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Consumer Functional and Emotional Experiences with Internet of Things Products and their Effect on Purchase Intentions (Case Study: the City Bank's Mobile Bank in Tehran city)

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ABSTRACT: This study explores the relationship between the Internet of Things (IoT) product attributes and consumer functional and emotional experiences and the eventual impact of these experiences on consumer purchase intentions in City Bank. This is an applied research conducted through a descriptive, correlational survey during 21 July - 21 December. This paper provides some insights into the Iranian banking market for IoT products. The statistical population included 127000 customers of City Bank in Tehran city who installed and used the City Bank's Mobile Bank App on their mobile phones. Based on the Cochran formula, a sample to the size of 385 respondents is formed, the individual members of which are selected using simple random sampling. The data on research background are obtained through a library research and the empirical data are collected through field study, using standard questionnaires. The descriptive and inferential analyses were aided by SPSS and PLS software. The results indicate that IoT product connectivity, interactivity, sense of presence, intelligence, convenience, and security have a positive and significant effect on consumer emotional experience. In addition, it is found that IoT product interactivity, sense of presence, intelligence, convenience, and security have a positive and significant effect on consumer functional experience, but its connectivity does not have such an effect on consumer functional experience. Finally, we find that both emotional and functional experiences have a positive and significant effect on consumer purchase intentions.

KEYWORDS: Internet of things (IoT); IoT product attributes; functional experience; emotional experience; purchase intention

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1. INTRODUCTION

The ever increasing role of information and the internet in human life have given rise to unprecedented events and dramatic change in the way of doing things. As a result of the internet expansion, there are now 2.5 billion active users worldwide, most of whom are young people (Younes, Halawi, Jabbour, El Osta, Karam, Hajj, & Rabbaa Khabbaz, 2016). The user connection to the internet and information exchange, and connection of things by sensors and tags have created a network making it possible for things to connect and communicate anytime and anywhere. The Internet of things (IOT) has facilitated the development of new programs in diverse areas and improved the existing programs. With a review of ICT use, we find that a great deal of what we do through our devices and gadgets (e.g. mobile phones of different segments: smartphones, tablets, and laptops) contain services that are connected to cloud computing and IOT systems (Hancock & Hancock, 2016).

Banking industry is one of the largest and the most diverse activities in the world in which the use of IoT has led to a wide variety of services for customers. The new digital innovations, including IoT, have created a competitive market for banks to which they need to adjust their methods. Between 2009 and 2014, the annual rate of customer physical presence in bank branches has fallen by about 4 percent compared to 10 percent increase in online banking activities in the same period (Global M&A, 2016). The reasons for increased online transactions are the growing tendency among consumers to collect as much information as possible about the product and product price, increasing consumer Internet knowledge, time saving, high speed of innovation, and purchase value (Daunt and Harris, 2017; Arora, Singha, & Sahney, 2017).

Banks and new businesses, given the greater acceptance and recognition of new technologies by employees and consumers, begin to analyze the obtained information from IoT for decision making purposes. Therefore, the prediction is that IoT as an emerging technology is capable of connecting up to 50 billion objects by 2020 (Tsonev, Videv, & Haas, 2015).

The term "internet of things" (IoT) was first used by Kevin Ashton in 1999 to describe a world in which everything, including humans, animals, plants, and even lifeless objects (like machines), can assume a digital identity and allow machines to organize and manage them (Madakam, Ramawami, & Tripathi, 2015).

Atzori, Lera, and Morabito (2010) in a research investigated the main IoT concepts and technologies from three perspectives: *internet-oriented* (such as internet 0 and Web); *object-oriented* (such as smart items and the wireless), and *semantic oriented* (such as semantic technology and environment).

Different researchers, including Issakhani (2008) and Chou and Chang (2005), noted that a bank's performance is driven by knowledge management for value creation in business and improvement of competitive advantages. Various data is obtained from IoT in banks among which it can be referred to transaction data (such as price and purchase portfolio), customer information (such as gender, age, and family makeup), and environmental data (such as temperature). Based on these data, banks predict customer behavior, design attractive products, and prepare purposeful and goal-directed advertisement. Thus, the obtained data from IoT are used by banks to encourage customers to make buying decisions and purchase their product and service packages (Grewal, Roggeveen, Nordfält, 2017).

This study seeks to answer the question as to whether the IoT product features have a significant effect on consumer functional and emotional experiences, and whether the experiences made by consumers with these features actually affect their purchase intention.

2. LITERATURE REVIEW

This section briefly discusses the main theoretical concepts and research background. To facilitate understanding, we divide the literature review into three subsections: internet of things (IoT), IoT potential applications, and consumer behavior toward IoT related technologies.

