

## Customer Experience of Electronic Services in Information Technology Organizations Based on Digital Developments

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### Abstract

**Purpose:** Customer experience management is one of the most important activities for managers who are trying to grow and develop to achieve a favorable competitive position. The purpose of this study is to evaluate the dimensions of customer experience in the process of using electronic services in information technology organizations (Hamrah-e-Aval).

**Method:** The method of this study is quantitative. In this regard, a questionnaire was designed and distributed among the statistical population by the available sampling method. The data analysis method is structural equation modeling and the software used is SPSS25 and SMART PLS 3.0.

**Findings:** Findings show that awareness is the first step in managing customer experience. The second step deals with the active organizational actor. The third step, or evaluation, is based on service

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characteristics and service arrangements. The fourth step (buying decision). Purchasing and the resulting experience is the fifth step. Step 6 (Use) is a function of activities including delivery and use. The seventh step is to repeat the purchase, complain or not react to the use of the product (service). Finally, the customer's secondary response is the last step of the customer experience model.

**Conclusion:** Based on the findings of the present study, information interface can play a decisive role in shaping customer experiences. Therefore, it is suggested that in active businesses in the information and communication technology industry, by studying the media and customer information tools, the most optimal and effective tools should be selected and used.

**Keywords:** Customer Experience, Electronic Services, Information Technology Organizations, Customer Experience Process, Customer Experience Management, Hamrah-e-Aval Mobile..



## **Introduction**

Customer experience is a competitive environment for businesses in today's world. According to a study (Gartner, 2017), four out of five existing organizations are expected to compete with each other over two years for customer experience (Klink, Zhang, & Athaide, 2018). The economic benefits of competition over the customer experience are quite clear. Organizations with superior customer experience grow on average 5 times faster than other organizations that have performed poorly in this area (Forrester, 2017). Also, more than 80% of consumers are willing to pay more to have a better experience (Capgemini, 2017).

In terms of cost, effective customer experience management can help an organization save hundreds of millions of dollars. Sprint, for example, saved \$ 1.7 billion a year in costs by eliminating customer issues (Forrester, 2017). While customer experience management is very tempting for organizations, the evidence suggests that it often does not work well in the organization or only in part of the organization. For example, 90% of organizations believe that having a customer-oriented culture is an important principle, but only 15% of them find themselves effective in delivering a customer experience (Harvard Business Review, 2017). On the other hand, there is such a gap in customers. Three-quarters of organizations believe they are customer-oriented, but only 30% of customers believe so (Capgemini, 2017). Improving the customer experience is largely the responsibility of marketing managers because marketing focuses a large portion of an organization's budget on improving customer experience management (Gartner, 2018).

Understanding the customer experience and ensuring that this experience is effectively managed at every point of the customer's interaction with the organization has become a key goal for organizations that aim to advance the market. Usually, the question that arises here is whether organizations provide the experience that customers expect? Do organizations have a plan for managing such an experience in light of changes in the world of technology and communications? Paying attention to such a case and creating a mechanism to meet customers' expectations of organizations is crucial (Kandampully et al., 2018). The existing literature on customer experience management addresses the following issues and provides perspectives on each:

- Understanding the entire customer travel process
- Designing the service delivery process
- Designing hybrid marketing variables that affect the customer experience
  - Positive results of customer experience management performance
    - The role of organizational factors in the implementation of customer experience management
    - The role of front-line staff in customer experience management

Since the creation and implementation of customer experience measurement systems as the most important indicator in improving performance is one of the basic needs of today's organizations, especially in the information and communication industry, these organizations are required to go beyond the basic needs of customers, expectations Provide them as well, focusing on customer satisfaction alone to building loyalty and trust by establishing a long-term, mutually beneficial and mutually beneficial relationship. Customer experience management provides the answer to such a need (Beerli et al., 2004). Despite the urgent need of organizations to manage customer experience, there is no proper knowledge of the customer experience path among experts, and each organization with a one-sided perspective assumes this experience as optimal. On the other hand, organizations providing information technology services have a different nature from the rest, and the customer experience cycle and path need to be explained to the managers of these organizations and the organization's strategies and decisions to focus on optimizing this process. In addition, in the field of information and communication technology businesses and customer experience management in this field have not received much attention from researchers. Therefore, in the present study, the researcher intends to take a quantitative approach to examine the process of customer experience from the beginning to the end.

