were used. The coefficient of determination is a criterion that is used to connect the

measurement part and the structural part of structural equation modeling and shows the effect that an exogenous variable has on an endogenous variable. The three values of 0.19, 0.33, and 0.67 are considered as the criterion values for weak, medium, and strong values of  $R^2$ , respectively. On the other hand, the goodness of fit criterion is related to the general part of the structural equations and has three values of 0.01 (weak), 0.25 (medium), and 0.36 (strong).

The value of the coefficient of determination is 0.508 for impulsive buying and 0.454 for purchase intention, which indicates a relatively high value. The value of the goodness of fit index is equal to 0.539 (strong). In general, according to the values obtained for the model fit criteria, it can be said that the research model has an acceptable and desirable fit. Figures 3 and 4 represent the tested model of the research as well as the path coefficient and t-coefficient for all the model paths.

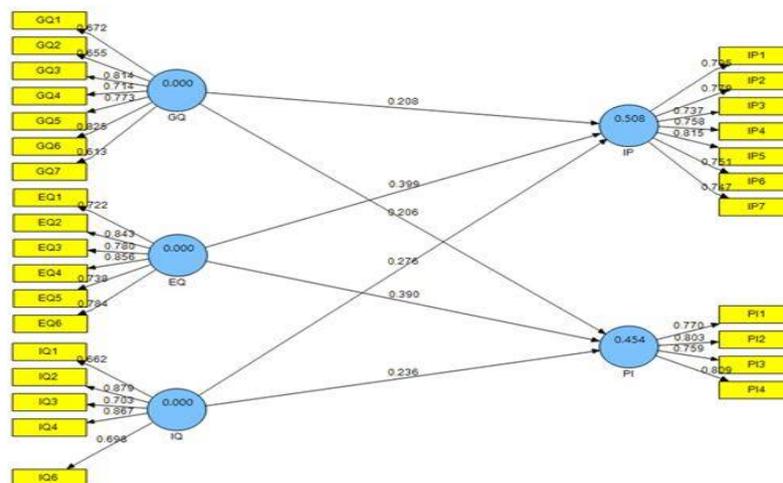


Figure 3. The final model of research in the path coefficient state

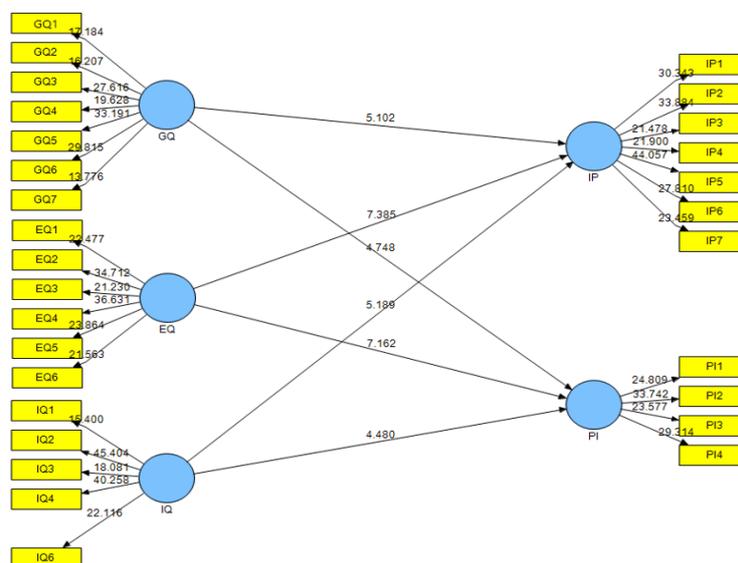


Figure 4. The final model of research in the significance coefficient state

## 5. Discussion

The results of the thematic analysis showed that the quality of services perceived by customers in Iranian telegram groups of luxury cosmetic products consists of 3 dimensions, which are: the quality of services related to the transaction, the quality of interaction, and the quality of the group.

The findings of previous research also confirm the dimensions identified in this section. Kim and Kim (2020) and Küster et al. (2016) considered transaction-related service quality as one of the

dimensions of perceived online service quality. Mpinganjira (2015) introduced the quality of interaction as a dimension of perceived online service quality and identified the group quality as a dimension based on the content of the interviews and the categories of perceived service quality dimensions. According to the constructive components, this study is largely similar to the research of Mpinganjira (2015), Kim and Lennon (2013), who examined the quality of the website or platform as one of the dimensions of perceived online service quality, or Kim and Kim (2020), Rita et al. (2019), and Lee and Lin (2005), who considered website design as one of the dimensions.