2.1. Internet of things (IoT)

Three IoT capacities have significant implications at individual and societal levels: data collection, capacity of remote control, and communication between objects (Hancock & Hancock, 2016). Evolution of the internet has accommodated the intelligent information exchange between objects allowing creation of a new range of products and services (Sánchez-Alcón López-Santidrián, & Martinez, 2015).

The solutions are extending to all areas of the day-to-day life, including intelligent industry (e.g. intelligent manufacturing systems-industries 4.0, smart homes and intelligent transportation, as in fleet tracking and mobile ticketing) (Wortmann & Flüchter, 2015).

For Atzori et al (2010), the central idea of IoT is the invasive presence of several objects which through unique addressing schemes are able to interact with each other and cooperate with their neighbors to reach common goals. Via the internet, sharing of multiple sources between objects has become possible (Chen, Xia, Guang, Bu, & Wang, 2013).

The more objects are added to IoT, the more opportunities for machine-to-machine communication will arise, thus extending the possibilities of automation of daily tasks, personalization of profiles, and integration of other aspects of daily life (Sánchez-Alcón et al, 2015; Hancock & Hancock, 2016).

According to Ashton (2009), society lives in a paradigm in which users no longer control the time, duration and place for computer use; now, processing occurs in real time and is scattered in the environment. Hence, it is necessary to understand the main potential applications of IoT, as presented in table 1. It is, therefore, important to identify how consumers assess the changes regarding the different applications presented in table 1, since they change the way people are related to the world and affect their private and professional life. IoT can provide opportunities which need to be considered, but the risk of the objects which are connected to the network can increase as well. Thus, it is necessary to know what drives consumers to make use of these technologies.

Table 1. IoT applications

Application	Description	Sources
Beacons	Precise location of objects in closed environments; example: when a consumer enters a store, he is informed about special offers.	Mautz (2009) Jae-Yoon et al (2016)
Geofencing	Practice of using GPS to define a geographical border (liberation or barrier is defined by the manager); example: an 'internet of thing' product recognizes when a user leaves home, location of its automobile, etc.	Fisher & Racquet (2011)
Wearable technology	Wearable computing or technology allows measuring of pulse and body pressure, alerts and notification from connectable objects; example: smartwatches and smart clothes, etc.	Chalfen (2014) Kaewkannate & Kim (2016)
Machine learning	Computer's ability to learn without being explicitly programmed; example: spell checker, suggestion of friends in social networks, etc.	Qiu et al (2016) Fernandez-Manzano et al (2016)

2.2. Consumer behavior regarding IoT technologies

In a society where people can choose the electronic devices they often carry, IoT objects would benefit consumers.

The technology acceptance model is a widely recognized model that explains acceptability of new technologies. It suggests that the use of these new technologies can be explained by the user's motivation, which is directly influenced by the incentives these technologies offer, such as design and performance (Roman et al, 2015).

The attributes of IoT products reach consumer's emotions and understanding and affect their objective cognition (functional experience) and subjective cognition (emotional experience), providing them the condition to choose the technology that suits them the most.

2.3. The conceptual model and the hypotheses

We used the IoT product attributes in Yaping et al (2014) who identified them as the factors likely to influence consumer purchase intentions, given consumer emotional and functional experiences. This was partly motivated by the great similarity between our study and the above mentioned study, since both research seek to identify the IoT features that significantly contribute to positive purchase intention among consumers. However, our study additionally introduces consumer emotional and functional experiences to the model as the factors that mediate the effect of IoT product attributes on purchase intention and help explain how these attributes produce the intended response in consumers in terms of positive purchase intention.

Hence, in view of prior research findings, we draw the research conceptual model to portray the assumed relationships between the involved variables as follows. This model serves as the basis or point of departure for the argumentations and formulation of the hypotheses in the following subsections.

Connectivity

The internet, originally, was meant to carry information to anyone, anywhere, and anytime. However, currently the “anyone” has been replaced by the “anything” (Eisenberg and Fullerton, 2012).

IoT is the newest evolution of intelligent objects that connect the physical world with the non-physical world of data and Information. These smart objects have many attributes and are connectable to a device or network. They also have the ability to manage, monitor and track objects and provide information, such as instructions, tutorials and controls, to the user. Hence, we present the following hypotheses:

H1. *IoT **connectivity** has a positive and significant effect on consumer emotional experience*.

H2. *IoT **connectivity** has a positive and significant effect on consumer functional experience*.