## **Theories**

### **Customer experience**

Experience is emotional and unconscious and can create or destroy value. Identifying what element of a person's physical experience

these emotions affect defines the empirical vacuum; The difference between what we do and what people want is crucial (Olenius, 2013). The concept of customer experience was first formed in the mid-1980s in line with the thematic literature on customer behavior. After these initial sparks, the concept of customer experience moved forward in the 1990s by Payne and Gilmore with the book *Experience Economics*. These people introduced experience as a new economic proposition that emerged as the next stage in the development of the economic value of products or services. The starting point for these approaches was a new way of considering the well-known concept of "consumption". A comprehensive experience that encompasses the individual - not just the customer - as a whole at different levels and in any interaction between the individual and the organization or company proposal. What contributes to value creation is not just the sale of memorable experiences, but the ability to enable the customer to live in every moment of the relationship with the company in a great way and even beyond their expectations. The following are some definitions of customer experience:

- Customer experience is the qualitative aspect of any interaction that an individual has with any business, product, or service at any given time (Berry et al., 2002).
- Customer experience is the interaction between the organization and the customer. A combination of physical function, aroused senses, aroused emotions, and any physical metrics that the customer experiences throughout the contact (Shaw et al., 2010).
- Customer experience refers to the customer's conscious and unconscious perceptions of his relationship with a brand that arises during the consumer life cycle and from all his interactions with a brand (Patrício et al., 2011).
- Customer experience is the internal and mental response of customers to any direct or indirect relationship with the company. Direct communication usually occurs at the time of purchase, use, or service, and usually begins with the customer. Indirect communication is unplanned encounters through the presentation of a company's product, service, or brand, and occurs in the form of word of mouth or criticism, advertisements, news reports, comments, and the like (Meyer and Schwager, 2007).

- The customer experience is the result of all the meetings, perspectives, and feelings that the customer forms of the company's operations (Löytänä & Korteso, 2011).
- Customer experience is the evolution of an individual's emotional, emotional, mental, relational, and behavioral response to a company or brand that is achieved by living through contact points during pre-purchase, pre-purchase, and post-purchase situations, and continuously. This journey is judged against contemporary experiences in a person-related environment (Homburg et al., 2017).

The general characteristic in all definitions is interaction. According to studies, value, quality, and expectations are important factors in creating customer experiences. The expectations, experiences, and image of the company, which includes the functional and physical quality, are a criterion for referring to the quality of services. Great customer experiences are created by going beyond the physical and emotional expectations of customers. The more realistic customer expectations are, the more likely they are to be met, and the more likely it is that perceived good customer service will be likely (Verhoef et al., 2009). Satisfaction leads to satisfaction when quality experiences exceed customer expectations. This helps companies maintain good customer relationships and build new relationships. To exceed customer expectations, the company must create a positive outlook. Being beyond customer expectations does not necessarily mean more costs for the company (Olenius, 2013).

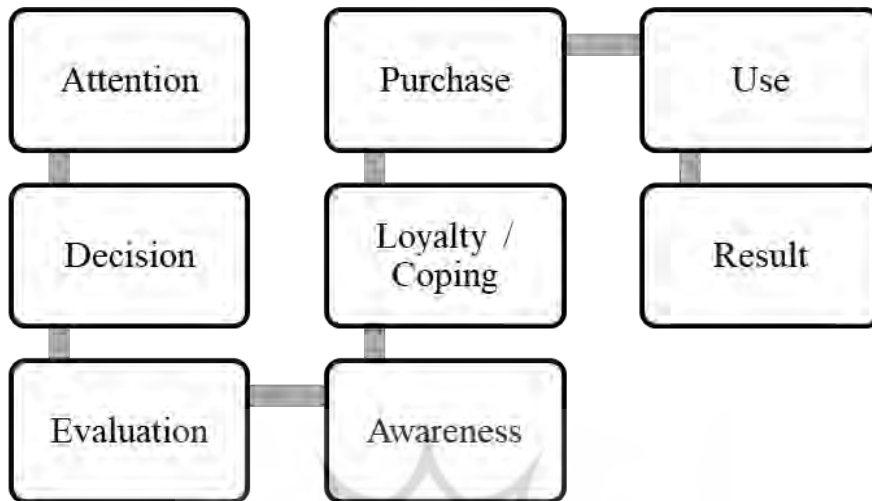
### **Customer experience management**

The concept of customer experience management is a complex concept that is rooted in many areas. On the one hand, emerging research in this area has been limited to service areas, and on the other hand, many studies on consumer behavior have been scattered focusing on customer experiences in various areas of service, product, online services, branding, and related fields. There is a need to broaden the market orientation by highlighting the firm's orientation towards the customer experience from the pre-purchase to pre-purchase stages (Homburg et al., 2017). Some companies do not understand why they should be concerned about the customer experience. Others collect and quantify data but do not circulate findings; And yet some measure and distribute but fail to hold people accountable for using information.