The dimension “transaction-related service quality” has been considered one of the most important dimensions in shaping the service quality perceived by customers. In addition, in the examination of the constituent components of this dimension, 9 components were identified. According to the statements of the interviewees, factors such as customer’s trust in the group, providing scheduled services on time, safe delivery of the product to the customer and matching of the purchased product with the delivered product, good faith and financial security, group reputation, the possibility of a quick and in-person access to group admin for product delivery, proper packing of postal packages, group disciplinary rules and admin discipline, and using proper tools to reassure customers have been the cause of enhancing quality in online purchase from Telegram groups, finally conceptualized in the form of the more general theme of transaction-related service quality. These findings are consistent with the components obtained by Rajaobelina et al. (2021), Kim and Kim (2020), Rita et al. (2019), Chuang et al. (2016), Hafiz and Alam (2016), Küster et al. (2016), Mpinganjira (2015), and Kim and Lennon (2013). Moreover, the components of 1) the possibility of quick and in-person access to the group admin for delivery and 2) the disciplinary regulations of the group and the order of the admin are new components that have been identified in this research.

The dimension of interaction quality is another factor in shaping the customer’s perceived service quality. For this dimension, 10 components were identified. According to the interviewees, factors such as the possibility of choosing product delivery method, ability to interact with group admin and group members, ability to choose payment method, level of attention to customers, providing customized information for each customer, assistance in solving problems in transaction process, after-sales services, honesty and accountability of admin, admin politeness and respectfulness, timely response to customers’ questions and requests indicate that customers in this shopping style need to interact in groups to find their favorite products, evaluate them, and make purchases. Finally, the mentioned components have been conceptualized in the form of a more general theme of interaction quality. These findings are in agreement with the components obtained from the research of Rajaobelina et al (2021), Kim and Kim (2020), Rita et al. (2019), Chuang et al. (2016), Hafiz and Alam (2016), Küster et al. (2016), Mpinganjira (2015), Kim and Lennon (2013), and Lee and Lin (2005). Furthermore, the components of 1) the possibility of interaction with the admin and group members and 2) the politeness of the admin are new components that have been identified in this research. The dimension of the Telegram group quality is another factor in shaping the perceived service quality of customers. In the examination of this dimension, 4 components were identified. According to the interviewees, factors such as information and guarantee about price, prices, dollar rate, and shipping rate, providing accurate and comprehensive product information, the visual charm of the Telegram cosmetics groups, admin knowledge in recognizing brands and offer times, and admin skill in managing group are the origin of buyers’ interaction with the environment of online groups, which is finally conceptualized in the form of the general theme of the quality of the Telegram group. These findings are consistent with the components obtained from the research of Rita et al. (2019), Küster et al. (2016), and Mpinganjira (2015). Besides, the dimension of the admin’s knowledge of brands and offer times and the admin’s skill in managing the group are new components identified in this research.

The results of the quantitative part of the research showed that the designed model was fitted and confirmed at a 95% confidence level. It also showed that the dimensions of the quality of perceived online services affect the purchase intention. Due to the higher effect of transaction-related service quality path coefficient on customer’s purchase intention, it is inferred that in general, customer trust in the group, group reputation, financial security, timely service provision, etc. are very important factors in increasing the customer’s purchase intention. Rita et al. (2019) and Lee & Lin (2005) concluded that the quality of e-services has a significant effect on customer’s purchase intention. The results also showed

that the perceived online service quality dimensions can affect customer's impulsive behavior. Given the higher coefficient of quality of services related to the transaction on customer's impulsive buying, it can be inferred that the quality of services related to the transaction has a very significant impact on both purchase intention and impulsive buying and therefore Telegram group managers should pay special attention to this issue and seek to build more customer trust in the group.

## **6. Conclusion**

The present study was conducted in two stages to investigate the concept of perceived online service quality and its dimensions and components and to explore the impact of online service quality dimensions on women's online purchase behavior regarding luxury cosmetics. In the first stage, a semi-structured interview was conducted with 23 active customers with high purchasing records from Iranian Telegram groups of luxury cosmetic products. In the interviews, questions were asked regarding the customers' evaluation of the characteristics of the online group of cosmetic products that cause them to buy or not to buy the products. Subsequently, by collecting the data from the interviews and using the thematic analysis method, dimensions and components of perceived online service quality in the Iranian Telegram groups of luxury cosmetic products were identified.

In the second stage, the conceptual model obtained from the research was examined to determine the relationship between the dimensions of perceived online service quality, purchase intention, and impulsive buying behavior. The basis for compiling the questionnaire was previous research and interviews with the customers. To obtain the appropriate number of samples, the address link of the questionnaire was placed in the selected Telegram groups of luxury cosmetic products, and 385 valid questionnaires were collected. Finally, the main research model was tested through the structural equation model.