Interactivity

IoT can link a typical daily activity to another situation or instruction; for example, removing a food from your refrigerator can produce a reminder of an online purchase for its replacement (Manches et al, 2015). Connecting objects via IoT provides a number of opportunities for the consumer, but it also changes the way these objects interact with the environment (Christophe et al., 2011; Manches et al., 2015). Good interactivity between consumer and product can lead to a positive consumer experience (Yaping et al, 2014). Hence, the following hypotheses are posited:

H3. *IoT **interactivity** has a positive and significant effect on consumer emotional experience*.

H4. *IoT **interactivity** has a positive and significant effect on consumer functional experience*.

Sense of presence

As the internet and other relevant technologies continue to develop and mature, the number of solutions from market giants such as CISCO, IBM and others have made IoT a feasible option for large cities (Boulos and Al-Shorbaji, 2014; Barnor-Ahiaku, 2016). The sense of presence provided by the product is strong, resulting in a positive assessment of the IoT item, given the consumer's positive experience with that product (Yaping et al., 2014). Hence, in line with prior research, we assume:

H5. *IoT* ***sense of presence*** *has a positive and significant effect on consumer emotional experience*.

H6. *IoT* ***sense of presence*** *has a positive and significant effect on consumer functional experience*.

Intelligence

The fast development of connectable objects, made possible by IoT technology, allows linking several smart objects via the internet, thus submitting more data for assessments. The forecast for the interconnection of these objects is automation in all fields of action, reducing the need for human interventions (Eisenberg and Fullerton, 2012; Hu, van der Vlist, Niezen, Willemsen, Willems, & Feijs, 2013; Bąk et al, 2015;Czarnecki and Deniziak, 2015; Kim, 2016).

Intelligence is an attribute that indicates the automation degree of functions, according to the IoT product operation. This product has sensors, memories, data processing and communication skills. If this attribute is too complex to operate, they will reduce the efficiency of the IoT product, and consumers will consider it a low quality item (Yaping et al., 2014).

These authors, in their original article, note that the construct "intelligence," as concerns consumer emotional experience, refers to the degree of automation during the product operation. Therefore, the higher the intelligence of the IoT product is, the less concerned the consumer is, when carrying out other tasks/activities. Thus, there is an exception with respect to hypothesis H7, since we assume here an inverse association between the attribute intelligence and consumer emotional and functional experiences. Thus, we expect that

H7. *IoT* ***intelligence*** *has a negative (inverse) and significant effect on consumer emotional experience*.

H8. *IoT* ***intelligence*** *has a positive and significant effect on consumer functional experience*.

Convenience

The Internet allows consumers to search and compare different products or services in distinct stores located anywhere in the world (Chang, 2013). The concept of online collective purchases is directly linked to social networks, which is a structure formed by users and their interpersonal connection. To improve the location ac accuracy, IoT integrates several technologies such as internet, wireless, zigbee, Bluetooth, infrared, GRPS, 3G and 4G. A more efficient location can significantly affect convenience for activities inside or outside an environment (Chen et al, 2013).

Therefore, convenience saves time and effort during purchase planning using the IoT product, and this product will receive a positive assessment from consumers (Yaping et al, 2014). Thus, we propose:

H9. *IoT* ***convenience*** *has a positive and significant effect on consumer emotional experience.*

H10. *IoT* ***convenience*** *has a positive and significant effect on consumer functional experience*.

Security

Engineers involved in the design of these connectable objects might not have the necessary expertise in the area of data security (Peppet, 2014; Imgraben, Engelbrecht, & Choo, 2014). Data security and privacy are concerns about IoT as sensors can also harm the consumer's well-being, if information and data are intercepted by a third party (Peppet, 2014).

The concept of trust is crucial, and affects several factors at the time of online transactions, including security and privacy issues. To reduce these barriers, online stores are building a circle of trust with their consumers, considering loyalty as crucial (Chang, 2013). The degree of security offered by the product that provides connectivity to IoT creates convenience for consumers which is an important issue affecting consumer buying decisions (Yaping et al, 2014). Hence, we propose:

H11. *IoT **security** has a positive and significant effect on consumer emotional experience*.

H12. *IoT **security** has a positive and significant effect on consumer functional experience*.

Functional and emotional experiences and purchase intention

The classical theory assumes that consumers are able to appropriately assess the best path to follow, if they have as much information as possible about the product. However, they do not always check all possibilities for decision-making (Porto, 2010).

Consumers always establish relationships with products, which involve functional and emotional experiences. What can actually happen are different proportions of each. The functional experience of the product–customer relationship stems, to a large extent, from the satisfaction with the noticed usefulness of the IoT technology. In general, this satisfaction depends on the perceived quality, and is determined by the customer's expectations regarding the product or service which is going to be offered, as well as the perception of that same product or service after being consumed or used by the consumer.