Customer experience management is a company-wide management approach that includes three general categories. Customer experience management on this basis means cultural mindsets towards customer experiences, strategic orientation to design customer experiences, and the company's ability to continuously update customer experiences to achieve and long-term sustainability of customer loyalty. Customer experience management incorporates and develops the principles of market orientation and customer relationship management in its three main categories (cultural mindset, strategic orientation, and company capabilities) (Homburg et al., 2017).

The three cultural mindsets are customer orientation, empirical response orientation, contact point orientation, and alliance orientation. The company's cultural mindsets refer to the mental imagery that managers use to describe their competitive advantage. If a particular mindset, such as the market-oriented cultural mindset, permeates the organization and drives the evolution of processes, it is an intangible entity that can be a resource. Customer experience management includes a set of strategic orientations for designing customer experiences. The purpose of designing a customer experience is to help customer loyalty, or in other words, the customer's desire to live again by moving between the points of contact that the company or brand offers from pre-purchase to post-purchase. There are four strategic orientations for designing customer experiences: the thematic coherence of contact points, the stability of contact points, the contextual sensitivity of contact points, and the relationship of contact points. These orientations look at customer movement between points of contact as the subject of strategic decision-making, so gaining customer loyalty determines the capacity of customer experiences because they evolve within a specific time frame. A company's strategic orientation refers to a set of organizational-level guidelines in the area of market choices. While the cultural mindset, which mainly affects the behavioral traits of employees at the organizational level, strategic orientation has a more direct effect on different marketing tasks and customer lines, which leads to the recognition of customer-company exchange. Similarly, a firm's strategic orientation represents intangible, exchange-based resources only if they can direct marketing tasks to strategically desirable customer-firm exchanges (Homburg et al., 2017).

### Customer experience process in using electronic services



**Fig1: Customer experience process (Meyer and Schwager, 2007)**

#### 1. Attention

The customer's attention in the second step is influenced by various factors, which include: such as brand values, sales promotion, joining the customer at the point of contact, experience-brand link in the customer's mind, brand experience, customer challenges, service New, customer demands, customer needs drivers, linking the contact point to the experience story, brand experience design, contact points, brand alignment, and brand identity. The findings of the present study showed that in the second step of customer experience management an active organizational actor with concepts such as brand values, sales promotion, joining the customer at the point of contact, experience-brand link in the customer's mind, brand experience, customer challenges New service, customer demands, customer needs drivers, linking the contact point to the experience story, designing the brand experience, contact points, brand alignment, and brand identity. These findings have not paid much attention to the customer experience management perspective and are therefore a new finding from the present study.

#### 2. Decision

In the fourth step of the customer experience model, the purchase decision (by the customer) is made. Concepts that affect the customer



experience in this step include order channel features, invoice accuracy, supply (sufficient) contact points, payment channel features, and finally, financial costs and time that the customer has inferred from purchasing in his mind. Is. Among these concepts, the characteristics of the order channel (Sodagar et al., 2011; Homburg et al., 2017; Ansari & Sanayei, 2016; Marutschke et al., 2019), have been considered in previous studies.

### **3. Evaluation**

The customer experience in the third step or evaluation is based on two categories of factors, which are: service characteristics and service delivery arrangements. Regarding service characteristics, although in the research literature, general references have been made to concepts such as packaging (Meyer and Schwager, 2007; Homburg et al., 2017), yet other variables such as packages and offers, network coverage, Translating the product into the customer experience, the concepts of privacy, service tariffs, consumption control, and parental control, are concepts that are specific to the IT industry, especially in the field of communications, and are findings that are unique to the research. In the second part of the third step or service arrangements, concepts such as sales arrangements, number of customer choices, optimization of several options, inter-product purchasing, inter-functional activity, order tracking capability, and comparison with competitors have been identified.

### **4. Awareness**

In the awareness step, the customer experience is affected by the type of exposure, time and place of awareness, and the quality of information that the customer receives from the product. The quality of the information in the awareness step depends on the content of the information and the medium through which the information reaches the (potential) customer. The concept of exposure is influenced by differences between generations of customers and enhances the experiences of the previous generation (Pine & Gilmore, 1998). In addition, exposure is widely related to the point of contact. Meyer and Schwager (2007) believe that experience data is collected at contact points. The term customer corridor is used to indicate a sequence of contact points that the customer experiences. What forms the point of contact with the meaning changes over a period of the customer's life.

For a young family with limited time and resources, a brief exposure to an insurance broker or financial planner may be sufficient. The same source of experience does not satisfy the larger individual and the significant asset base (Meyer and Schwager, 2007). In addition to exposure, the concept of time and place is also important in the step of awareness of customer experience management. As Homburg et al. (2017) have stated, customer experience management means identifying customer reactions and behaviors in real-time. Finally, awareness is affected by the quality of information. When it comes to measuring customer experience, a range of tools come our way. Segmentation can be passive or active based on the information obtained (Uusitalo, 2012).