The results of the qualitative part of the research showed that the perception and evaluation of customers from Telegram groups selling luxury cosmetic products consist of three dimensions. Among the identified dimensions of perceived online service quality, transaction-related service quality is recognized as the most important dimension shaping the quality of perceived online services. Therefore, virtual groups active in this field are recommended to further enhance the quality of perceived online services in their groups by the provision of the prescribed services at due time, proper packaging of postal packages, formulation of disciplinary regulations of the group, use of appropriate tools to gain customer confidence and the matching of the goods purchased by the customers with the goods delivered to them. Since the quality of interaction has been recognized as the second most important component of perceived online service quality, next to the transaction-related service quality dimension, the Telegram group managers are thus recommended to enhance interactions with the customer in the group by allowing customers to choose the method of product delivery, providing the possibility of interaction with admins and group members, giving timely responses to customer demands and questions, helping to solve problems in the transaction process, and providing customized information for each customer. The quality of the Telegram group was also identified as another component determining the quality of perceived online services in the Telegram groups of luxury cosmetics. Therefore, group managers can improve the quality of their online services by providing accurate and comprehensive information about the products, making the group visually appealing, and providing guarantees and reliable information about prices, dollar rates and shipping rates.

The findings of the quantitative stage showed that the dimensions of perceived quality of online services (group quality, service quality related to transaction, interaction quality) have a significant effect on online purchase intention and impulsive buying behavior of the customers. Among them, the quality of services related to transactions has the greatest impact on online purchase intention and impulsive buying of customers. Therefore, managers of Telegram groups should pay particular attention to this factor and try to build as much customer trust as possible towards the group. Accordingly, marketing managers and admins of the Telegram groups selling luxury cosmetics are advised to make every effort to gain customer trust in the group. This is achieved through the possibility of quick and face-to-face access to the group admin for delivery, safe arrival and matching of the purchased goods with the delivered goods, and providing the prescribed services at the promised time. In addition, the exact application of disciplinary rules of the group and admins discipline is another important factor in improving the transaction-related service quality.

## **7. The research implication**

The results of this study apply to online service companies in general and online groups, channels, and stores in particular. This study can also help researchers in the field of sales and marketing to identify the challenges of online sales of luxury cosmetic products and plan for the development of virtual platform infrastructure and competitive differentiation.

The findings are comprised of both theoretical and practical implications. As to the theoretical implications, to the best of our knowledge, no attention has already been paid to the simultaneous study of the dimensions of the quality of online services in the virtual space of Telegram groups and for luxury cosmetics in a country like Iran with its specific conditions.

The findings of this study are presented at the theoretical level as a model to identify the dimensions and components of perceived online service quality from the customer's point of view and its impact on customer buying behavior. Regarding the practical concept, the findings can help retailers, group managers, online sales channels, and all those who intend to create groups and start activities or improve business in the virtual field to adopt proper marketing and sales strategies and perform their current or future online activities efficiently.

On the other hand, with the expansion of the online and electronic space and considering the differences between online shopping and traditional shopping in terms of services, customers' perceptions and evaluation of the quality of services received in the online space and the traditional market will also be different. According to the available evidence, the quality of services provided online is a necessary strategy for the success of online stores. For this purpose, Telegram online groups have been examined as suppliers of luxury cosmetic products to provide quality services to online customers, and the findings of this research contribute to the growth of luxury marketing research. In general, the findings of this research can create new insights into the field of consumer behavior, and according to the competitive environment in business, the companies that produce and import luxury cosmetic products and online business managers can gain a clearer view of the consumption trends, attitude, and behavior in the luxury cosmetics market, better understand the emotional states of customers, and apply appropriate strategies to improve the quality of online services to increase sales and profitability of online businesses, especially luxury products.

## **8. Limitations and future research**

Due to time constraints, this work has been limited to the study of customer perception of the quality of groups providing luxury cosmetic products, and thus the results cannot be generalized to cover other fields, products, and industries.

Therefore, considering the importance of customer perception in terms of online purchase quality, it is suggested that other dimensions of this problem should be examined in different virtual sales platforms and with different products so that a deep knowledge of this phenomenon can ultimately be provided.

The statistical population of this study consisted of female members of Telegram groups selling luxury cosmetics, and hence our findings are not expected to cover other consumer communities. Researchers are thus recommended to study various statistical populations (e.g., a population with both female and male shoppers) or, if possible, a wider statistical population of consumers across the country. As such, it would be possible to compare the results of the present study with other studies to get more insights into the effect of perceived online service quality on purchase intention and impulsive buying behavior.

Besides, in the period when the study was conducted, due to the intensity of international sanctions against Iran, severe currency fluctuations, and the outbreak of the COVID-19 disease, much psychological stress has been imposed on the Iranian shoppers of luxury brand cosmetics. In other words, a large part of customers' evaluation and perception of service quality has been affected by these factors. This issue has probably overshadowed the customers' perceptions about the delays in product shipment and delivery to some extent, hence limiting the accuracy and generalizability of the results. Therefore, it is suggested that research be done at another time and the results of the two studies be compared.

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