However, there is a tendency among companies to strengthen the bonds of emotional experience, so that a growing number of firms try to present their products with IoT technologies, in order to develop a relationship with the clients that goes beyond a simple transactional logic, by creating feelings of trust, esteem and closeness, reflecting cultural dimensions such as customer value and transcending mere economic objective and functional satisfaction.

Functional and emotional experiences, as well as purchase intention, are the consumer responses to the marketing and IoT product attributes and functionality (Yaping et al, 2014). Hence, we propose:

H13. *Consumer **functional** experience has a positive and significant effect on purchase intention.*
H14. *Consumer **emotional** experience has a positive and significant effect on purchase intention.*

As is evident from the research conceptual model and hypotheses, the IoT product attributes, i.e. connectivity, interactivity, sense of presence, intelligence, convenience, and security, are the independent (predictor) variables, and consumer functional and emotional experiences are both the half-way outcome variables (influenced by IoT product attributes) and the mediating variables, through which IoT product attributes may positively affect consumer purchase intentions, and purchase intention is the dependent or the criterion variable.

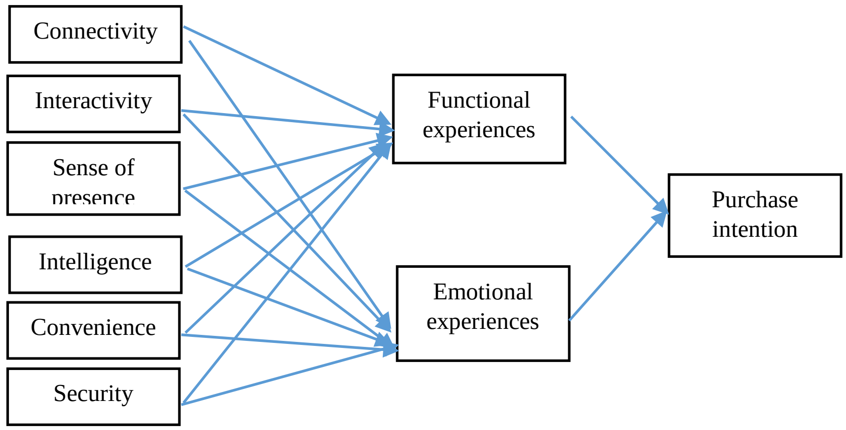

Figure 1. Research conceptual model (Hernan et al, 2017)

3. METHODOLOGY

This study is an applied research conducted following a descriptive, correlational survey design.

The statistical population includes 127000 customers of City Bank who install and use the City Bank's Mobile Bank App. Based on the Cochran formula, a sample to the size of 385 respondents was formed, the individual members of which were selected using simple random sampling.

Tehran city, like many metropolises, in which all walks of life from all over the country live and work, is considered to be big enough to represent the local market. Besides, City Bank, like other commercial banks operating in Iran, with many branches and ATMs throughout the city and access to latest banking and financial technologies, actively seeks to increase its share of the market and attract as many customers as possible. Hence, it may also represent a larger number of the commercial banks that offer homogeneous products and have to deal with the same challenges.

The required data and information for conduction of the present research were collected as follows:
1. Library research to collect the information on the literature and the research background by consulting relevant books, dissertations, articles, and online sources and databases.
2. Field study. Using standard questionnaires and distributing them among the sample respondents, the actual data for statistical analysis and test of the hypotheses were collected.

To measure the IoT product attributes, we used the 23-item questionnaire proposed in Yaping et al (2014). The variable emotional experience was measured using the 4-item questionnaire proposed by Chandran and Morwitz (2005), and for the variable functional experience, the 5-item questionnaire proposed by Wu (2005) and Venkatesh and Bala (2008).

Considering the use of the standard questionnaires in this research, validity of the data gathering tools was not an issue. Nevertheless, the questionnaires were handed to the advising and supervising teachers for further assessment who after close inspection confirmed their validity.

To assess the questionnaire's reliability, a preliminary sample consisting of 25 questionnaires was formed and pre-tested. Next, using Cronbach's alpha the obtained data from these questionnaires were tested. The calculated alpha coefficient for all variables was higher than the threshold value of 0.7, suggesting that the items have relatively high internal consistency.

The accuracy of the assumptions on the inter-relationships of the variables in the theoretical model and the impact factors were determined using structural equation modeling (SEM) in PLS software.

4. FINDINGS

For better understanding of the understudy sample, we need first to provide a description of the participants themselves, since it gives a general impression of their demographic make-up and a basis to identify the pattern underlying their behavior and choices and allows a more comprehensive analysis of the results.

The majority of the participants (256) were male making up 66 percent of the sample. Also, most of the respondents (201) were between 31 and 40 years old and a great majority of them (235) had a bachelor's degree. Finally, 167 observations (nearly half of the respondents) had a use experience of 2 to 4 years.