### **5. Loyalty / Coping**

Research has focused on the effects of corporate identity elements on market performance, emphasizing their relationship to generating customer responses that enhance loyalty. Companies need to meet customer needs beyond their basic needs and focus on building loyalty and trust as a long-term, two-way, and profitable relationship, rather than just customer satisfaction. Accordingly, customer experience management has found a special place in the discussion of service quality management (Heshmati et al., 2019).

### **6. Use**

In the sixth step, which is the same stage of use, the customer experience is a reflection of the two major groups of activities. These two groups include: delivery and user. Although the concept of delivery has been mentioned in previous research literature (Simões et al., 2005; Sodagar et al., 2011), however in the field of information and communication technology, delivery from: web-based distribution channels, channel integration Distribution, speed in receiving feedback and customer engagement and user concept, from product descriptions, order activation, perceived service quality, willingness to repeat the experience by the customer, ease of use, sufficient time to experience the product and maintain a positive customer experience , Arises that they did not make many references in the research literature.

## 7. Purchase

Customer buying habits for the organization. When complaining, the organization puts activities such as corrective action based on exceptions, scheduling customer complaints, identifying types of complaints on the agenda, and may identify customer needs arising from the complaint. Finally, the lack of product response is due to various factors such as call center response time and the need to examine the experience from the customer's perspective (Hakimi et al, 2020).

## 8. Result

In the seventh step of the customer experience model, three categories of reactions to the use of the product (product/service) are possible. These reactions include repeated purchases, complaints, or non-reactions. Repetition of purchases is a desirable experience for the organization that results from a positive customer experience. And brings outputs such as: identifying desirable experiences, creating barriers to customer exit, personalized suggestions, identifying customer consumption patterns, identifying customer characteristics, and identifying

## Literature review

Studies conducted in the field of research can be reviewed in the form of Table 1:

**Table1: Previous Studies**

Author and year	Purpose of the study (title)	Method	Result
Hakimi et al. (2020)	Provide a model for shaping the experience of micro-banking customers through agents under the management of the organization with an interpretive structural modeling approach	Thematic analysis	This study was able to identify the factors shaping the customer experience in 9 main categories of customer interaction, employees, accountability, branches, brand, services, processes, social environment, and extraordinary experience with 33 subcategories finally, this model was identified in six main levels.
Rahimi et al. (2020)	Design and explain the loyalty model based on customer experience in	Metasynthesis	The results of this study showed that the categories of hotel staff quality, quality of the environment and

Author and year	Purpose of the study (title)	Method	Result
	the hotel industry using the data theory strategy of the foundation		physical space, quality of service functions, causal factors affecting the customer's perception and expectations of the service and its provider will create multiple value-creating strategies for the customer. And the consequences of this value creation will determine the degree of loyalty
Heshmati, Saeidnia, Badizadeh (2019)	Training of appropriate customer experience management model with emphasis on related indicators in the banking education system	Thematic analysis	The final model of the research consisted of three main categories as expected factors, perceptual factors, and care factors, and macro-categories and related propositions in the banking industry were also identified in the model. Finally, the validity of the model has been confirmed quantitatively using the structural equation method and PLS software.
Kazem Almasi (2019)	Evaluate customer experience management concerning the home appliance industry	Structrual equational method	The results of this study show that all aspects of customer experience management are directly related to customer trust and loyalty, but the two independent variables of duty and human have the most impact on the variable of trust and loyalty, respectively.
Ghafourian (2018)	The effect of customer experience management on the customer's mental image in purchasing Chinese-made automotive products (Case study: Automotive Managers Company)	Structrual equational method	The results showed that customer experience management has a significant effect on the customer's mental image in purchasing Chinese-made automotive products in the company of car managers.
Tanners & Associates (2021)	Customers' experiences in the medical tourism industry in Iran	Thematic analysis	The results of this study showed that the application of customer experience management in its three dimensions, ie at the level of task, at the level of mechanisms, and the

Author and year	Purpose of the study (title)	Method	Result
			human level has been significant. In general, the experience of customers who have been treated by the Iranian medical system has been positive.
Clinic et al. (2020)	Customer experience management is a promising management approach for the organization	Partial least square	The results of the study briefly show that when customer experience management is considered as a second-order structure, its sub-dimensions will be three structures, which include: cultural mindset towards customer experience, strategic orientation for customer experience design and capability Firms are in constant updating of the customer experience. The results of this study also show that customer experience management has a positive relationship with firm financial performance. This positive impact will be greater when the market is turbulent, the intensity of competition is high and technological change increases.
Whittle et al. (2020)	How B2B businesses can design and manage the customer experience to influence customers at different points of contact	Thematic analysis	The findings of Whittle et al. (2020) generally include theoretical implications and the development of managerial findings for businesses whose customers are other companies.
Holmland et al. (2020)	Develop a strategic framework for managing the customer experience based on knowledge derived from big data analysis	Data mining	- Provides general information for big data analysis in customer experience management
McColl-Kennedy and others (2019)	Gain insights into customer experience management	Future studing	- Guide to managerial application and future research

### Research method

This research is applied research in nature. The reason for including the present study in this group of studies is that the present study seeks to apply the research findings to solve specific problems common within organizations and considering that none of the variables studied in this study, is modified and modified. Not taken and the current and desirable situation in this field is described, this research is in the field of descriptive (non-experimental) studies. The methodology of the present study is a quantitative survey that is based on a standard questionnaire in the statistical community of experts, managers, and customer experience managers in the field of information and mobile technology, the study data were collected. Due to the limited access as well as the general limitations of Corona, the available sampling method was adopted and finally, 158 questionnaires were collected and analyzed.

To check the validity of the content before distributing the questionnaire, the Lavache method was used. To confirm the face validity, 30 questionnaires were distributed in the possible sample and the subjects' opinions about each of the research items and the visual status of the questionnaire were obtained. After applying the necessary adjustments, the final questionnaire was prepared for distribution in the research sample. In the next step, in order to confirm the reliability of the questionnaire, its internal consistency was measured by Cronbach's alpha, which confirmed the rate with 87% of the total reliability of the questionnaire.

**Table1: Questionnaire**

Aspect	No.	Variable
Attention	Att1	Quality of information received from the customer experience
	Att2	Location of receiving customer experience information
	Att3	Location Receive customer experience information
	Att4	How the customer encounters the product (product/service)
	Att5	Company brand identity
	Att6	Relate the contact point (place or time of the first encounter) to the customer experience
	Att7	The perceived value of the product in relation to the brand
	Att8	Align the brand with the customer experience

Aspect	No.	Variable
Decision	Decis1	Promotional activities and sales promotion
	Decis2	New product (product/service)
	Decis3	Accompanying the customer at the point of contact (place or time of first meeting)
	Decis4	Brand experience design
	Decis5	Service delivery arrangements (chronology of service components)
	Decis6	Service arrangements (time between order and service delivery)
Assessment	Evalu1	Service features provided
	Evalu2	Order channel
	Evalu3	Providing contact points
Awareness	Inf2	Check the accuracy of the issued invoice
	Inf3	Payment channel
	Inf4	The financial cost imposed on the customer
	Inf1	Time spent by the customer
Loyalty / Coping	Lylt1	Shopping point
	Lylt2	How to buy
	Lylt3	Events while shopping
Purchase	Purch1	Product delivery (goods/services)
	Purch2	Events during the service provided by the company
	Purch3	Product usage (product/service) provided
Use	Use1	Number of repeat purchases by the customer
	Use2	No customer reaction
	Use3	Complaint submitted by the customer
Result	Rslt1	Satisfaction by the customer
	Rslt2	The customer belongs to different groups in terms of satisfaction level
	Rslt3	The level of customer trust in the company

### Finding

Test the normality of the distribution of variables: the distribution of scores. In this step, the distribution of scores of the variables used in the research model is examined in terms of proximity to the normal distribution. For this purpose, two tests Kolmogorov-Smirnov and Shapiro-Wilk have been used simultaneously.

**Table 2 - Distribution of scores of variables**

No.	Variable	Kolmogorov-Smirnov			Shapiro-Wilk		
		Statistics	Df	Significance level	Statistics	Df	Significance level
Att1	Quality of information received from the customer experience	0.297	157	0.000	0.815	157	0.000
Att2	Location of receiving customer experience information	0.295	157	0.000	0.82	157	0.000
Att3	Location Receive customer experience information	0.277	157	0.000	0.804	157	0.000
Att4	How the customer encounters the product (product/service)	0.286	157	0.000	0.794	157	0.000
Att5	Company brand identity	0.286	157	0.000	0.831	157	0.000
Att6	Relate the contact point (place or time of the first encounter) to the customer experience	0.231	157	0.000	0.819	157	0.000
Att7	The perceived value of the product in relation to the brand	0.268	157	0.000	0.801	157	0.000
Att8	Align the brand with the customer experience	0.245	157	0.000	0.775	157	0.000
Decis1	Promotional activities and sales promotion	0.243	157	0.000	0.826	157	0.000
Decis2	New product (product/service)	0.251	157	0.000	0.816	157	0.000