The model fit is examined using the measures indicating the measurement model fit, the structural model fit, and the overall model fit.

The measurement model reliability was assessed in terms of factor loadings, Cronbach's alphas, and composite reliability (CR). As is seen in table 2, all the factor loadings are higher than the threshold 0.4, indicating the acceptable level of the model reliability.

Table 2. Factor loadings of the constructs

	CONN	CONV	EE	FE	INL	INT	PI	SEC	SP
	Connectivity	Convenience	Emotional experience	Functional experience	Intelligence	Interactivity	Purchase intention	Security	Sense of presence
CONN1	0.897								
CONN2	0.915								
CONN3	0.826								
CONV1		0.918							
CONV2		0.914							
CONV3		0.812							
EE1			0.528						
EE2			0.846						
EE3			0.808						
EE4			0.695						
EE5			0.836						
FE1				0.837					
FE2				0.817					
FE3				0.802					
FE4				0.784					
INL1					0.925				
INL2					0.924				
INT1						0.914			
INT2						0.912			
PI1							0.514		
PI2							0.835		

PI3							0.852		
PI4							0.838		
SEC1								0.855	
SEC2								0.923	
SEC3								0.866	
SP1									0.834
SP2									0.903
SP3									0.857

According to the algorithm of data analysis in PLS, Cronbach's alphas and composite reliability are calculated next. These are reported in table 3 together with AVE that measures convergent reliability of the measurement model. This index shows the degree to which each construct is correlated with its items.

Table 3. Cronbach's alpha, composite reliability (CR), and AVE of the latent variables

Latent variables	**Sign**	**Cronbach's alpha (alpha > 0.7)**	**CR coefficient (CR > 0.7)**	**Average variance extracted (AVE > 0.5)**
Connectivity	CONN	0.855	0.912	0.775
Convenience	CONV	0.862	0.913	0.779
Functional experience	FE	0.772	0.849	0.535
Emotional experience	EE	0.826	0.884	0.657
Intelligence	INL	0.830	0.922	0.855
Interactivity	INT	0.800	0.909	0.833
Purchase intention	PI	0.763	0.851	0.597
Security	SEC	0.757	0.913	0.778
Sense of presence	SP	0.832	0.899	0.748

Given the Cronbach's alphas and CR values reported in table 3, which are higher than the threshold of 0.7 for all the latent variables, reliability of the measurement model is confirmed. In addition, given the AVE values presented in table 3, which are all above the threshold 0.5, the research convergent validity is confirmed as well.

For assessing discriminant validity of the measurement model, the Fornell-Larcker criterion was used, the result of which is presented in table 4. Since the square root of AVE for each latent variable is greater than the correlation of that variable with other latent variables present in the model, discriminant validity of the model is also confirmed.

Table 4. The results of the model discriminant validity

Latent variables	CONN	CONV	FE	EE	INL	INT	PI	SEC	SP
CONN	0.880								
CONV	0.089	0.882							
FE	0.363	0.356	0.911						
EE	0.380	0.344	0.731	0.810					
INL	0.255	0.150	0.431	0.366	0.925				
INT	0.363	0.208	0.541	0.414	0.286	0.913			
PI	0.412	0.404	0.803	0.661	0.406	0.484	0.773		
SEC	0.211	0.260	0.361	0.553	0.224	0.246	0.409	0.882	
SP	0.393	0.220	0.461	0.450	0.337	0.360	0.466	0.226	0.865

The structural model fit was examined using R-squared (R^2) coefficients of the endogenous latent variables. R^2 indicates the effect of an exogenous variable on an endogenous variable and is evaluated based on the three criterion values of 0.19, 0.33, and 0.67 representing weak, moderate, and strong levels of fit, respectively. The R^2 values in table 5 which are all above the average confirm that the structural model is fit enough for assessment and prediction of the assumed relationships.

Table 5. R^2 for endogenous constructs

Latent variables	Sign	R^2	Adjusted R^2
Functional experience	FE	0.483	0.475
Emotional experience	EE	0.392	0.383
Purchase intention	PI	0.798	0.797

The model overall fit is assessed using the GOF index. This is evaluated against three criterion values of 0.01, 0.25, and 0.36 representing a weak, moderate, and high level of fit, respectively.

Table 6. R^2 and Communality of latent variables

Latent variables	Sign	R^2	Communality
Functional experience	FE	0.483	0.402
Emotional experience	EE	0.392	0.561
Purchase intention	PI	0.798	0.413
GOF		$\underline{R2}$	$\underline{Communality}$
0.506		0.558	0.459

The obtained value for GOF (0.506) in the table above indicates that the model is highly fit, whereby the model overall fit is confirmed.

At this stage, based on the PLS outputs which are given in figures 2 and 3 and table 7, we discuss the results on the test of the research hypotheses.

The standardized coefficient (path coefficient) for the variables IoT connectivity and consumer emotional experience ($\beta = 0.153$) and its significance ($t = 2.526$) which is above the standard of 1.96 in absolute terms ($> |1.96|$), indicate that the relationship between the two variables is significant. As a result, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. Therefore, the first hypothesis predicting a significant link between IoT connectivity and emotional experience is confirmed.

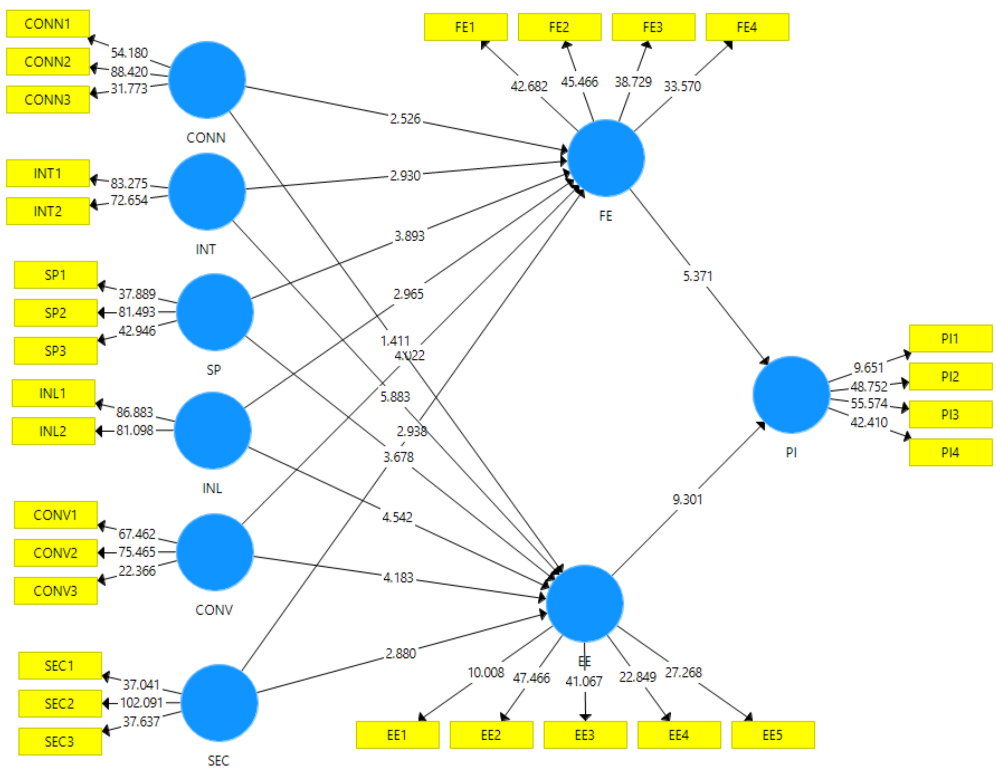

Figure 2. Structural model with factor loadings

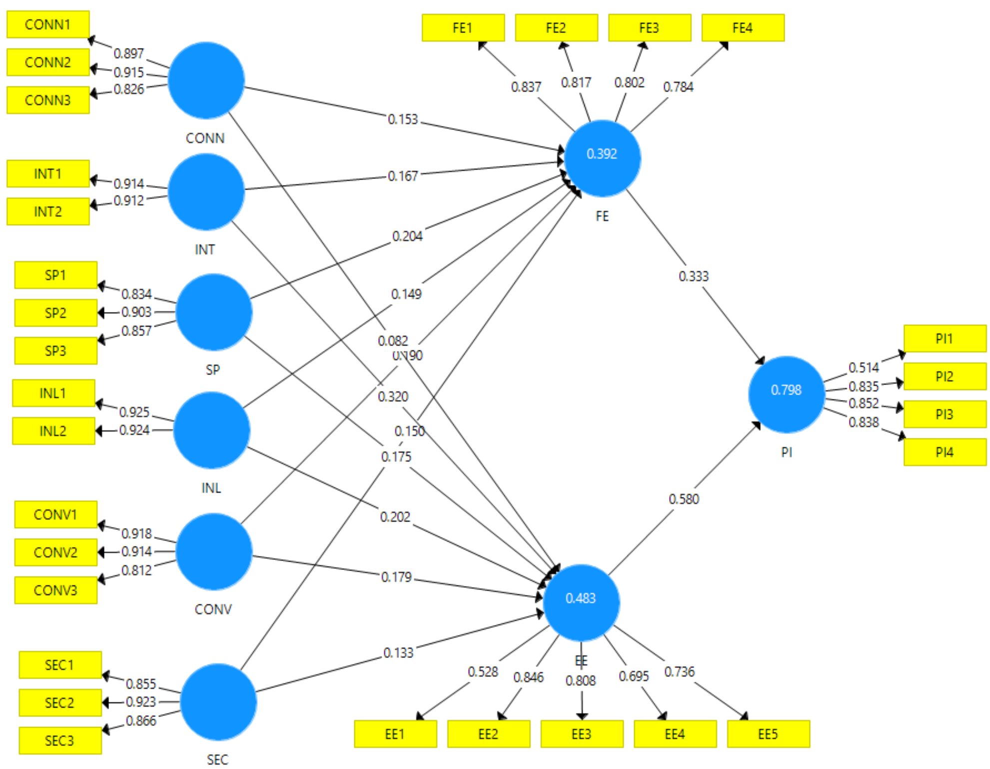

Figure 3. Structural model with significance coefficients

Table 7. The results of the path analysis and test of hypotheses

Path	**Path Coeff. (β)**	**Significance (T-value)**	**Sig. Level**	**Conclusion**
Connectivity ⇒ Functional experience	0.082	1.411	0.159	Reject
Connectivity ⇒ Emotional experience	0.153	2.526	0.012	Accept
Convenience ⇒ Functional experience	0.179	4.183	0.000	Accept
Convenience ⇒ Emotional experience	0.190	4.022	0.000	Accept
Functional experience ⇒ Purchase intention	0.580	9.301	0.000	Accept
Emotional experience ⇒ Purchase intention	0.333	5.371	0.000	Accept
Intelligence ⇒ Functional experience	0.202	4.542	0.000	Accept
Intelligence ⇒ Emotional experience	0.149	2.965	0.003	Accept
Interactivity ⇒ Functional experience	0.320	5.883	0.000	Accept
Interactivity ⇒ Emotional experience	0.167	2.930	0.004	Accept
Security ⇒ Functional experience	0.133	2.880	0.004	Accept

Security ⇒ Emotional experience	0.150	2.938	0.004	Accept
Sense of presence ⇒ Functional experience	0.175	3.678	0.000	Accept
Sense of presence ⇒ Emotional experience	0.204	3.893	0.000	Accept

The standardized coefficient (path coefficient) for the variables IoT connectivity and consumer functional experience ($\beta = 0.082$) and its significance ($t = 1.411$) which is less than 1.96 in absolute terms (> |1.96|), indicate that the relationship between the two variables is not significant. As a result, the null hypothesis (H_0) is not rejected and is confirmed. Therefore, the second hypothesis assuming a significant link between IoT connectivity and consumer functional experience is rejected.