No.	Variable	Kolmogorov-Smirnov			Shapiro-Wilk		
		Statistics	Df	Significance level	Statistics	Df	Significance level
Decis3	Accompanying the customer at the point of contact (place or time of first meeting)	0.247	157	0.000	0.803	157	0.000
Decis4	Brand experience design	0.248	157	0.000	0.826	157	0.000
Decis5	Service delivery arrangements (chronology of service components)	0.246	157	0.000	0.723	157	0.000
Decis6	Service arrangements (time between order and service delivery)	0.253	157	0.000	0.763	157	0.000
Evalu1	Service features provided	0.278	157	0.000	0.838	157	0.000
Evalu2	Order channel	0.25	157	0.000	0.822	157	0.000
Evalu3	Providing contact points	0.233	157	0.000	0.833	157	0.000
Inf2	Check the accuracy of the issued invoice	0.261	157	0.000	0.751	157	0.000
Inf3	Payment channel	0.27	157	0.000	0.818	157	0.000
Inf4	The financial cost imposed on the customer	0.338	157	0.000	0.78	157	0.000
Inf1	Time spent by the customer	0.296	157	0.000	0.807	157	0.000
Lylt1	Shopping point	0.258	157	0.000	0.853	157	0.000
Lylt2	How to buy	0.232	157	0.000	0.757	157	0.000
Lylt3	Events while shopping	0.229	157	0.000	0.764	157	0.000
Purch1	Product delivery (goods/services)	0.303	157	0.000	0.817	157	0.000
Purch2	Events during the service provided by the company	0.238	157	0.000	0.706	157	0.000
Purch3	Product usage (product/service)	0.265	157	0.000	0.815	157	0.000

No.	Variable	Kolmogorov-Smirnov			Shapiro-Wilk		
		Statistics	Df	Significance level	Statistics	Df	Significance level
	provided						
Use1	Number of repeat purchases by the customer	0.239	157	0.000	0.82	157	0.000
Use2	No customer reaction	0.237	157	0.000	0.804	157	0.000
Use3	Complaint submitted by the customer	0.304	157	0.000	0.794	157	0.000
Rslt1	Satisfaction by the customer	0.293	157	0.000	0.831	157	0.000
Rslt2	The customer belongs to different groups in terms of satisfaction level	0.269	157	0.000	0.819	157	0.000
Rslt3	The level of customer trust in the company	0.348	157	0.000	0.801	157	0.000

The significance level for research variables in Shapiro-Wilk and Kolmogorov-Smirnov tests was less than 0.05 and therefore the distribution of scores of these variables cannot be considered normal. Due to the lack of normal variable scores, the PLS method has been used for modeling. In general, structural equation models consist of two general parts: 1. A measurement model and 2. Structural model. Therefore, to evaluate the studied model, we examine these two models.

Evaluation of measurement model (Outer Model)

### Reliability of measures and structures

To determine the reliability of the measures in the Partial least square method, their operating load is used. This criterion shows the correlation of these measures in the relevant structure. According to Holland (1999), the minimum acceptable value for the factor load of each criterion is 0.4, and the measurements whose factor load is less than this value should be excluded from the test process. The following table shows the factor loads for the research metrics in the final model:

**Table 3- Factor load of items in the final model**

No	Item	Structure							
		Attention	Decision	Assessment	Awareness	Loyalty / Coping	Purchase	Use	Result
1	Att1	0.724							
2	Att2	0.691							
3	Att3	0.701							
4	Att4	0.742							
5	Att5	0.773							
6	Att6	0.635							
7	Att7	0.683							
8	Att8		0.778						
9	Decis1		0.769						
10	Decis2		0.798						
11	Decis3		0.814						
12	Decis4		0.561						
13	Decis5		0.665						
14	Decis6			0.84					
15	Eval1			0.854					
16	Eval2			0.77					
17	Eval3				0.739				
18	Inf2				0.687				
19	Inf3				0.714				
20	Inf4				0.728				
21	Inf1					0.838			
22	Lylt1					0.85			
23	Lylt2					0.674			
24	Lylt3						0.882		
25	Purch1						0.85		
26	Purch2						0.832		
27	Purch3							0.77	
28	Use1							0.862	
29	Use2							0.832	
30	Use3								0.831
31	Rslt1								0.766
32	Rslt2								0.784
33	Rslt3								

After achieving the desired level of factor loads in the measurement model, the second part of the reliability analysis is related to the

reliability of the items. The following table shows the reliability of the structures:

**Table 4- Reliability of model structures**

Row	Structure	Cronbach's alpha	Combined reliability	Average variance extracted AVE
1	Attention	0.834	0.875	0.501
2	Decision	0.828	0.875	0.542
3	Assessment	0.759	0.862	0.676
4	Awareness	0.7	0.809	0.515
5	Loyalty / Coping	0.704	0.833	0.627
6	Purchase	0.815	0.89	0.73
7	Use	0.759	0.862	0.676
8	Result	0.709	0.836	0.63