The standardized coefficient (path coefficient) for the variables IoT interactivity and consumer emotional experience ($\beta = 0.167$) and its significance ($t = 2.930$) which is higher than 1.96 in absolute terms (> |1.96|), indicate that the relationship between the two variables is significant. As a result, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. Therefore, the third hypothesis assuming a significant relationship between IoT interactivity and consumer emotional experience is confirmed.

The standardized coefficient (path coefficient) for the variables IoT interactivity and consumer functional experience ($\beta = 0.320$) and its significance ($t = 5.883$) which is higher than 1.96 in absolute terms (> |1.96|), indicate a significant relationship between the two variables. As a result, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. Hence, the fourth hypothesis that predicted a significant relationship between IoT interactivity and consumer functional experience is confirmed.

The standardized coefficient (beta) for the path from IoT sense of presence to consumer emotional experience ($\beta = 0.204$) and its significance ($t = 3.893$) which is higher than 1.96 in absolute terms (> |1.96|), indicate that the relationship between the two variables is significant. As a result, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. Hence, the fifth hypothesis assuming a significant relationship between IoT sense of presence and consumer emotional experience can be confirmed.

The standardized coefficient (beta) for the path from IoT sense of presence to functional experience ($\beta = 0.175$) and its significance ($t = 3.678$) which is above 1.96 in absolute terms (> |1.96|), indicate that the relationship between the two variables is significant. As a result, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. Therefore, the sixth hypothesis assuming a significant relationship between IoT sense of presence and consumer functional experience is confirmed.

The standardized coefficient (beta) for the path from IoT intelligence to emotional experience ($\beta = 0.175$) and its significance ($t = 2.965$) which is above 1.96 in absolute terms (> |1.96|), indicate that the relationship between the two variables is significant. As a result, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. Therefore, the seventh hypothesis assuming a significant relationship between IoT intelligence and consumer emotional experience is confirmed.