Statistical study sources believe that the minimum acceptable value for Cronbach's alpha coefficient is 0.6 (Moss et al., 1998) and the minimum acceptable value for the composite reliability index is 0.707 (China, 1998). In addition, according to China (1998), the extracted average variance index is a suitable index to determine the convergent validity of research structures. The minimum acceptable value for this coefficient according to the mentioned author is equal to 0.5. As can be seen in the table above, all research structures meet these minimum requirements and are even at a much higher level. Hence the reliability of research structures is supported. The following table presents the results for the studied relationships:

**Table 5 - Summary of structural model evaluation results**

Row	Prior structure	Dependent structure	Standard deviation	T-Value	Significance level	Interpretation
1	Awareness	Attention	0.068	7.987	0.00	Confirmation
2	Attention	Assessment	0.044	16.683	0.00	Confirmation
3	Assessment	Decision	0.052	12.612	0.00	Confirmation
4	Decision	Buy	0.042	16.007	0.00	Confirmation
5	Buy	Use	0.051	13.109	0.00	Confirmation
6	Use	Result	0.061	9.006	0.00	Confirmation
7	Result	Loyalty / Coping	0.055	11.564	0.00	Confirmation

According to the results, considering that the value of t-statistic for the tested relations is more than the critical value or 1.96 at the 5% error level, therefore, the above relations are statistically confirmed and this path describes the customer experience.

As the findings of the present study show, the awareness step is the first step in managing the customer experience. In this step, the type of exposure, time and place of awareness, and quality of information is important. The type of exposure is a concept that has been seriously discussed in the research literature. It has been said that the customer experience is the internal and mental response of customers to any direct or indirect relationship with the company. Direct communication usually occurs at the time of purchase, use, or service, and usually begins with the customer. Indirect communication is unplanned encounters through the presentation of a company's product, service, or brand, and occurs in the form of word of mouth or criticism, advertisements, news reports, comments, and the like (Meyer and Schwager, 2007).

The findings of the present study showed that in the second step of customer experience management, an active organizational actor with concepts such as: brand values, sales promotion, joining the customer at the point of contact, experience-brand link in the customer's mind, brand experience, customer challenges New service, customer demands, customer needs drivers, linking the contact point to the experience story, designing the brand experience, contact points, brand alignment, and brand identity. These findings have not received much attention from the perspective of management experience and therefore a new finding from the present study.

In this study, it was found that customer experience in the third step or evaluation is formed based on two categories of factors, which are: service characteristics and service delivery arrangements. Regarding service characteristics, although in the research literature, general references have been made to concepts such as packaging (Meyer and Schwager, 2007; Homburg et al., 2017), yet other variables such as packages and offers, network coverage The translation of the product into the customer experience, the concepts of privacy, service tariffs, consumption control, and parental control, are concepts that are specific to the IT industry, especially in the field of communications, and are findings that are unique to the present study. In the second part of the third step or service arrangements, concepts such as sales arrangements, number of customer choices,

optimization of the number of options, inter-product purchasing, inter-functional activity, order tracking capability, and comparison with competitors have been identified. These cases are also specifically from the findings of the present study and it is not possible to examine the place of these concepts in customer experience management among the studies.

The findings of the present study showed that in the fourth step of the customer experience model (purchase decision), concepts such as order channel features, invoice accuracy, supply (sufficient) contact points, payment channel features, and finally, financial costs and At times, they are essential indicators of customer experience management. Among these concepts, the characteristics of the order channel (Sodagar et al., 2011; Homburg et al., 2017; Ansari and Sanayei, 2016; Marutschke et al., 2019), have been considered in previous studies. However, other dimensions, especially the office. Invoice, (sufficient) contact points, and financial costs, and when the customer is involved in them, are among the innovations of the present study.

As the present study showed, in the fifth step of the customer experience management model, shopping and the resulting experience are affected by two categories of factors, which are: shopping events, shopping style, and shopping point. Purchasing events are influenced by a range of factors such as online ordering, payment, receiving the initial invoice, customer waiting time, response speed, minimizing the number of clicks, creating organizational commitment to the customer, making waiting time attractive, setting time expectations Are waiting. Shopping points include two main types, which include buying from a kiosk or online shopping. Ultimately, the way we shop through these events and factors affects the customer experience: self-service, leveraging new channels, rewarding waiting time, customer shopping times, customer shopping type, customer buying behavior, power Customer buying, and the efficiency of the sales process. As it turns out, these notions of curvature are specific to the field of information and communication technology studies and cannot be found much history for them in the research literature.

The present study showed that the customer experience in the sixth step (use) is a function of two major groups of activities, including delivery and use. Although the concept of delivery has been mentioned in the previous research literature (Simões et al., 2005; Sodagar et al., 2011), however in the field of information and

communication technology, delivery from web-based distribution channels, channel integration Distribution, speed in receiving feedback and customer engagement and user concept, from product descriptions, order activation, perceived service quality, willingness to repeat the experience by the customer, ease of use, sufficient time to experience the product and maintain a positive customer experience, Arises that they did not make many references in the research literature.

In the seventh step of the customer experience model, it was found that three categories of reactions to the use of the product (product/service) are possible. These reactions include repeated purchases, complaints, or non-reactions. Repetition of purchases is a desirable experience for the organization that results from a positive customer experience. Therefore, many studies have addressed the place of this concept in customer experience management (for example Arousi, 2010). This output brings factors such as identifying desirable experiences, creating barriers to customer exit, personalized suggestions, identifying customer consumption patterns, identifying customer characteristics and identifying customer buying habits for the organization. The concept of complaint has also been mentioned in the research literature (Homburg et al., 2017; Hakimi et al., 2019; Meyer and Schwager, 2007). Complaints lead the organization to activities such as corrective action based on exceptions, scheduling customer complaints, identifying types of complaints, and may identify customer needs resulting from the complaint. Identifying new opportunities arising from customer complaints has also been a new finding in the present study. Finally, the third type of reaction is non-reaction, which cannot be traced in the research literature.

Finally, the customer's secondary response is the last step of the customer experience step-by-step model, which results in customer experience clusters (which emerge in the form of advocacy clusters, suggestion clusters, attention clusters, and destruction clusters). On the other hand, trust and satisfaction is sensory product that eventually emerges in this step. The customer shares his satisfaction (both positive and negative) in different ways.

### **Conclusions and suggestions**

The findings of the present study show that to achieve customer experience management, the existence of three categories of prerequisites is necessary, which are: strategic prerequisites, human

prerequisites, and technical prerequisites. It is therefore suggested that:

- In businesses active in the information and communication technology industry, customer experience management is considered as a strategic concept and in the decisions of the top of the organizational pyramid, and its translation is done in the form of vision, goals, and plans for the organization.
- It is suggested that by hiring or training the current staff, sufficient and capable human resources to create customer experience management in businesses active in the information and communication technology industry.
- It is suggested that in businesses active in the technology and information industry, the necessary technical resources to monitor, analyze and implement customer experience management, through the purchase or improvement of existing facilities

Based on the findings of the present study, information interface can play a decisive role in shaping customer experiences. Therefore, it is suggested that in businesses active in the information and communication technology industry, by studying the media and customer information tools, the most optimal and effective tools should be selected and used.

The findings of the present study show that the time of customer awareness of the product (product/service), has a fundamental place in shaping their experiences, and therefore it is suggested that in businesses active in the information and communication industry, with Determine the most effective customer encounter times with the product (or business information) by performing a detailed analysis or by using the black box analysis technique.

Where the customer encounters the product is one of the factors influencing the customer experience. Therefore, it is suggested that in businesses active in the information and communication technology industry, the most effective places to provide product information to the customer be identified. This can be done by asking customers about completed transactions

The findings of the present study show that brand identity is a key factor in customer attention. Therefore, it is suggested that active businesses in the information and communication technology industry, by investing in branding activities, improve the customer experience.

Considering the position of sales promotion activities in improving the customer experience, it is suggested that active



businesses in the information and communication technology industry, by providing incentives, encourage customers to engage higher in the organization's narrative.

The customer, when evaluating the product before they purchase, extensively examines the arrangements for providing the service and this issue influences his purchase decision. Therefore, it is suggested that by creating a service ID and repeated analysis of its various branches in terms of the chronological order of events, the best possible case to provide each service to be determined

The results of the present study show that the service delivery channel is one of the most decisive components in the customer's purchase decision and also shapes their evaluation of the product after using it. Therefore, it is suggested that by diversifying the distribution channels, customers' hands are left open in choosing the most optimal channel to receive the service and higher customer satisfaction is achieved.

Finally, following all scientific research, the present study has both practical and theoretical limitations. The present study has been conducted in the field of businesses active in the information and communication technology industry, and therefore the generalization of these results to other industries should be considered under the specific requirements of that industry. Due to the lack of practical texts in the field of customer experience management, the present study, despite its innovation and quantitative validation, needs to be defined in the form of an executive plan and its application without considering the context and business strategies that can be effectively reduced. Be. Regarding the proposal for future research, the present study has been conducted in the field of businesses active in the information and communication technology industry, and therefore the application of the results of this study is limited to the provision of services. Therefore, it is suggested that in future studies, the possibility of presenting such a model in manufacturing businesses should be considered. Given that the field of study has been present in large-sized businesses, it is suggested that in future studies, the effect of business size on the modification of the model resulting from the present study.

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