The standardized coefficient (beta) for the path from IoT intelligence to functional experience ($\beta = 0.202$) and its significance ($t = 4.542$) which is above 1.96 in absolute terms (> |1.96|), indicate that the relationship between the two variables is significant. As a result, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. Therefore, the eighth hypothesis assuming a significant relationship between IoT intelligence and consumer functional experience is confirmed.

The standardized coefficient (beta) for the path from IoT convenience to emotional experience ($\beta = 0.190$) and its significance ($t = 4.022$) which is above 1.96 in absolute terms (> |1.96|), indicate that the relationship between the two variables is significant. As a result, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. Therefore, the ninth hypothesis assuming a significant relationship between IoT convenience and consumer emotional experience is confirmed.

The standardized coefficient (beta) for the path from IoT convenience to functional experience ($\beta = 0.179$) and its significance ($t = 4.183$) which is above 1.96 in absolute terms (> |1.96|), indicate that the relationship between the two variables is significant. As a result, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. Therefore, the tenth hypothesis assuming a significant relationship between IoT convenience and consumer functional experience is confirmed.

The standardized coefficient (beta) for the path from IoT security to consumer emotional experience ($\beta = 0.150$) and its significance ($t = 2.938$) which is above 1.96 in absolute terms (> |1.96|), indicate that the relationship between the two variables is significant. As a result, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. Therefore, the eleventh hypothesis assuming a significant relationship between IoT security and consumer emotional experience is confirmed.

The standardized coefficient (beta) for the path from IoT convenience to functional experience ($\beta = 0.133$) and its significance ($t = 2.880$) which is above 1.96 in absolute terms (> |1.96|), indicate that the relationship between the two variables is significant. As a result, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. Therefore, the twelfth hypothesis assuming a significant relationship between IoT security and consumer functional experience is confirmed.

The standardized coefficient (beta) for the path from consumer emotional experience to purchase intention ($\beta = 0.333$) and its significance ($t = 5.371$) which is above 1.96 in absolute terms (> |1.96|), indicate that the relationship between the two variables is significant. As a result, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. Therefore, the thirteenth hypothesis assuming a significant relationship between consumer emotional experience and purchase intention is confirmed.

The standardized coefficient (beta) for the path from IoT convenience to functional experience ($\beta = 0.580$) and its significance ($t = 9.301$) which is above 1.96 in absolute terms (> |1.96|), indicate that the relationship between the two variables is significant. As a result, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. Therefore, the fourteenth hypothesis assuming a significant relationship between consumer functional experience and purchase intention is confirmed.

5. DISCUSSION AND CONCLUSION

The results indicate that IoT product attributes improve customer emotional and functional experiences of banking services offered on their mobile phones and result in greater customer satisfaction and convenience and a reduction in physical presence of the customers in the bank branches and in the bank's current costs. This, among others, promoted organizing and holding of the co-thinking sessions in collaboration with the employees who had participated in special courses (i.e. special technical classes and seminars) for planning of the design of various online and mobile products and services.

This study attempted to shed more light on and deepen our understanding of the effect of IoT product attributes. Drawing on the models developed by Yaping et al (2014) and Pinochet (2018), we demonstrated that most of the constructs were applicable. This finding indicates the importance of IoT product attributes at the time of purchase, considering that 13 of the 14 hypotheses have been confirmed in this study.

In sum, we found that the factors interactivity, sense of presence, intelligence, convenience, and security had a significant effect on consumer emotional experiences, and the factors connectivity, interactivity, intelligence, and convenience had a positive effect on consumer functional experience. By analyzing the factors influencing consumer purchase intention we showed that the effect of both emotional and functional experiences was significant, but the effect of emotional experience was generally stronger. This is also consistent with the theory that the consumers are, to a significant extent, emotionally engaged in the purchase process. A practical implication is that the bank needs more focus on the design of its mobile banking application in terms of convenience, interactivity, sense of presence, and of course, security.

Considering the IoT potentials and the opportunities it can provide for banks, risk management and management of resources would help make marketing activities more planned and goal-oriented.

Our results differ from those found by Yaping et al (2014) who used a sample of Chinese's respondents and found functional experiences stronger than emotional experience in influencing consumer purchase intention. However, our results are in line with the findings of Pinochet (2018) who showed that the emotional experiences played a more significant role in purchase intentions of the Brazilian consumers. This could be partly ascribed to the cultural factors at play, suggesting that Chinese consumers behave more rationally compared to their Iranian and Brazilian counterparts, who seem to act more emotionally in the choice of IoT-related products.

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Author/s confirmed no conflict of interest.